SKATECANADA

NCCP Intermediate STARSkate / Provincial Coach Program

Home Study Manual

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National Coaching Certification Program

Program Overview

The National Coaching Certification Program (NCCP) is a coach training and certification program for all coaches in more than 60 sports. The NCCP is moving towards a competency-based approach where coaches are:

- trained in NCCP outcomes relevant to the participants that they are coaching
- evaluated by demonstrating coaching outcomes to a specified standard

The core competencies of coaching are valuing, interacting, leading, problem-solving, and critical thinking. These competencies will be woven throughout all NCCP training and evaluation activities.

Who am I coaching?

The new structure of the NCCP is based on the participants' needs, which are identified within streams and contexts.

Community Sport stream

Initiation CSp-Init
Ongoing participation CSp-Ong

Initiation context

Children are encouraged to participate in the sport and introduced to sport basics in a fun, safe, and self-esteem building environment regardless of their ability.

Ongoing participation context

Participants of all ages are encouraged to continue participating in the sport for fun, fitness, skill development, and social interaction.

Competition stream

Introduction Comp-Int
Development Comp-Dev
High performance Comp-HP

Introduction context

Children and/or adolescents are taught basic sport skills and athletic abilities in a fun and safe environment and are typically prepared for local and/or regional level competitions.

Development context

Adolescents and young adults are coached to refine basic sport skills, to develop more advanced skills and tactics, and are generally prepared for performance at provincial and/or national level competitions.

High performance context

Young adults are coached to refine advanced skills and tactics and are typically prepared for performance at national and international level competitions.

Instruction stream

Beginners Inst-Beg
Intermediate performers Inst-Imd
Advanced performers Inst-Adv

Beginners context

Participants of all ages, with little or no sport experience, are taught basic sport skills.

Intermediate performers context

Participants, who already have some experience and proficiency in the sport, are taught to refine basic skills and introduced to more complex techniques.

Advanced performers context

Participants who are experienced and already proficient in the sport are taught to refine advanced skills and techniques.

What do I need to be able to do?

Within each context, coaching outcomes are defined by the National Sport Federations (NSFs) and the National Coaching Certification Council (NCCC) that clearly outline what you must be able to do in order to meet the needs of participants in that context. Contact your NSF to find out which context is relevant to you and what you need to do to achieve accreditation.

Coaching Outcomes

Make Ethical Decisions
Provide Support to Athletes in Training
Plan a Practice
Support the Competitive Experience
Analyze Performance
Design a Sport Program
Manage a Program
Sport-specific Outcomes (as determined by the sport)

How do I achieve accreditation?

Coaches can receive three types of accreditation in any of the above contexts:

✓ **In Training**
Coach needs to be trained in additional outcomes.

✓ **Trained**
Coach has completed training in designated outcomes.

✓ **Certified**
Coach has been evaluated in designated outcomes and has acknowledged the NCCP Code of Conduct.

Coaching Association of Canada

For more information go to www.coach.ca

National Coaching Certification Program

coach.ca
REACH HIGHER

PARTNERS IN COACH EDUCATION

The National Coaching Certification Program is a collaborative program of the Government of Canada, provincial/territorial governments, national/provincial/territorial sport organizations, and the Coaching Association of Canada.

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Alberta
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NCCP Model – Figure Skating

INSTRUCTION STREAM	COMPETITION STREAM
Advanced Performers Context Senior STARSkate Coach ***(Current Level 3)***	**High Performance Context** Elite World/Olympic Coach World/Olympic Coach International Competitive Coach ***(Current Levels 4 and 5)***
Intermediate Performers Context Intermediate STARSkate Coach ***(Former Level 2)*** Primary STARSkate Coach ***(Former Level 1 Phases 2, 3,and 4)***	**Development Context** National Competitive Coach ***(Current Level 3)*** National Development Coach ***(Current Level 3)***
Beginners Context CanPowerSkate CanSkate ***(Former Level 1 Phase 1)***	**Introduction Context** Provincial Coach ***(Former Level 2)***

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The Skate Canada rules referred in this manual are correct at time of printing. The current Skate Canada rulebook overrides any rule reference in this manual. Visit Members Only at **www.skatecanada.ca** to obtain a current Skate Canada rulebook.

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SKATECANADA

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Section 1:

COACHING PEDAGOGY

COACHING PEDAGOGY

Through sport we insert into our clients lives, significant experience at a highly emotional level which will affect the athlete and their family for the rest of their lives. The quality of the sport experience is critical. Careful reflection and skilled coaching will improve the quality of the experience in sport. Sport is all about relationships and it is best if they are being good ones.

Who is the client?

- The person that pays the bill is the client.
- The athlete and the parent are the recipient of the professional services.

The coach is leading a professional relationship with a client, or client group (club, school), who are purchasing coaching services. Skilled performance "on demand" is the product.

Philosophy

It is the role of a Skate Canada coach to create and reflect a personal philosophy of sport.

- Why do you coach?
- Why do you go to the rink?
- What is the role of sport in society? A statement of purpose and benefit.
    - Its fun
    - Promote a healthy lifestyle
    - Enhance personal self esteem
    - Need for excitement
    - Enhance national self esteem
    - Contribute to the economy

This leads to **values**:

- Is winning the most important thing?
    - Is how you win important?
    - Can you win if you cheat?
    - How does the individual relate to the sport system?

- What is important?

"Life can only be understood backward, but it must be lived forward."
~Soren Kierkegaard

We may discover that through sport…

From a coach's perspective: (a sample philosophy)

- "I find great inspiration and satisfaction when we see young athletes excel."
- "It's great when they win!"
- "The frame I place around sport includes winning, learning, personal development, achievement, building confidence and self esteem. Rapid progress occurs when the athlete is having fun and enjoying their training. Technical instruction is designed to provide the skater with an understanding of movement and training principles which allow them to actively progress on their own". (Self activation, responsibility - leading to self actualization).

The emotional and competitive skills are taught in such a way that the athlete will be able to apply these skills in other endeavors of their life. This is a holistic approach embracing a healthy lifestyle for the athlete, parent and coach.

Simply - a quest for personal excellence through figure skating

"A teacher affects eternity; she can never tell where her influence ends."
~ Henry Adams

From an athlete's perspective: (a sample philosophy)

"We enjoy competing and winning!" At times we know that we have to be flexible, and realistic in our definition of success.

From the athlete's perspective:

We develop:

- Self-esteem, confidence, pride
- Personal management skills
  - Goal setting
  - Time management skills
  - Self-evaluation and appraisal
  - Self-motivation
  - Responsibility (active learner - involved in process/decision making)
- Individuality, autonomy

We train:

- Perseverance and determination
- Commitment
- Positive attitude
- Work ethic
- Great physical conditioning

We learn:

- To train in sports
- To handle stress and crowds
- To deal with accomplishment and disappointment (ups and downs)
- To deal with challenging environments and situations
- To deal with the unexpected
- To work within a team environment
- A healthy lifestyle
- An understanding of physical movement principles
- To communicate effectively
- To accept constructive criticism and feedback
- To graduate from skating successfully (retirement from skating)
- To integrate sport and or skating as a life long passion.

Sport is a vehicle for helping a young athlete explore their world:

- Are the athlete, parent, and coach in agreement?
- Has this discussion taken place?

In alignment with the vision and mission of Skate Canada, it is the role of a Skate Canada professional coach to reflect, create and communicate a personal philosophy of sport to athletes, parents, and volunteers.

ASSESSING AND UNDERSTANDING THE PEOPLE THAT WE WORK WITH

1) **Parents - review and assess:**
   - Parenting philosophy and family history
   - Family communication style
   - Whether sport is an integral part of family life
   - Family expectations regarding results
   - Willingness to support and trust a teacher, coach, or mentor
   - Organizational skills
   - Whether the family understands and accepts the time, commitment and financial impact
   - Whether they are willing to travel
   - Whether they will have fun with this sport

2) **Training Environments - club, skating school, training centre:**
   - Is it a sufficiently positive training situation? Consider the culture…
   - What is the nature of existing programs? How will they evolve? Consider
   - Coaching, administrators, volunteers
   - What is the planning horizon
   - Support for athletes and coaches
   - Clearly stated vision and mission

"All journeys have secret destinations of which the traveler is unaware."
~Martin Buber

3) **The Athlete - talent surveillance\management process:**
   - Consider: chronological age, biological age, skating age (hours of training)
   - Ideal age range for initiation level is 3-7 but there are individual differences
   - This is a technical/artistic sport, as opposed to a combat or racing sport. Skilled coaches will adapt technique and mental approach to make it accessible to a variety of physical and psychological types
   - The athlete however, must have the potential to develop the mind of a champion.

     - Body structure, body type in athlete, parents and grandparents
     - Compact body
     - Relatively narrow hips
     - High strength weight ratio (vertical jump)
     - Quick reaction times
     - Flexible
     - Aesthetically pleasing appearance
   - Cognitive/Psychological
     - Learning skills/coachability
     - Ability to concentrate
     - Ability to control emotions
     - Willingness of athlete and parent to accept instruction/leadership and trust a coach
     - Influenced by family dynamics & stability

- Consider the unique environment
  - Low friction surface - the faster you skate - the less feedback there is to the athlete
  - Everything is executed on a curve, on a lean - the only straight line is when you fall
  - Must be able to adapt to the ice

Figure skating is an extremely expensive sport to train. The financial resources the family/support group can bring to bear are a large factor in potential success.

Athletes often develop a feeling of guilt as a result of consuming such a significant portion of the family resources. Clear discussion of financial issues, values and desired outcomes will address this challenge. Competitive athletes must depend on parent support more extensively and for longer than the typical adolescent. Aspects of the normal process of becoming independent may become skewed.

"Each forward step we take we leave some phantom of ourselves behind."
~John Lancaster Spalding

Coaches work within contexts. They are expected to be experts within the context where they are working.

DEVELOPMENT MODELS

- Sport organizations utilize **models**, to conceptualize the experience and project the desired outcomes.
- The use of "models" is standard practice in business. Without a model and strategic plan, there is no mechanism for evaluating performance, and adapting the plan to achieve success.
- Sophisticated practioners in sport, business, the arts, religion, are very aware of the model and conceptual framework within which they practice. They study and respect their lineage, carefully developing an understanding of their context, content and process.
- Time is devoted to study reflection. For a skating coach this involves studying the state of the art in technique (i.e. visiting training centres, watching televised events, use resource materials such as the ISU Videos, listening to music and attending sport and cultural events.)
- Value is placed on working in harmony with the sport environment. Change is an organic process that can be managed with grace.

Skate Canada Participant Development Model (PDM):

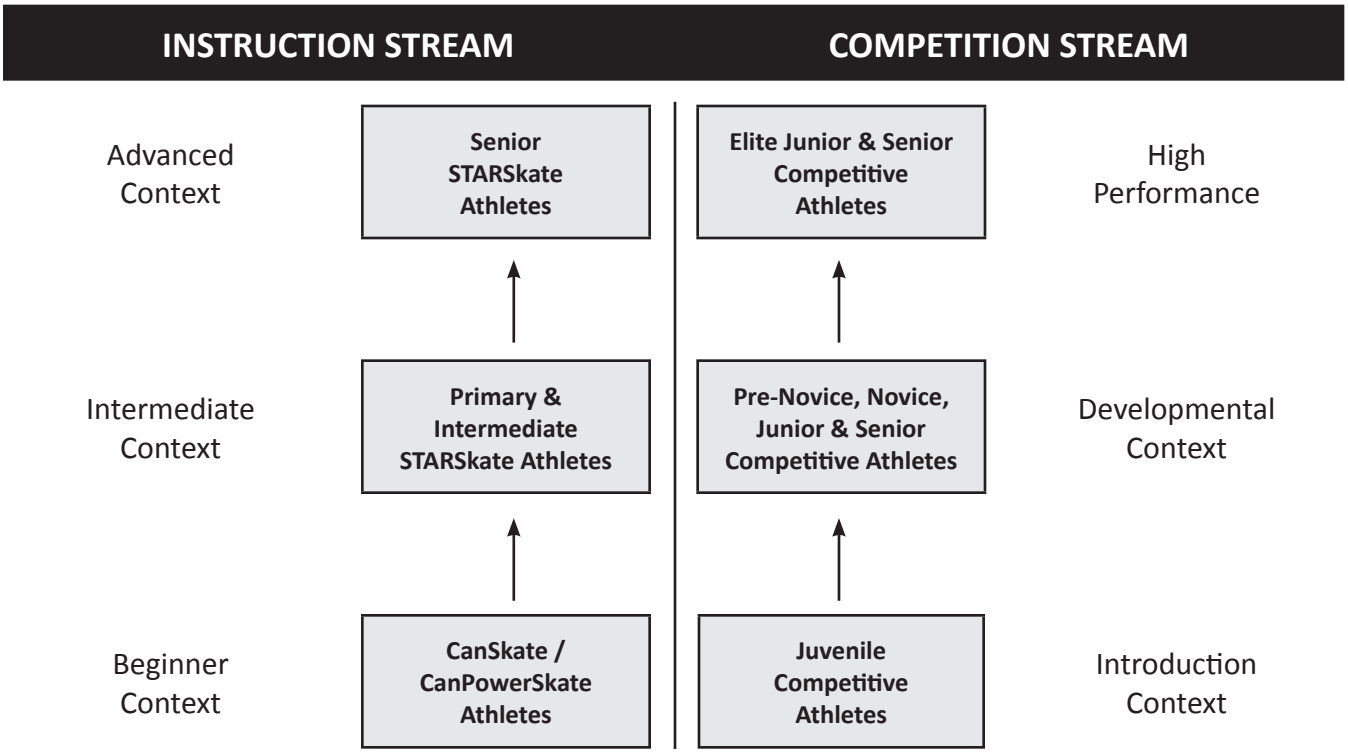
Definition: A participant engages in physical activity through our sport in different contexts, in a dynamic environment and in pursuit of varied, often diverse objectives.

The intention of the definition is to emphasize physical activity at the foundation of a participant's sport engagement, to recognize the shifting and unequal landscape of sport delivery, access and consumption and to imply a strong and individualistic relationship between participant needs and context.

The objectives of the PDM are as follows:

- To describe all types of participation in our sport
- To reflect variance within and across sports
- To emphasize flexibility and adaptability in regard to regional, cultural and our sport-specific difference
- To relate participant needs to context
- To represent structured and non-structured participation alike
- To promote retention and accessibility
- To encourage development from initiation to excellence, while accommodating, supporting and valuing all forms of engagement

The Skate Canada PDM is inclusive, intended to meet the needs of all participants in our sport. Accordingly, this model addresses and accommodates the participation of groups such as aboriginals and persons with disabilities by providing the opportunity for context-specific application. The following is an overview of the Skate Canada PDM.



LONG TERM ATHLETE DEVELOPMENT (LTAD)

In general, long term athlete development focuses on how participants and athletes are trained and develop skills and revolves around the essential role played by coaches in the process. It also recognizes the important supporting roles of parents/guardians, volunteers, officials, administrators, sponsors, sport medicine practitioners and sport scientists. Training the right components at the right stage of development is key to the success of all athletes, from beginners to Olympians.

At the heart of long term athlete development is the concept of physical literacy which is defined as competency in fundamental movement skills (run, jump, throw, swim) as well as motor skills (ABC's: agility, balance, coordination, speed) and fundamental sport skills (preferably before the age of 12). Historically, skills taught, learned, developed and acquired through the school system enhanced children's abilities to acquire sport–specific skills more quickly.

Skate Canada's Long Term Athlete Development Model (LTADM):

The LTADM is a tool for coaches, clubs, volunteers, officials, professional staff, facility managers, and parents/guardians. It is meant to serve as a guide to assist skaters from their entry into the sport until they choose to leave it, at which point it is hoped that they will have learned all that they can from this wonderful sport in which we are all involved. Furthermore, the LTADM directs the refinement and/or redesign of programs and administrative structures so as to maximize the development of all our participants—regardless of their personal goals or stage of development.

More specifically, the LTADM defines optimal training, competition and recovery programs based more on biological rather than solely chronological age. By incorporating knowledge gained from the field of exercise science and by tailoring sport development programs around basic principles of growth and maturation, especially during the critical early years of development, the LTADM capitalizes on opportunities in training athletes when bodies will respond the greatest to different training stimuli. At the same time, it emphasizes the intellectual, emotional and social development of the athlete in recognition of the fact that sport can play a positive role in child, youth and adolescent development and the creation of healthy, functional and productive individuals.

To become familiar with Skate Canada's LTADM, download your LTAD booklet from the Skate Canada website. The information in the booklet will assist you in understanding the importance it has in the everyday life of a coach and their athletes.

COACHING FUNCTIONS

Coaches have different functions within their work

1. **Instructing**
   - Simple teaching of skill

2. **Coaching for performance**
   - Guiding clients through something

3. **Managing for success**
   - Planning
   - Strategy
   - Effective communication

"We consider physical literacy... but we tend not to leverage the athlete's media literacy, which is more sophisticated then earlier generations. This is the age of mediated experience. Modes of communication and technical explanation must be appropriate to the milieu."

"The essence of sports is that while you're doing it, nothing else matters, but after you stop, there is a place, generally not very important, where you would put it."
~Roger Bannister

1. INSTRUCTING:

- Start with a model of the skill that begins with demonstration and explanation
- Use the whole-part-whole method, as necessary
- The art is selecting the appropriate exercises and progressions that will lead to rapid progress
- Use appropriate teaching and practice formations (i.e. circuits)

- **Consider:**
  - Task breakdown
  - Use video
  - What's the model?
  - What's the task and sequencing?
  - Numkbers/repetition/time to learn
  - With time it is possible to predict the rate of progress of an individual
  - Hours of ice time + instruction + focused practice in a positive environment = an expectation to progress
  - Training must be organized so tasks are complete in a timely manner
  - Specificity in practice - practice must address the output - performance (i.e. jumps are trained in clusters, i.e. 3 in 40 seconds, not individually.)

- As you coach, observe yourself:
  - Are you using **actionable coaching**? Are the statements clear and leading to a result? Are the tasks and target clearly defined?
  - Are you taking time to observe the athlete practicing the skill?
  - Does the athlete share the same model and understanding of what has to be trained?
  - Observe other coaches coaching - body language, demeanor, wording
  - Train yourself to observe your own coaching, how are you going to improve your skill?

It is best to be patient, realistic and relentless.

i) Procedures for effective instruction:

- Use a plan
- Get everyone's attention
- Preface your instructions with a qualifying statement. Before explaining what you want the athletes to do, tell them when you want them to begin with a simple statement such as "When I say go, I want you to…"
- Select an appropriate teaching formation and practice circuit
- Keep the instructions as short and simple as possible
- Check for accuracy: observe the practice

"Trust only movement. Life happens at the level of events, not of words. Trust movement".
~Alfred Adler

ii) Teaching New Skills:

- Present new skills in an appropriate way for the age and ability of the athlete as well as the complexity of the skill
- Skills can generally be categorized in two ways - simple or complex
- Simple skills

  1. Demonstrate the whole skill
  2. Explain the main focus of the skill
  3. Ask for questions

- Complex skills

  1. Demonstrate the whole skill
  2. Use the Whole Part Whole method
     - Break the various components of the skill into 'teaching progressions'
     - Individually teach the chronological order of the components
     - Demonstrate how the parts combine to make the whole skill
  3. Ask for questions

iii) Developing Teaching Progressions:

The basics of teaching progressions are also presented in the CanSkate Technical Manual. The ability to take skills and break them down into their component parts for teaching purposes is essential to the delivery of effective instruction.

When analyzing a skill, answer the following questions:

- What happens in terms of preparation?
- What edge(s) are used?
- What turn(s) are required?
- What positions does the athlete need to achieve - on entry, on exit, during the skill?
- What do the arms do?
- What do the feet do?
- What is the range of motion
- What is the sequencing of joint movement?

When developing teaching progressions there are some guidelines, which generally apply:

- Perform stationary or at the boards and then moving
- Perform on two feet, a combination of two feet and one foot and then perform on one foot
- Perform more simple movements first and then add complexity
- Perform moves slowly at first and then add speed

All skills can be broken down into progressions. However with simple skills it is not necessary to use progressions unless the athlete is having a particular difficulty. All progressions are not necessary for all children. The number and types of progressions you use will depend on the skill, the child, their ability to learn and their skating ability.

iv) Styles of Instructing - the two most common and effective teaching styles:

<u>The command/drill style</u>

- The coach makes all the decisions and leads the athlete through the learning process
- The coach presents component skills such as starting position, arm and leg positions in a logical sequence of learning progressions that the athletes will follow.

<u>Problem solving style</u>

- The coach presents student with problems that have 'movement answers' (e.g. how would you combine a split-jump and a toe loop?)
- A level of basic knowledge is necessary for this style

v) Strengths and Weaknesses of Both Teaching Styles:

The <u>command/drill style</u> doesn't allow for discovery or for individual differences; but generally does ensure efficient and accurate technique. The <u>problem solving style</u> allows children to explore movements and come up with solutions that are within their own limitations. It also allows for creativity and individual expression.

The best method of teaching will be a mixture of styles. It is always important to consider the personality, intellectual and physical capacity of the students, curriculum priorities, organizational limitations (time, space, equipment), and of course a good understanding of your own strengths and weaknesses as a coach.

vi) Phases of Learning:

It is important to consider the phases of learning so that instructions are adapted to what stage the athlete is in. This will differ for different jumps, skills, and may alternate or be re-visited when a skater grows or has difficulty with previously learned skills.

Verbal-cognitive: The learner determines what to do and what the goals are, improvement is rapid and movements are fragmented slightly. This is based on previous learning with much decision making and self-talk. Attention needs are high. The use of instructions, observational learning with cues, demos and active guidance are applicable tools.

Motor: The learner begins to develop specific motor programs for the actions, consistency increases rapidly with anticipation and timing improvements occur, in addition to self-talk decreasing, although gains in performance are slower.

Autonomous: After much practice, the learner becomes proficient, attention demands reduced and the movements and sensory analyses begin to become automatic. Emphasis is place on strategic or stylistic aspects of performance (now that cognitive space is freed up). Self-confidence increases and there is an ability to detect own errors.

Need practice + feedback to get towards automatic stages

Strategies of athletic skill acquisition:

The following strategies are found to be effective for a variety of skills and may all be used at some point for an athlete's learning of skills.

Practice skills:

- Blocked versus Random practice - Blocked practice occurs when all trials on a given skill are practiced at once (ex. A skater performs several repetitions of each of the jumps or dance steps before putting it into the program or pattern).

- In random practice, the skills are intermixed across the practice time (mixing up all of the jumps or steps, which may accumulate a similar number of repetitions as blocked practice but is not done immediately after one another).

- Interestingly, results by Shea & Morgan (1979) found that Blocked practice showed better results during the acquisition phase (the observable effects) but random practice had the better long term learning retention. These have been validated many times by further researchers who have demonstrated that learning is better in random practice (which in the long run will aid performance).

This can be equated with training your cardiovascular system. An individual needs to keep mixing it up types of cardio training in order to continue gaining fitness benefits since the body will adapt to certain training and become more efficient. In initial learning of technical skills, this is useful but for long-term learning and ability to perform in any environment, in any type of solo, and in any combination, mixing and manipulating the way skills are practiced will have long-term benefits.

- Variable practice: This is similar to random practice but breaks down each skill further by making each of the skills more variable. It is the idea of practicing a skill with many variations (and levels) to establish competence. (Example, a skater may practice a mix of jumps but with each jump, he/she might try different entries into the jump or try them in combination or on different parts of the ice).

- Whole versus part: This process of breaking up skills into smaller parts and progressions can also be taught to athletes during their own practice times.

FEEDBACK:

Feedback is essential for skill acquisition and learning of an athlete's skills. It also influences an athlete's emotional and psychological states since how performance is assessed and the way a coach delivers this message will be taken in different ways by different skaters.

Understanding their personality and the way in which an athlete learns is essential for the most effective delivery.

- Feedback provides information about the differences between performance and some goal state. It lets them know if the skill is correct or not and motivates them (positively or negatively).
- Feedback should give instruction of a future solution or modification, not just a comment on if it was good or not so good, should be positively reinforcing rather than negative, and offer some type of encouragement.
- It can be internal (intrinsic) or external (extrinsic).

Intrinsic (physical, psychological, sensory) - This type of feedback is incorporated into an athlete's own internal processes. Their muscles may send physical feedback or sensations that instruct an athlete where his/her body may be in performing a skill. It can also be psychological and incorporates the many technical or emotional messages that he/she is giving oneself.

Extrinsic (coach, objective clock, video), includes:

- ***Knowledge of results*** (outcome, objective measures) - This would include waiting to see the marks after a performance or judges scores and test comments.
- **Knowledge of performance** (processes during behaviour, task focuses) - This includes kinematic feedback (involving more intrinsic pieces) and that which is usually heard from coaches on technical aspects about movement.

- The way a coach delivers this feedback can have positive or negative results. It can affect an athlete's cognitive learning processes, their motivation, self-esteem, and greatly influences the way they will give their own internal feedback. A coach needs to be aware of their influence on an athlete's use of feedback when practicing independently.

Giving feedback:

"Sandwich method"= praise and encouragement is sandwiched in between instructions and constructive criticism.

a) **Praise/appraisal** - This strategy includes rewarding the athlete on specific skills, but not on the person. Praise can be accomplished simply by giving smiles, verbal praises, a pat, or a hug, if appropriate. It should not necessarily include monetary or material gains since this affects an athlete's internal motivation and is often short-lived. Similarly, if the athlete is rewarded based on personal comments instead of skill related comments, the athlete may begin to think that if he/she performs well, he/she is a good person. Skill performance should not reflect on an athlete's self-worth and a coaches' feedback is instrumental in delivering this message.

   Additionally, reward in small steps, not just the final outcome (ex. "Good work on that arm position, the jump will come soon"). Let them make mistakes and learn from those as well!!

b) **Constructive criticism** - This should include instructions for future actions, while combining with positive/social re-inforcers (ex, "way to go Bob"). Be sure to let them know what was done well, what might be changed, then encourage it.

c) **Encouragement** - This involves supporting all attempts, even if not successful, and allows for a positive desire to achieve (rather than fear of failure). This is helpful for building confidence, motivation, self-efficacy, and future competence in skills.

EXAMPLE: "Good check with your arms, try to also keep your leg back after the three turn, if you do that, you'll have better control of your salchow. Let's try that again, you can do it".

Punishment Behavior conditioning theories are often used to explain how individuals learn in response to certain experiences. Punishment is a type of conditioning where an unpleasant event, such as harsh criticism, humiliation or a slap, is administered to make behavior less likely.

As a behavior modification technique, punishment is not advisable for several reasons:

- Research has shown that while punishment can stop a particular behavior, it does nothing to teach or explain the correct or desired behavior.
- Behavior modification achieved through punishment can be short lived.
- Punishment can involve a tone or style of communication that is belittling, humiliating or even abusive. Therefore, punishment can have a very negative emotional impact such as decreasing a person's self-esteem and sense of competence.
- Consequences of using punishment may also include creating a dislike of the person administering the punishment or dislike of the environment where the punishment occurred. For example, children punished during a skating lesson may come to dislike skating lessons and drop out of the sport.
- Recipient may develop a fear of failure every time they are punished for a poor performance.

It is always a preferable strategy to use positive reinforcement to encourage desired behaviors. An effective behavior modification strategy will explain the desirable behavior or response, and encourage the development of that desired behavior through positive reinforcement of that behavior.

Reference:
Bootzin, R., Bower, G., Crocker, J., and Hall, E. (1991). Psychology Today: An Introduction. New York: McGraw-Hill, Inc.

Individual feedback vs. Group Feedback: Use the same sandwich method, but give a general comment for the entire group so that those with less skill can try that and those already having it gain a sense of mastery. It can also give another progression for advanced learners, which will also motivate the younger skills to continue increasing.

2. COACHING FOR PERFORMANCE - GUIDING CLIENTS THROUGH SOMETHING

i) Physical:

Daily training must be focused towards performance!

Athletes often become skilled at practice:

- Consider how the daily training is focused for performance - match input to output
- Is it reasonable to expect a great performance based on the practice?
- Are simulations or dress rehearsals appropriately scheduled?
- A typical athlete tries 2-5 tests per season, and competes in 3-5 competitions. Time spent performing is 5-15 minutes. Consider what one can learn in 15 minutes!
- A specialized training for performance must be part of the weekly training. Review the Physical Preparation Module in this manual for detailed information
- How many clean run-throughs of the program are required before it is reasonable to expect a clean performance?
- The best you can expect is the athlete's average!

Typically that means for a national level athlete that the program on the most important day is a composite of the previous two months training. (i.e. minimum 60 program run throughs. Average of 60 run throughs = performance at national event)

Experienced coaches make strategic decisions with respect to content based on accurate statistics.

- The content must be completed successfully
- Performance must be assessed dispassionately
- Use video and a check list

Keep in mind good enough today is not good enough tomorrow. Where does the progression and development of skills lead six months, two years, and five years out? Consider progress of sport and anticipate performance levels five years out!

Think beyond No. 1… Always consider winning vs. pursuing excellence!

ii) Emotional processing:

- Each individual experiences emotions differently
- It is not beneficial to apply value judgments, but rather observe emotions as weather, learn to adapt and have a great event. The coach, athlete and parent must become skilled at making decisions and be sensitive to each other's needs.
- As the service provider, the coach provides leadership and is responsible for outcomes
- Some of the differences you will observe are:
  - Speed of emotional processing
  - Range of emotional swings
  - Patterns of emotional behaviour that are either innate or learned

Once certain emotions are triggered some individuals have challenges with self-regulation. Special interventions must be employed. This may involve a sports psychologist.

- You will also observe variations in:
  - Intensity of emotional response
  - Sensitivity to stimulus
  - Self awareness and perspective
- We are coaching young developing athletes' whose bodies and minds are in state of constant change.
- Strategies that work yesterday may not work today.
- The coach must be very perceptive, communicate effectively and adapt to changing circumstance. Coaches working with teams have an extremely complex web of interactions to manage.
- The family circumstance may change, and this will have an impact on athletic performance.

The coach's emotional landscape is subject to change, and this will have an impact on coaching perspective and effectiveness. Some mechanisms must be created to assist the coach with their personal self-regulation. This may involve specialized training with a therapist, or simply a program of study and time for personal reflection.

"As individuals experience life differently it is necessary to have clear discussions regarding philosophy, values and goals. A formal assessment of performance and progress is the basis for meeting each participants needs."

"You cannot step into the same river twice."
~Heraclitus, in Diogenes Laertius, Lives

iii) Ideal Performance States

Experiencing time:

Physicists and philosophers have long been intrigued by the nature of time.

Time is commonly conceived as a linear dimension in a class with the three spatial dimensions, this view is not accurate. A person can choose to move along any of the three spatial dimensions. This freedom appears to be currently unavailable in the time dimension. However, all past experiences and future possibilities interact with the point that is "now". The interactions are complex and are not always predictable. Memory tends to be volatile and is changing as impacted by intervening experience. Peak states only serve to magnify the coexistence of ambiguity and unpredictability.

It appears that "now" tends to be a boundary state between the world we know and are comfortable with and the unknown. Faced with the unknown, people react in many different ways. If our goal as coaches is to enable the athlete to achieve personal best performances every time out then we have study the emotional landscape of peak performance. There are many models of this state.

Most athletes describe their peak sport performance as being in the zone or in a state of flow. "Flow theory was expounded by Professor Mihaly Csikszentmihalyi. He was concerned with how to live life as a work of art, rather than as a chaotic response to external events..." His initial work was with artists but it is being applied to sport and business.

How does it feel to be in "the flow"?

- Completely involved, focused, and concentrating - goals are clear
- Sense of being outside everyday reality
- Great inner clarity - knowing what needs to be done and how well it is going
- Knowing the activity is doable - a balance between opportunity and capacity
- Timeliness - **thoroughly focused on present**, don't notice time passing
- Sense of serenity - no worries about self, feeling of growing beyond the boundaries of ego - afterwards feeling of transcending ego in ways not thought possible
- Intrinsic motivation - whatever produces "flow" becomes its own reward

Time dilation and expansion:

- Begin to observe how you internally relate to objective time: Awareness is key!
- Internal sensing of time vs. a technological measure.
- Observing athletes and self, find a sense of harmony with the rhythm of event s as they unfold.
- Take a positive, active approach to the event. - initiate interventions strategically.

iv) Peak performance states:

Ideal performance state (IPS), or being 'in the zone', is that state in which athletes are able to combine all their mental training skills to achieve a performance nearly beyond physical expectations. This IPS is what helps athletes achieve their peak performances and may also incorporate 'flow'.
The 'zone' is described as a unique, often transcendent state, going beyond the self, a sometimes mystical experience with exceptional feats of strength and endurance. It can be an exhilarating, uplifting event, with a sense of master and control, invincibility, and some time distortion.

Csikszentmihalyi's flow concept involves a state in which individuals are so involved in an activity that nothing else seems to matter. Usually, an athlete experiences this when they are in a peak performance but an athlete can actually be in flow without being in peak performance mode.

Characteristics of peak performance:

- loss of fear- no fear of failure
- no thinking of performance- automatic
- total immersion in the activity
- narrow focus of attention
- effortless performance
- feeling of being in complete control
- time/space disorientation (usually slowed down)
- universe perceived to be integrated and unified
- unique, temporary, involuntary experience

These characteristics have been described by the most successful athletes who have achieved an ultimate 'peak', resulting in superior outcomes (such as winning the Olympics). Ideal performance states are a reflection of peak performance and describe the state that is best of an individual athlete.

There are strategies and techniques that will lead to peak states and enhance performance. These include:

- Goal Setting and reasonable expectations
- Creating and enjoying a positive environment
- Training for emotional control & perspective
- Training for physiological regulation: relaxation, energizing
- Training for attentional control: visualization & concentration training
- Training for skill automaticity & successful performances: visualization
- Sensitive implementation of the strategic plan
- Knowing the athlete's personality, how he/she responds, & how to adopt responses and what "ideal" state is

"Out of intense complexities intense simplicities emerge."
- Winston Churchill

v) Athlete's experiences:

The way an athlete experiences their performance and/or perceives his/her performance is an essential ingredient for them to achieve similar experiences in the future. An athlete needs to develop a heightened sense of awareness and learn strategies that will enable him/her to feel what it is to have optimal, meaningful, and positive experiences. Coaches need to be aware of an athlete's uniquely meaningful experiences in order to guide them towards their individual goals and ultimate development as an athlete and person.

Some resources for this section:

Nideffer, R. (1981). The inner athlete: Mind plus muscle for winning. New York: Thomas Y. Crowell.
Williams, J.M. (2001). Applied sport psychology: Personal growth to peak performance, 4th ed. Mayfield Publishing Company: Mountain View, California.

Two, of many possible views on experience: NO right view!

Each new event evokes numerous associations with past events.

"It's like the biologist who can distinguish hundreds of different kinds of grass while other people see only green and greener. Or the music connoisseur who can immerse himself in the whole composition or separate out the voice or maybe ponder over similarities to another piece. The experiences of experts are richer than those of other people. And that's why their next experience and the one after that will be even richer"

~Bodil Johnson

Consider:

- The complexity of experience increases with experience
- To what degree does the past influence the future?
- How to change perspective to get ideal experience in the future

Beginner's mind is just present to explore and observe and see "things as-it-is." I think of beginner's mind as the mind that faces life like a small child, full of curiosity and wonder and amazement. "I wonder what this is? I wonder what that is? I wonder what this means?" Without approaching things with a fixed point of view or a prior judgment, just asking "what is it?"

~Abbess Zenkei Blanche Hartman

Consider:

- How many fixed ideas and fixed views
- How much judgment, expectation, preconception
- How much it gets in the way of actually noticing what was happening.
    - Determine to what degree each participant is self aware, self absorbed able or willing to share
    - Each participant in sport brings a different "map" of the world and overlays experience with meaning and emotion according to their previous experience
    - It is necessary for the coach to be very present with their athletes and take the time to understand their context and experience in sport

vi) Competitive performance:

A direct reflection of the quality and intensity of practice, and reveals the thoroughness of preparation.

- Performance is not a "normal situation" for most people. There is no reason to expect completely normal behaviour from each participant (athlete, coach and parent)
- Careful preparation focused with clearly defined goals will allow for an enjoyable and rewarding sport experience

There are factors that will impact on the athlete. These may be classified as internal or external factors.

Internal Factors:

- Confidence in preparation
- Ability to perform the tasks required for success
- Comfortable with themselves at this stage of their life
- Relaxed and able to maintain concentration in a distracting environment
- Understand and accept expectations of themselves and others
- Have developed effective competitive strategies
- Communicate effectively with coach, parent, peers and officials

External Factors:

- Competition site
- Foreign ice surface with different:
    - Ice dimensions
    - Ice quality, texture, flow… Ambient temperature
    - Layout of the venue: dressing rooms, washrooms, entrances, exits
    - Lighting
    - Size and location of audience
- Event schedule: performances are not usually at the same time of day as their training
    - It may not be a convenient schedule and can challenge the athlete parent and coach
    - The coach may be working multiple events/athletes at the same time and can not provide the same degree of support to the athlete

- Dealing with other athletes, officials, media
  - Specific plans must be created for these situations.
- Limited practice time:
  - On site there may be limited practice time with sub-optimal conditions. This can be anticipated. Off ice training becomes central to success

Travel:

Most events involve travel to a remote location. Travel is fatiguing and adequate recovery time must be allowed so everyone is rested and able to perform effectively. Planning and allowing time to adapt, to the expected and to the unexpected will minimize the impact of travel. Packing lists, maps, clear instructions are basic to the process.

Parents should be aware of coaching and hotel fees prior to leaving. The goals and performance expectations should also be discussed in advance. If parents are traveling and staying with their athletes they must be aware of practice and event schedules, curfews, rules of conduct, wake-up times, bus schedules and arrival times at the arena. It is your responsibility as a coach to make sure they know - don't ever assume. Athletes traveling without their parents for more than one day should have bank cards. Estimate the amount needed for food per day and multiply by the number of days plus extra spending money.

Medical:

It is a wise idea to carry medical release forms and information sheets (sample enclosed). Parents may not be immediately available to give permission if medical treatment is needed. Information sheets can be valuable if any forms have to be filled out unexpectedly. Anyone traveling outside of Canada should have special medical coverage such as Blue Cross. This insurance is easily obtained and is relatively inexpensive.

Food:

While traveling the goal is to maintain a consistent diet and appropriate eating schedule. This process has to be discussed and carefully planned.

Communication:

A plan must be created for effective communication. This may be as simple as exchanging cell phone numbers or coordinating travel to and from the site.

On-Site Coaching:

Hotel: athletes and coaches should follow the following steps on arrival at the hotel:

- Check in and arrange the room to your satisfaction.

- Become very familiar with elevator and stair locations. Check with the hotel staff regarding meal hours. If the hours conflict with practices or events find other restaurants or have snacks in your room.

- Locate the fire exits and know what to do in case of fire. (See enclosed bulletin).

- Register athletes with the competition committee or test chairperson. Registration may be located in the hotel, another hotel or in the arena.

- Check and memorize test, practice and/or competition times. It is a good idea to make your own schedule. The coach should check individual athlete's schedules to determine any potential problems. Plan what to cover during practices.

- If there is a bus schedule and make sure that the athletes understand it. Find out where the buses leave from and have the athletes mark the times on their skating schedules. The coach should also check this and arrange for special transportation as required.

- If for any reason an athlete should miss the bus, they should phone a taxi if necessary.

- Plan meals and preparation times.

- Check with the team manager about any meetings or other instructions. Do this daily.

- Keep room keys in a specific place.

- Plan where and when to do off-ice conditioning in your new surroundings.

- Plan wake-up times and arrange them with each of the athletes. This applies to curfews as well.

- Remind athletes to travel with all pairs of skates and not to leave skates or outfits unattended.

- Know where bulletin and result boards are located. Develop the habit of reading them regularly.

Rink - Athletes and coaches should arrive in sufficient time to become familiar with the layout of the arena and settle in to the new environment. The following steps will help you and the athletes to settle into the new rink:

- Investigate the arena thoroughly - dressing rooms, washrooms, first aid rooms, off-ice warm-up areas, snack bar, bulletin boards, entry and exit doors to ice surface. Determine the entrance and exit doors for the event and the side of the arena on which the judges will sit.

- Check in with the ice captain when you arrive. If it is a practice, check music order. If it is a test or event, check the skating order and warm-up groups.

- Free skating or dance practice:
  - Have athletes do some stroking exercises first to establish the flow of the ice and the size of the surface.

- Have athletes become familiar with distinguishing objects in the surroundings so they will not confuse sides or ends of the arena, (e.g. sets, mirrors, windows, clocks, exits, signs, etc.).
- Practice entries, curtsies and bows and exits.
- Establish marks on the ice or surroundings that may help the athletes with dance patterns or jump set-ups.
- With the athlete, establish where the program or dance will start and finish.

Note: Always arrive one hour ahead of the practice, test or event.

Special on site responsibilities:

- Every coach should carry a stopwatch to check program timings.
- Make a list of the accurate times of your athletes' programs, lengths and warm-up times.
- It is also wise to carry a screwdriver, screws, a honing stone and a small repair kit (needle, thread, and safety pins), hair elastics and an extra set of laces.
- Inspect the ice conditions and report any problems to the referee or technical representative.
- Confirm whether doping (drug testing) will be performed and always instruct athletes that they are not to leave the arena after an event until the doping announcement is posted.
- Read the bulletin board for any changes in schedule or other announcements.
- Find out where and when the presentations of medals for the winners of a competition will take place and find out which athletes will be required to skate exhibitions.
- On the day of the event, handle your athletes the same as you would on any other day. If they have trained properly, the only difference is that this is the final day - the day of performance and they are ready.
- Assess the performance. A performance can only be assessed if a goal has been established ahead of time. If the goal has been met then new ones must be set; if it has not, then old ones must be reassessed. In this way your athletes' performances will become realistic and rewarding.

Challenges that can occur:

Weather conditions, illness, injury, lost equipment are all challenges we must face. It is important to take action because it's all about attitude!

We are never prepared for what we expect.
~James A. Michener, Caravans

3. MANAGING FOR SUCCESS - PLANNING, STRATEGY, AND EFFECTIVE COMMUNICATION

- The planning process
- Planning forms
- Athlete centered year plan

The planning process - as easy as A, B, C!

A. - Review where the athlete was last season
B. - Understand where they are now
C. - Determine where they would like to be and what to do next

Steps to effective planning:

Step 1 - Gap analysis
Step 2 - Evaluating resources
Step 3 - Creating the strategic plan
Step 4 - Putting your plan into action

Planning = Where you were + where you are + where you would like to be, and how to get there

A. Where was the athlete last season? Describe last season's progress and performance - Assess Strengths and future strengths.

- What skills were learned?
- What tests were passed, and what medals were won?
- What was the highlight of the season?
- If you could change anything, what would you do differently?

B. Where is the athlete now? Physical aspects - rate the athlete out of 10:

1	2	3	4	5	6	7	8	9	10
Strength									
Flexibility									
Endurance									

Note: If there is sufficient strength, the rate of learning an Axel will be optimized. With flexibility, aesthetic moves become crowd pleasing. Aerobic fitness enables one to practice, perform and handle the stress of competing. Ask your athlete - "What is the most important aspect for you to improve? How? (e.g. off-ice class?)"

- If the target is strength, this area is addressed in off-ice training, perhaps at a gym.
- If the target is flexibility, this area could be addressed in a dance or gymnastics class.
- If the target is endurance, this could be addressed through a variety of activities, such as soccer, running, biking.

Agility, **B**alance and **C**oordination are developed through cross training in gymnastics, ballet, skiing and soccer. Figure skating involves early specialization, but not to the detriment of the overall development of the individual. Therefore, a holistic approach should be encouraged. Exposure to music, dance and the allied arts will foster artistic sensibility and growth.

"Sport is a preserver of health."
~Hippocrates

Feelings - discuss with the athlete:

- What satisfies you in this sport?
- Under what circumstances do you perform best?
- Are you most effective at practice or performance? Why?
- When do you find yourself frustrated?
- What are your techniques for dealing with frustration/disappointment/stress/winning?

Training Effectiveness - assess:

- What is the current rate of learning? How can it be improved?
- Where does the learning curve and progress lead?

C. Where do you want to be?

- What are the technical goals for the season? (e.g. learn 2 new double jumps, pass senior bronze dances, and improve expression)
- What are the performance goals? (Aim to satisfy yourself) (e.g. land first double jump in an event or stay on time in dance & skills, skate a clean program)

- What are the competitive goals? (Competing against others) (e.g. improve placement in your peer group)
- What does the athlete has to learn and train to be successful this season? (e.g. learn new elements or improve performance skills)
- Does your practice effectively prepare the athlete for performance or is it practice just to practice? (i.e. in practice does the athlete complete a full solo run-through that feels like a performance?)

Are jumps practiced as they appear in the performance or one jump repeatedly?

- What are the athlete's physical goals?

Things to do to improve these aspects	
Strength	
Flexibility	
Endurance	

"Shoot for the moon. Even if you miss, you'll land among the stars."
~Les Brown

- What key event(s) is the year structured around? (e.g. test day, qualifying tests and competitions)
- Which event(s) is the most important?
- How many times will the athlete perform in the season?
- Does the performance schedule allow for progress?

It would be effective to have 2 to 4 six week time slots appropriately spaced for skill learning. For example, if you require two new elements to be successful in April sufficient time must be allotted to achieve this goal and perhaps technical skill training should precede program choreography or competing at an additional competition.

A skating season should have a strategy and rhythm that leads to the next level of performance.

"Setting a goal is not the main thing. It is deciding how you will go about achieving it and staying with that plan."
~Tom Landry

Once goals are set, they must be assessed. The athlete's current state is compared with the anticipated performance requirements that will lead to a successful season.

ii) Effective planning

Step 1 - gap analysis:

Gap analysis will help you develop a strategy to achieve your goals:

1. List what skills you need to improve to meet your goals
2. On the chart rate your success with the elements based on your average performance
3. Rate you competition using the same scale (C).
4. Indicate the test standard in relation to yourself (T).

(e.g. Ann is a juvenile level athlete in Persian City. She can land her double loop 6 times out of 10 in her solo. This is an element that she and her coach Jim believe is essential to competing successfully this year. Jim guesstimates that Ann's competition will be landing this jump 8 times out of 10 and the test standard suggests that this jump should be successful 9 times out of 10.)

%																
100		T														
90	T															
80	C															
70		C														
60																
50																
40																
30																
20																
10																
0																
	D	F														
	O	L														
	U	Y														
Element	B	I														
	L	N														
	E	G														
	L	S														
	O	P														
	O	I														
	P	N														

Gap analysis allows athletes to compare themselves to other athletes at their test/competition level. As a result, realistic goals can be set and athletes can measure their progress and plan for a successful season. This analysis is also the basis for establishing training ratios and priorities.

Step 2 - Resource analysis:

Evaluate the following:

- Available club ice time [_____ hours]
  - In consultation with the coach determine how many hours of training are effective
  - This varies with the level, age, stage, commitment, and goals of the athlete

- Assess whether the training environment is sufficiently positive and challenging. (i.e. Are the athletes of similar level and interest? Is enthusiasm and commitment to excellence evident?)

- Additional ice availability

- Coaching
  - What is the expertise of the base coach?
  - How much coaching is optimal in each discipline?

- Resource coaching
  - Coaches have strengths and weaknesses. Consultants are used as necessary to provide alternate viewpoint. This provides a balanced perspective and a second opinion.

- What options are available
  - Technical experts, choreographers, partners
  - Equipment - video, jump harness
  - Seminars
  - Provide motivation and new perspectives for the athlete and the coach

As you begin to track and predict progress, you can then adjust the variables of ice time, environment, coaching and off-ice training to achieve the desired result.

Off-ice training

- Fitness class
  - Aerobics, flexibility, pilates, plyometrics, resistance training

- Dance
  - Ballet is the basis of body alignment and style - every great athlete has studied ballet!
  - Jazz, modern, hip hop, tap

- Mental training
  - Learn visualization, relaxation, self-regulation
  - Competitive strategies

Consider:

- Financial resources
- Talent - high performers either have special talent or train exceptionally well
- Commitment
- Are there any barriers to progress?

  (i.e. The session qualification criteria/programming does not match the athlete's needs).
- Are limits viewed as limitations?
- How are you going to overcome any challenges?

  (i.e. utilize alternate ice time, switch training locations, use more off- ice training)

If goals are not being met, then determine the reason and make adjustments.

"If the facts don't fit the theory, change the facts."
~Albert Einstein

iii) Step 3 - The strategic plan:

Label the months

Mark in key dates/events around which the season will be structured

- After each of these you will assess progress and re-set goals
- Note your achievements in the space provided on the quarterly plan

Mark in what has to be learned, and in what order
Devise a critical path - remember the six week rule

- First develop technical skill (e.g. learn Axel for club competition)
- Then enhance artistic development (e.g. polish presentation)
- Then train for performance (e.g. full program run-throughs)
- Then simulations to increase readiness to perform (e.g. dress rehearsal)
- Perform in competition
- Assess and modify as necessary

Mark in the best time for new music selection, editing and then choreography. The best time is just after the main competition, getting ready for next season.

Mark in the best time for new costumes.
• Completed at least 2 weeks before performance
Mark in the best time for purchase of new skates and skate sharpening.

Sharpening should occur approximately every 30 hrs of skating, usually a minimum of 3 skating days before a performance.

Mark in school exams, holidays and major social functions (avoid conflicts).

Plan & mark taper (reduction in training volume) and recovery time after events. Throughout the season monitor energy levels and adjust training as necessary.

If the training is less than six hours a week only limited tapering and recovery is needed. Many athletes make the mistake of suddenly increasing their practice time just before a major event and, as a result, are fatigued and ineffective in performance. Just prior to an event, rest is critical, and after an event some rest and reflection give an opportunity to rejuvenate and establish a balanced perspective.

The strength and value of a written plan is that it provides the athlete, coach and parent with an objective tool to guide their progress and efforts. Often frustration with progress results in finger pointing and blame. Effective monitoring, management and communication will lead to success. We must become skilled in managing our relationships with athletes, parents and other stakeholders.

"If we don't change our direction we're likely to end up where we're headed."
~Chinese Proverb

The athlete should record their progress:

New jumps learned in practice	i.e. Double Salchow			
% of new jumps landed in performance of solo	45%			
New spins learned in practice	Flying Camel			
New spins in performance				
# of turns in spins				
Field Moves e.g. hydroblade, Ina Bauer				
Skills e.g. turns, pattern				
Dance e.g. steps, timing, unison				
Personal Best Score				
New lifts or throws				

Step 4 - Putting the plan into action:

- Initiate the training based on the goals and strategic plan
- Determine the appropriate measures of success
- Determine the times at which assessment is appropriate
- Modify the plan as appropriate, based on objective measures

Carefully integrate the off ice component:

Triple jumps are the starting point for elite performance:

Specialized off ice training is required for jumping.

Factors to be trained:

- Power
- Strength
- Flexibility
- Endurance

Off ice programming must be initiated as the athlete is entering the competitive context.

Modes of training include:

- Aerobics & fitness class
- Pilates
- Plyometrics
- Resistance training
- Yoga, Tai Chi
- Ballet is the basis of body alignment and style (every great athlete has studied ballet!)
- Jazz, modern, hip hop, tap

Elite sport implies performance on demand!
The training must support this requirement.

Appropriate competition opportunities must be provided to the talented athlete, in the context of a multi-year plan.

Talent Identification:

- Research has indicated limited effectiveness in predicting future elite performance in simple high energy sports. (Sprinting etc.)

- There is little research that indicates successful outcomes with the process in complex, skill based sports with young developing athletes.

- A skilled experience coach may be effective in providing a guesstimate as to which athletes might find it somewhat easier to find success in a selected sport. (Review: "Assessing the athlete")

- Some of this in figure skating would be based on body structure, disposition and will.

- It would appear that the process that may be most effective would be opportunistic.

- It is more of a process of talent surveillance and effective talent management.

- At the organizational level an effective theme would be:

  - **"Excellence is rewarded with opportunity"** L. Stong

Talent pathways:

- Talented athletes must be able to follow an effective path to elite performance
- Create a training environment where the talented can succeed
- The individual athlete and their parent must be able to see their way through the process and receive guidance as necessary
- With the exception of synchronized skating, figure skating is an early specialization sport. Parent and school experience is integrated. Athletic talent at the physical level is a genetic gift. The other aspect is having a parent that can provide guidance and recognize opportunity and expertise.

"It requires wisdom to understand wisdom; the music is nothing if the audience is deaf."
- Walter Lippmann

Field tests to verify talent identified athletes:

- Due to young age of the athletes (4-7), cost, decentralized locationsand unique sporting environment, field tests are being selected.

- An experienced coach will assess how the athlete interacts in relationship to the blade and ice. Great athletes have a natural adaptation and feel for the ice - good coaches instinctively recognize this.

- **Ability to perceive speed on ice** - critical for jump entrances. Duplicate speed on entrances - (radar gun, or video & stop watch)

- **Ability to accept and manage rotation** (spinning) (coach assess - rate on scale of 10)

- **Postural assessment / body structure** by the coach, verified by sports medicine specialist, in bare feet & in skates.

Power:

- Vertical jump - utilizing basic jump techniques so that technical skills are not a significant factor, measure effective power.

Measure height against marks on board: (video)

- Acceleration - from moving start blue line to blue (rate of acceleration)

Flexibility: (arabesque)

- Measure angles of free leg (both feet).
- Measure assisted stretch at board side
- Correlate flexibility and strength

Reaction time tests:

- Observe actions on fall/error - observe speed of response
- Coach assess on scale

Rhythm tests:

- Simple - clap in time to music
- Skating movements require an inner rhythm

Artistic Sensibility - coach assess

Lean test:

- Athlete stands beside coach, with support of coach leans laterally away, while keeping body aligned - some athletes accept varying degrees of lean and will trust the coach - others balk at unusual lean/sensations and do not trust coach.

Balance off centre force test:

- Athlete proceeds slowly towards boards on one foot - arrests their movement by stopping against the board with the other foot extended at about knee level - some athletes can quickly adapt to the balance/body control needed to do this, others have difficulty.

Review school results:

- Demonstrated learning skills, any special needs

Tenacity assessment:

- Coach review mental approach and emotional development of athlete in learning new skills and within performance situations

Equipment assessment:

- To understand effect of equipment on the observed skating.

Appearance:

- General deportment
- Presence
- Aesthetically pleasing appearance

Athlete Support:

- Are the parents/extended families able and willing to commit to long-term financial and emotional support?
- Will the parents accept the guidance and be willing to learn from sport specialists?

Notes: There are procedural and ethical concerns to be addressed in the talent identification process. These involve informed consent for both the athlete and parents.

"Perception is strong and sight weak. In strategy it is important to see distant things as if they were close and to take a distanced view of close things."

~Miyamoto Musashi

CREATING A HIGH PERFORMANCE ENVIRONMENT

1. Start with Philosophy and Values Leads to vision and mission
2. Evaluate People
3. Evaluate existing programs honestly
4. Define performance targets - include timelines
5. Devise a strategic plan
6. Create a clear talent pathway
7. Implement
   Understand the nature of change required
   Create a cultural and attitudinal shift
   An environment that embraces change and celebrates excellence!
8. Evaluate and Adapt
9. Be relentless

- Look at the process as well as results - learn to become aware of opportunities, embrace change
- The athlete, coach, parent and volunteers must enjoy the process of training
- Success is a result of getting the process right
- Success may be experienced as a process or journey

"Vision without action is a daydream. Action with without vision is a nightmare."
~Japanese Proverb

CONFLICT MANAGEMENT

What we do in skating at the club level, section level or national level is all about relationships. It is vital that the relationships are effective, satisfying and grounded in integrity.

There are times when conflict overshadows a relationship. Interestingly, conflict stems from non-conflict elements, all good in themselves: passion, commitment, and dedication. The challenge is improving the alignment and cohesion of the group so that disagreements are a healthy aspect of the relationship. Spirited discussion and a variety of views are needed to promote balanced and creative decision-making.

The art of working well together requires patience, an abundance of goodwill and understanding, joined together with clarity of vision, agreement on mission, good mechanics of communication, and a center of effort/focus at the strategic level.

Why does conflict arise?

When we are in a state of conflict it is difficult to see things clearly. Everything is distorted by our emotions. Conflict may arise because:

- We assume others think as we do
- We consider our own history and viewpoint before understanding others
- Philosophy & values may be unstated or conflicted
- As a group we may lack clarity of vision & mission
- Roles and responsibilities may not be clearly defined
- Feedback mechanisms may be ineffective or non-existent
- We may be operating at different levels of detail
- Special interest & conflict of interest are not openly acknowledged
- There are people of ill will or those who do not understand or concern themselves with the impact of their behaviour on the social environment

Dissolving or resolving conflict may be viewed as a mental construct that disappears when it is no longer supported. This dissolution of conflict begins when one of the conflicting parties disengages from the destructive aspects of the relationship, and starts to seek a positive outcome. The process of reconciliation gives the relationship a positive tone and allows it to mature. In a larger context this process of growth, conflict, and reconciliation reflects the cycles of renewal in nature. Each aspect of the cycle has its purpose, and no part exists independently.

We must find a way to become calm, reflect on the nature of the disagreement and align ourselves so that a desirable outcome is possible. When the conflicting parties cannot find calm then this is a sign that a referee or non-attached view is needed, as solutions will most likely not be found at the level of the problem. Effective interventions will allow the parties to transform/transcend their difficulties. There are also times when no agreement can be found. A strategy must be implemented to consciously and effectively manage disagreement - in other words, the parties agree to disagree - and move on.

There are techniques that can be employed to effectively deal with conflict. The success of the techniques depends on goodwill, preparation, accurate situational assessment, dispassionate interventions and careful alignment with the mission of the organization.

The most common methodology for dealing with conflict:

- Define the challenge and how it is impacting the individules, situation or organization.
- Brainstorm solutions - get input and alternatives from the stakeholders i.e. what are your needs? What are mine? What needs do we share? How can we meet our needs?
- Together develop an action plan i.e. How can we move forward?
- Set realistic goals and timelines i.e. who is going to do what and when?
- Determine how to assess progress and reward improvement i.e. what visual or tangible evidence, e.g. membership increase or positive feedback from parents, etc. will show that the measures in place are working?

Preventative measures:

Even better, try to nip potential conflict in the bud:

- Communicate regularly
- Do not assume anything
- Define roles and responsibilities and communicate these to all
- Draw up and sign a written agreement (contract) if the relationship involves the purchase of services between a coach and a club

Options available:

Conflict resolution measures must be employed and exhausted at the club level, region level and section level before moving to a higher level. If the above process has been followed and the conflict resolution techniques are not successful, the parties involved may choose to file a complaint in accordance with the Skate Canada Complaint, Suspension & Expulsion Policy.

Section 2:

CUMULATIVE POINTS CALCULATION SYSTEM

CUMULATIVE POINTS CALCULATION SYSTEM

The International Skating Union (ISU) has created a judging system for figure skating and ice dancing that is now in full force at ISU events. The first country to develop a similar system as the ISU new judging system, Skate Canada's Cumulative Points Calculation (CPC) system provides a quantitative measure of performance by which all athletes at all levels can gauge their performance. It is an athlete empowering system that is accurate and consistent with Skate Canada and ISU rules. Not only does it calculate results at various competitions but it also serves as a development training tool all athletes and coaches should use and work with daily - an opportunity never explored before!

The following information will provide you with a good understanding of what the CPC system is all about. Some technical terms and definitions will be outlined in this module; however, for more up-to-date technical information we highly recommend that you visit Members' Only on Skate Canada's Website at www.skatecanada.ca and the ISU Website at www.isu.org.

The CPC system provides a consistent application of the standards in skating. With the freedom of no maximum score, the CPC system is able to support written standards by which all athletes are measured. The detailed written standard was something that did not exist within the "6.0-ranking" judging system. For singles and pair short program and free program and the ice dance original and free dance, the system is based on points being awarded for a technical score and five program component scores.

The following are the logistics of this innovative system:

1) **Well - Balanced Program Criteria (WBP):** The Well Balanced Program (WBP) sets the maximum number of each type of elements that can be completed in any program. The WPB ensures that a skater/team will not win simply by packing their program with multiple elements. The WBP protects the direction and integrity of all aspects of the sport.

2) **Scale of Values (SOV):** The Scale of Values (SOV) is a table that contains the base value of each technical element and the numerical values of each possible grade of execution that can be awarded by the judges for an element.

What is the Trimmed Mean? The trimmed mean is the judging panel's Grade of Execution (GOE) for an element. It is calculated by deleting the highest and the lowest values and calculating the average of the remaining maximum of seven values. For a panel of nine judges the two highest and lowest marks for each element or program Components are discarded. This means that only five of the nine judges' marks are used. The base value of an element plus the trimmed mean becomes the element score.

3) **Levels of Difficulty:** Each non-jump element executed as per the specific program requirements will receive one of four levels of difficulty. The Levels of Difficulty are "called" by the technical specialist. Level 1 - the easiest, Level 2– difficult, Level 3 - more difficult and Level 4 - the most difficult one. Each different level has its own base value. The description of characteristics that give an element a certain Level of difficulty is published and updated in ISU Communications.

4) **Grades of Execution (GOE):** Every Judge will mark the quality of execution of every element depending on the positive features of the execution and errors on the seven grades of execution scale: +3, +2, +1, base value, -1, -2, -3. For this first he evaluates the positive features of the element that might increase the base value to a + value and then reduces the result because of errors if any of these are committed. Each + or - grade has its own + or - numerical value indicated in the scale of value (SOV) table. This value is added to the base value of the element.

GOE Scale	
+3	Outstanding
+2	Excellent
+1	Good
0	Satisfactory
-1	Mediocre
-2	Poor
-3	Complete miss

5) **Program Components:** In addition to the technical score, each of the judges will evaluate the skater's/pair's whole performance which is divided into five (5) program components: skating skills, transitions/linking footwork and movement, performance/execution, choreography/composition, interpretation of the music. Each program component is given a mark out of 10 with increments of 0.25 by each judge.

- **Skating Skills:** Overall skating quality, edge control and flow over the ice surface demonstrated by a command of the skating vocabulary (edges, steps, turns etc), the clarity of technique and the use of effortless power to accelerate and vary speed. Varied use of power/energy, speed and acceleration.

- **Transitions/Linking Footwork and Movements:** The varied and/or intricate footwork, positions, movements and holds that link all elements. In singles and pair this also includes the entrances and exits of technical elements.

- **Performance/Execution:** Performance is the involvement of the skater/couple/team physically, emotionally and intellectually as they translate the intent of the music and choreography. Execution is the quality of movement and precision in delivery. This includes harmony of movement in pair and ice dance.

- **Choreography/Composition:** An intentional, developed and/or original arrangement of all types of movements according to the principles of proportion, unity, space, pattern, structure and phrasing.

- **Interpretation:** The personal and creative translation of the music to movement on ice. (i.e. Relationship between the partners (pair and ice dance) reflecting the character of the music.)

Note: Because the steps of the compulsory dance are pre-determined, this dance has only four program components: skating skills, timing, performance and interpretation. Timing is regarded as the most important so it has the highest factor.

PROGRAM COMPONENTS OVERVIEW/ SUMMARY

		CHARACTERISTICS OF SKATING SKILLS	CHARACTERISTICS OF TECHNICAL TRANSITIONS	CHARACTERISTICS OF PERFORMANCE/ EXECUTION	CHARACTERISTICS OF CHOREOGRAPHY/ COMPOSITION	CHARACTERISTICS OF INTERPRETATION/ TIMING
	Mark	• Balance and rhythmic knee action and precision of foot placement • Flow and effortless glide • Cleanness and sureness of deep edges, steps and turns • Power/energy and acceleration • Mastery of multi directional skating • Mastery of one foot skating • Pair skating and ice dancing – equal mastery of technique by both partners shown in unison • Ice dancing – compulsory dance – ice coverage	• Variety • Difficulty • Intricacy • Quality (including unison in pair skating and ice dancing • Balance of workload between partner (pair skating and ice dancing) • Variety of dance holds (not excessive side by side and hand in hand – ice dancing	• Physical, emotion, and intellectual involvement • Carriage • Style and individuality/ personality • Clarity of movement • Variety and contrast • Projection • Unison and "oneness' (pair skating and ice dancing) • Balance in performance (pair skating and ice dancing) • Spatial awareness between partners – management of the distance between partners and management of changes of hold (pair skating and ice dancing	• Purpose (idea, concept, vision) • Proportion (equal weight of parts) • Unity (purposeful threading) • Utilization of personal and public space • Pattern and ice coverage • Phrasing and form (movements and parts structured to match the phrasing of the music) • Originality of purpose, movement and design • Shared responsibility of achieving purpose (pair skating and ice dancing	• Effortless movement in time to the music (timing) • Expression of the music's style, character and rhythm • Use of finesse to reflect the nuances of the music • Relationship between the partners reflecting the character of the music (pair skating and ice dancing) • Appropriateness of music (original dance and free dance) • Skating primarily to the rhythmic beat (free dance)
Outstanding	10	**100%**				
Superior	9					
Very good	8	**Approximately 75%**				
Good	7					
Above average	6					
Average	5	**Approximately 50%**				
Fair	4					
Weak	3	**Approximately 25%**				
Poor	2					
Very poor	1					

SCORE CALCULATION

Technical Score: As a skater performs, all his elements will be identified and confirmed by the Technical Panel. Once all the judges have entered the (GOE's) for each element, all the element scores are calculated as mentioned before, (by adding the trimmed mean to the base value of the element). The Technical Score is the sum of all the element scores.

Program Component Score: In addition to the technical elements, points will also be awarded for the five different program components as defined previously - skating skills, transitions/linking footwork and movements, performance/execution, choreography/composition, and interpretation. Judging on a scale of 0.25 -10 (with increments of 0.25), the judges express the overall presentation of the whole program. Each component score is also calculated by discarding the highest and lowest, then averaging the remaining scores. Each is then multiplied by a factor that is set out in the rules for each event. The program component score is the sum of these five component scores. Additional points may be awarded for innovative elements. Bonuses are given for different jumps achieved depending on the category and deductions are made for rule violations and falls.

Result: The total score for any segment will be the technical score added to the total program component score, plus any bonuses minus any deductions.

Final Competition Score: The scores of the short program and free skating are added and the result constitutes the final score of a skater in an event. In ice dancing the scores of the different parts of the competition, depending the category, are added together and the result constitutes the final Competition Score of the dance team. At the end of the event the skater or team with the highest competition score wins the event. In case of a tie at any phase, the skater or team with the highest score for the last skated segment is placed first.

Protocol in the CPC system:

	Element	Program	Total Score	Placement
Susan	21.20	5.55	26.75	1
Sally	19.60	6.70	26.30	2
Sandra	20.35	5.75	26.10	3
Sarah	19.50	5.60	25.10	4

TECHNICAL PANEL

The three main officials who monitor the competition and keep track of the program elements performed by the skaters are the technical controller, the technical specialist and the assistant technical specialist.

Technical Specialist: The technical specialist identifies the elements and if applicable, the level of difficulty of the elements that the skater is performing in real time. The work of the technical specialist allows the judges to concentrate on marking the quality of each element in the skater's program. All technical specialists are former national and international athletes or coaches and are involved in skating on a weekly basis.

Technical Controller: The technical controller writes notes in real time about every element and if they do not agree with the call of the technical specialist, he or she will call for a review of the particular element. The technical controller leads the discussions in the review process of the elements at the end of a skater's program and oversees the work of the data operator and instructs them on changes and corrections, if necessary. In the case of a disagreement about an element and/or Level of difficulty the final decision will be the views of the majority of the technical panel (two out of three). The technical controller is also responsible to verify that the performed elements and Levels of difficulty identified in accordance with the above-mentioned procedure are correctly entered into the system by the data operator and the performed elements and Levels of difficulty may be validated only upon formal confirmation by the technical controller that such verification has been completed.

Assistant Technical Specialist: The assistant technical specialist supports the work of the technical specialist by anticipating the type of element that is going to be executed. He or she does so by reading and following the planned program sheet given in advance by the skater prior to the start of the event. If the assistant technical specialist does not agree with the call of the technical specialist, he or she will call for a review of the particular element in real time and then participate in the discussions in the review process of all the elements needed to be reviewed after the skater has finished. If, for any reason, the technical specialist is in a situation where he is unable of identifying an element, the assistant technical specialist will call the element. The assistant technical specialist also helps the technical controller by taking notes in real time about every element.

Each of these individuals will be monitored through an audiotape and videotape recording of the competition when possible.

There is also a **"Data operator/replay operator"** resource person that inputs the called elements and its Levels of Difficulty into the computer. If needed, they also correct elements or Levels of Difficulty as instructed by the technical controller.

JUDGES' PANEL

The composition of the judges' panel is made according to present ISU and Skate Canada Rules.

Judges: Under the CPC system, the judges focus entirely on scoring the quality of each element and the quality of the five program components. Their marks will be based on specific criteria for each element and will provide a comprehensive assessment of each skater's skills and performance. A judge is not required to compare and score each skater directly in relation to all other skaters. This permits each judge to focus on the quality of (1) each technical element performed and (2) the program components, and to enter into a touch-screen their scores. The computer records the individual scores as entered by the judges, and compiles aggregate scores for each skater to determine the final rankings.

WELL BALANCED PROGRAM CRITERIA

To ensure that you have the most current WBP criteria documents in hand, we strongly advise that you visit Members' Only on Skate Canada's Website at www.skatecanada.ca

Singles Free Program

Free skating is a means by which the skater is enabled to show not only his or her skating ability and originality but also his or her interpretation of the music. Free skating consists of a well balanced program of free skating components, jumps, spins, steps and other linking movements, executed with a minimum of two-footed skating, in harmony with the music of the skater's choice. Free skating music must not contain vocals. The skater has complete freedom to select any of the foregoing components, the sum of which shall comprise the program. The foregoing is subject to the content, performance standards and passing requirements specified for various free skating tests.

DEFINITIONS:

(i) **Jump Element:** A "jump element" is defined as an individual jump, a jump sequence or a jump combination.

(ii) **Jump Sequence:** A jump sequence may consist of any number of jumps of any number of revolutions that may be linked by non-listed jumps and/or hops immediately following each other while maintaining the jump rhythm (knee); there can be no turns/steps, crossovers or stroking during the sequence (turns are 3-turns, twizzles, brackets, loops, counters, rockers. Steps are toe steps, chasses, mohawks, choctaws, curves with change of edge, cross-rolls).

(iii) **Jump Combination:** A jump combination may consist of the same or another single, double, triple or quadruple jump. There may be up to three jump combinations or jump sequences in the free program. In the senior and junior categories, one jump combination could consist of up to three (3) jumps, the other two up to two (2) jumps. If the first jump of a two-jump-combination fails to be successful and turns out as a "non-listed jump", the unit will still be considered as a jump combination. In a jump combination the landing foot of the first jump is the take off foot of the second. The same would apply to the third jump. A 3-turn on one foot between the jumps without touching the ice with the free foot (or even with a touch, but no weight transfer) keeps the element in the frame of this definition allowing still calling it a combination (with an error).

Pairs Free Program

Pair skating is the skating in unison of two persons who must perform their movements in such harmony as to give the impression of genuine pair skating as contrasted with multiple individual skating. Pair skating consists of a well-balanced program composed and skated to music of the skater's choice for a specified period of time. A good program contains moves of single skating executed simultaneously either symmetrically (mirror skating) or in parallel (shadow skating) and especially typical pair skating moves such as pair spins, spirals, lifts, partner assisted jumps and so on, linked harmoniously by steps and other movements with a minimum of two-footed skating. Both partners need not always perform the same movements. They may separate from time to time, but they must always give an impression of unison and harmony of composition, of program and of execution of the skating.

Free Dance

Free dancing is the skating by a couple of a creative program with dance steps and movements expressing the character of the music chosen by the couple. Developing a story or theme is optional. Required elements "specified" lifts and spins to be included will be announced annually by the ISU.

Synchronized Skating Free Program

Synchronized free skating consists of a well-balanced program composed and skated to music of the team's own choice. A good program contains elements such as circles, lines, blocks, wheels, intersections, spins, pair elements and movements in isolation linked together harmoniously by a variety of transitions and executed with a minimum of two footed skating. Synchronized skating refers to the quality of skating, importance of unison, the accuracy of formations and preciseness of the team, all incorporated into a program of a specified time limit. The team must predominately act as one unit. Division of the team into several units is allowed during the required movements in isolation and pair element. Additionally, several units can be used as short transitions if the element following the transition so requires (i.e. preparation for an intersection or beginning of a movement in isolation). Division into small groups without the reasons mentioned above is not according to the requirements and will be given a deduction. Syncopated choreography may be used. Syncopated choreography means that skaters are performing the same moves with a time delay, for example half of the team at one music phrase and the second half at the next music phrase. The choreography and elements must be executed facing towards all sides of the rink and not excessively facing one side. In order to increase the difficulty of the required elements in the well-balanced program, the adding factors may be incorporated. Maximizing the well-balanced program (WBP) criteria - Strategy is key! Maximize within your athlete's ability and the well balanced program (WBP) requirements.

Here are some key pointers to keep in mind:

- Each program should feature specific athlete's strengths
- Individualized programs are preferred - no cookie-cutter approach
- Quality of all elements is VERY important - take calculated risks and weigh those against rewards.
- ROTATE all jumps! No extra turns between jumps in combinations or sequences.
- MUSIC selection and PROGRAM choreography are critically important.
- Solid skating skills have value
- Transitions are increasingly important - think about entries and exits from elements - link steps, moves, etc

As coaches, it is important to develop well-rounded athletes. We must keep an eye on spins, footwork, and program components and emphasize creativity! Evaluate the skaters' options for jump combinations to gain more points (e.g. 2/2; 3/3; 4/3). A triple/triple jump beats a quad/double jump! All in all, leave room for growth - encourage weaker areas to develop. Do not take the easy route - athletes still need to demonstrate difficult skills to win!

SUMMARY

Figure skating is a sport. Sport is about the athletes. The best sport occurs when the officials are invisible to the process. Far too long officials in figure skating have been in the spotlight. For too long the decisions have had so much ambiguity that all stakeholders have had to guess the “whys” of a result, and guess the direction in which the sport is moving. By writing down the formula, we reduce the ambiguity in the assessment process. When we reduce the ambiguity we reduce the suspicion in the results, and we create a sport in which the focus can be 100% on the pursuit of excellence by the amazing athletes - athletes who allow us the privilege to be witness to their brilliance!

Section 3:

PHYSICAL PREPARATION

PHYSICAL PREPARATION

There is no better activity than skating to improve skating. However, as most of us know, ice time is expensive and often hard to come by. A good off-ice training program should be developed to allow ice time to be primarily used for skill practice. Certain forms of flexibility work and power training are also more effective when done off of the ice. Doing a portion of the training off-ice can also introduce variety into the total training program, get skaters mixing with other athletes and reduce training costs.

Off-ice training must be as specific as possible to skating and must produce an "overload" to result in improved performance.

In the primary STARSkate training, the general fitness needs of figure skaters were discussed. More advanced forms of off-ice training will be examined at this level.

As a coach you need to know:

- The fitness requirements of figure skaters
  - aerobic
  - anaerobic
- Fitness training methods
- How to plan individualized off-ice conditioning sessions
- How to administer and interpret simple fitness tests
  - aerobic
  - anaerobic

WHAT IS PHYSICAL PREPARATION?

Conditioning is physical activity that places stress on the body in order to produce changes in the level of fitness. Conditioning results when repeated exercise is carried over a sufficiently long period of time, and at an adequate intensity to result in change. It is important to understand that training is specific. That is, the major change results in the system that you choose to overload. Overloading a system means stressing that system so that its energy requirements are raised above a normal level. Overloading is necessary to produce any change in fitness level. If a system is not stressed, it will not become stronger - it will maintain its present level or perhaps even weaken if there is insufficient training stimulus over a period of time.

That brings up another important point regarding conditioning: training is reversible. Good coaches become very aware of this when they see that the conditioning of many of their athletes has deteriorated during the off-season. Ideally, programs should be instituted that serve to maintain skaters at a given fitness level through this period. Maintenance programs are really any programs where the stimulus on a particular system is not of sufficient overload intensity to induce change. Maintenance programs are useful once an athlete has reached a desired training level, as it allows the skater to spend more time on other aspects of skating such as skill improvement. Coaches must design interesting maintenance programs that will continue to motivate skaters to maintain the required fitness level.

In summary, the following principles must be considered by the coach in planning conditioning work:

- Training is specific.
- Overloading is necessary to produce changes in fitness level.
- Conditioning is reversible; fitness must be maintained.

In dealing with young skaters, it is important that the coach stress participation in a variety of physical activities to develop a repertoire of motor skills. Children can benefit greatly from participation in school sports. School physical education should be encouraged because of its physical benefits. Although some of the lower body ballet exercises will train muscles that are antagonistic to figure skating, this will only become a problem if both ballet and figure skating are trained strenuously and for long periods of time. The training of any athlete should proceed from the general to the specific.

What are the specific fitness requirements of figure skaters?

Figure skating is a highly complex sport requiring a high skill factor as well as a high fitness factor. Endurance, strength, power and flexibility are the major physical fitness components of the sport. The skill factors include such things as balance, timing and coordination.

Concentration and dedication are also necessary to master figure skating skills. It is a very demanding sport.

Because of the artistic aspects of figure skating, it is important that a skater performs without obvious physical strain. Skaters must be able to skate quickly, jump high and spin fast (anaerobic activities), therefore conditioning is essential for the performance to appear effortless. Skaters must also be physically fit, aerobically, in order to work continuously throughout practice sessions.

The major aim of conditioning activities is to reduce factors that will hinder skating performance and, in order to do this, the requirements of the sport must be clearly understood.

Figure skaters must possess high fitness levels in the following areas in order to be successful:

- Endurance (cardiovascular and muscular)
- Strength (legs, upper body, arms)
- Power (legs)
- Flexibility (hip, lower back, shoulders)

The coach must keep these requirements in mind when planning lessons. Whenever possible, ice work should incorporate conditioning work with skill practice. Off-ice conditioning work can also be done in a gymnasium or a dressing room to supplement skating training. The best approach seems to be a combination of on-ice and off-ice conditioning work.

ENDURANCE

What is endurance?

Endurance can refer to cardiovascular or muscular endurance. Cardiovascular endurance is the ability of the heart and lungs to deliver oxygen to working muscles and to remove waste products. Deficiencies in cardiovascular endurance will seriously limit skating performance.

Muscular endurance can be summed up as being the ability to resist muscular fatigue, which means the ability to persist in physical activity. Cardiovascular endurance and muscular endurance are closely related and are commonly referred to under the single heading endurance.

Why is endurance important in figure skating?

Cardiovascular endurance

This is extremely important because a skater must be able to work continuously for at least a two-minute period and as long as four and a half minutes for advanced skaters. Skaters must also practice for extended periods of time, and therefore, must be fit to be able to make the best possible use of ice time.

Muscular endurance

This is not only important to the actual performance of skating but also it is quite important for prolonged training sessions. When learning motor skills an athlete must often perform many repetitions of a movement. With good muscular endurance, more training time is available and less rest time is needed.

How can endurance be developed?

Repetitious exercises and activities of a continuous nature best develop endurance. Activities which elevate the heart rate into the “training zone” (see chart) and keep it there for a prolonged period of time (for at least 30 minutes, three times per week), promote cardiovascular endurance. It is essential that training is of sufficient intensity in order to produce training effects.

Training Zone:

The most accurate means of calculating your maximum heart rate and training zone is to take an exercise stress test given by a physician or sports medicine specialist. If that is not feasible, here is the next best method:

Karvonen Formula:

1. Determine your maximum heart rate (beats per minute): Maximum heart rate (males) = 220 - your age. Maximum heart rate (females) = 226 - your age.

2. Take your pulse in the morning before you get out of bed. This is referred to as your resting heart rate. Determine the number of beats per minute.

3. Subtract your resting heart rate from your maximum heart rate.

4. Multiply this number by 0.70.

5. Now, add your resting heart rate. This now gives you your heart rate when performing at 70% of your maximum intensity level, also referred to as the lower training level.

6. To find your upper training level, which is 85% of your maximum intensity, repeat the above steps, but use 0.85 in step #4 instead.

Example: A 12-year old girl who has a resting heart rate of 60.

1. Maximum heart rate is 226 – 12 = 214
2. Resting heart rate = 60
3. 214 – 60 = 154
4. 154 X 0.70 = 108
5. Lower training level is 108 + 60 = 168 beats per minute
6. 154 X 0.85 = 131

   Therefore, upper training level is 131 + 60 = 191 beats per minute.

   * This 12-year old girl should, in order to produce a training effect, work at an intensity level such that her heart rate is between the lower and upper training levels which, for her, is between 168 and 191 beats per minute.

On-ice exercises:

Stroking exercises are an excellent way of improving basic skating skills while at the same time developing both cardiovascular endurance and muscular endurance.

Teaching Points:

- Use the full ice surface whenever possible.

- Skate clockwise and counterclockwise using both forward and backward skating.

- Use music to which skaters must keep pace. Marches, disco music or any type of music with a regular beat can be used for stroking exercises. “Top 40” tunes, selected by the skaters will be the most motivating.

- It is recommended that endurance stroking exercises be performed at the end of a free skating session.

- Progression is vital for the development of cardiovascular endurance. Overload must be created to improve fitness level. Stroking sessions for endurance can be made more difficult by:

    1. Increasing the number of repetitions

    2. Increasing the speed (pace) of the exercise

    3. Reducing the rest periods between exercises

- Stroking classes, unfortunately, are sometimes the least enjoyed on-ice session, but they should not be. Coaches must provide the skaters with the tools they need in order to be fit, without driving them to dislike it! Remember to keep the skaters exercising within their own training zone.

- The coach should provide a positive learning environment, complete with posters, upbeat music, correct information and testimony from successful skaters, but ultimately each skater must take responsibility for his/her own training. Teach the athletes to update their own training charts and stress personal best attempts.

ON-ICE STROKING EXERCISES

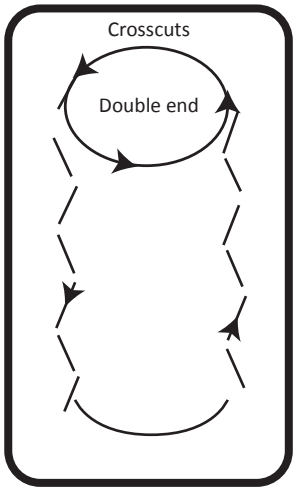
Exercise #1 - Perimeter stroking

a. Straight skating down the sides (6 strokes)

b. Crosscuts around the end

c. Straight stroking

Progression: double end



Double end means that the skater makes a loop in the pattern at the end of the rink in order to increase the length of a lap. The double end requires additional strength and control.

Exercise #2 - Crosscut/roll

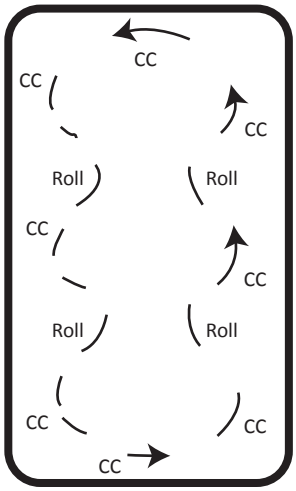
a. Crosscuts

b. Outside roll

c. Crosscuts

d. Outside roll

Progression: double end



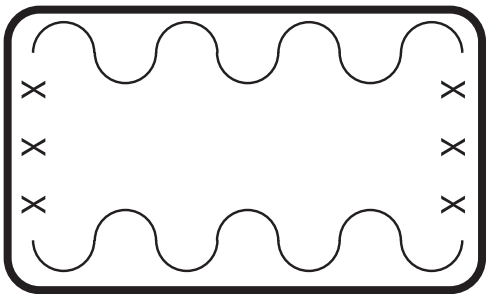
Exercise #3 - Progressive stroking

a. Quick progressive left

b. Quick progressive right

c. Quick progressive left

d. Quick progressive right



Repeat length of ice, do crosscuts around the end and continue pattern.

Progression: double end

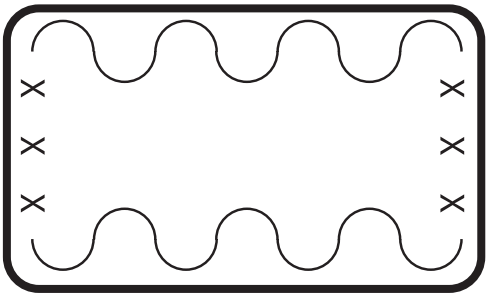
Exercise #4 - Russian stroking

a. Each lobe consists of three edges.

b. Perform four to six lobes down each side and three to four sets of crosscuts at each end.

c. Strokes should be short and powerful.

d. All lobes should have equal edge strength.



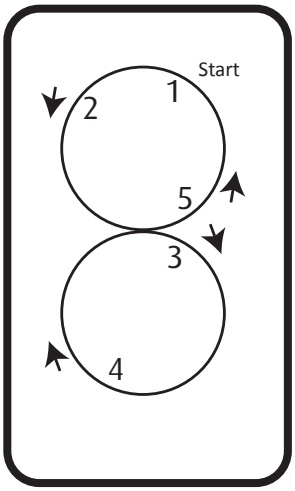
Repeat length of ice, do crosscuts around the end and continue pattern.

Progression: double end

Exercise #5 - Figure eight

a. Forward/backward crosscuts
b. Press edge (four counts)

* Arm position optional on press edge
* Free leg in arabesque position on press edge



(1 circuit, repeat)

Exercise #6 - Double circle

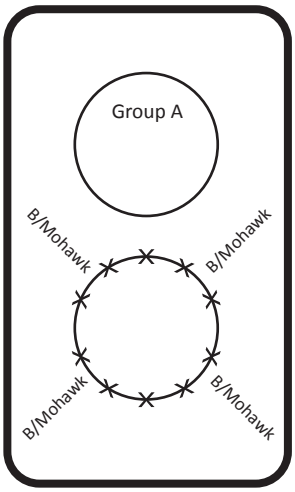
a. Forward crosscuts

b. Inside mohawk

c. Backward crosscuts

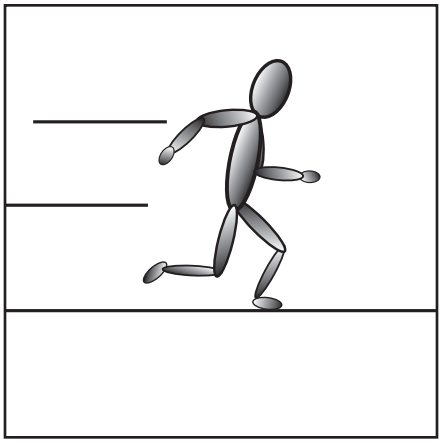
d. Backward mohawk (step forward)

Repeat in reverse direction.

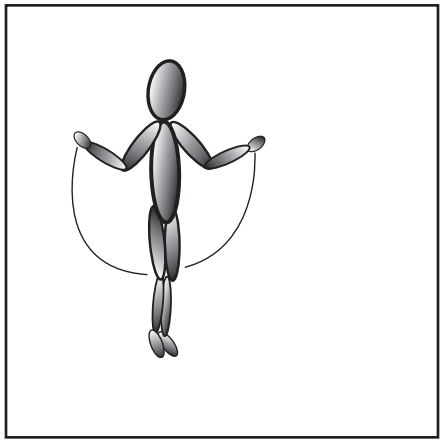


NOTE:

While training endurance, the skaters can also develop their arm strength by moving their arms in and out, up and down, etc. at the same time. This will also help to motivate the athletes and add creativity to the exercise.

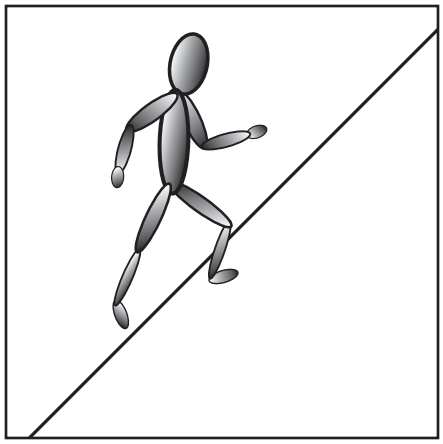


Running

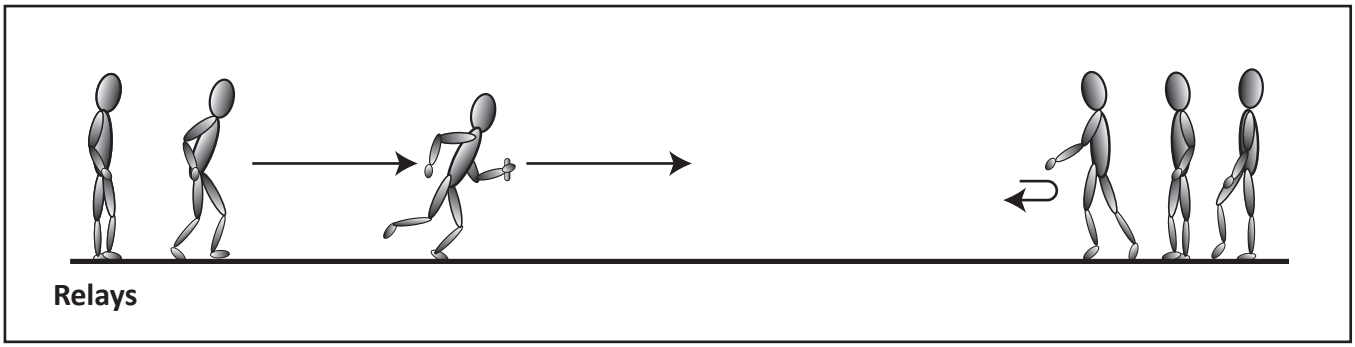


Skipping

Stair running



Hill running



Relays

STRENGTH

What is strength?

The shortening or contraction of muscles can move limbs and thus perform work. Strength is defined as the ability of a muscle to exert force against resistance. The amount of force that a muscle can generate is its strength. Strength can be increased by repeatedly loading a muscle and is accompanied by an increase in girth of muscle (hypertrophy). Strength can decrease by disuse of muscles (atrophy).

Why is strength important in figure skating?

Successful participation and performance in skating is quite dependent on muscular strength. Increasing one's strength will often increase the level of performance in skating. Besides the everyday benefits of strength development, such as better physical functioning and better appearance due to firm, toned muscles, there are also definite benefits for skating performance:

- Safety - A stronger skater has less chance of injury.
- Skills - Skills may be learned more easily by the stronger skater. For example, a strong skater may have a better chance of holding on to a weak landing position than would the weaker skater.
- Related attributes - Speed, endurance and power are, to a certain extent, dependent on strength.

What limits strength?

The main factor limiting strength is gender. The amount of hypertrophy seen in male muscle is in fact a secondary sexual characteristic of males and cannot be attained by females due to differences in hormones. Therefore, girls can do the same types of games and exercises to increase strength as boys, with no fear of becoming "masculine". Instead, their muscles will become toned and firm.

Another limiting factor is developmental age. At the pubertal growth spurt, strength training and development is much more productive than in prepubertal years. Both of these factors must be remembered when working with children in order to prevent the setting of unrealistic aims for strength development.

How can strength be developed?

There are probably more "old wives tales" about this area in our sport than in any other. One main factor to consider is:

TO INCREASE STRENGTH, A MUSCLE MUST BE LOADED.

As mentioned earlier, loading a muscle means giving it a workload greater than the workload to which it is accustomed. Remember however, that we are working with growing children, therefore safety must be the main concern. Coaches must avoid increasing the workload too much and too quickly.

To load a muscle for strength development, the most effective means is to choose an activity that cannot be repeated more than five to seven times in a row. Exercises that can be repeated a great number of times develop muscular endurance more than muscular strength.

Selected exercises

Strength development is very specific to the muscle or muscle group doing the work. There are really two principles here:

- Strength increases occur only in the muscles used.
- Muscle strength gains occur primarily in the range of movement through which the exercise requires the muscle to move.

At the beginning level, we are concerned primarily with general strength development of the major muscle groups - legs, hips, trunk and arms. Strength-type activities for each of these areas should be included in the program, but this does not mean that there must be a formal “strength training session”. This will depend on the age of the athletes and the design of the program.

There are many ways to incorporate strength exercises into games, or into a skating program. The important thing is that the muscle group concerned be exercised and loaded. The exercises given below are representative of the muscle actions required for a good strength program, but these exercises need not be used as shown.

In strength training, it is important that the skater learns to perform exercises correctly using his/her own body weight before adding extra weight. Additional weight in the form of a partner or weight training equipment should be introduced only when an overload is required - when the skater can handle his/her own body weight efficiently.

On-ice exercises for strength training

1. FOI-FIO changes of edge the full length of the rink. Alternate repetitions beginning on the right foot then on the left. Emphasize knee action.
2. BOI-BIO changes of edge the full length of the rink. Alternate repetitions beginning on the right foot then on the left. Emphasize good knee action.
3. Skate the length of the rink pulling a partner. Partners change positions at the end of the rink so that the person who was pulling then becomes the passive partner. The exercise should be performed backwards as well.
4. Slalom skating forwards on two feet while pushing a partner the length of the rink. Partners reverse positions at each end of the rink.

5. Double sculling the length of the rink while pushing a partner. Partners reverse positions at each end of the rink. Partner activities also help to motivate athletes as they usually add an element of fun to the exercise.

STRENGTH TRAINING FOR POSTURAL CONTROL

"Basic Movement" in the primary STARSkate training emphasized that good posture is important to skating and that correct posture will promote correct development of the body.

In some skating moves, the skater must tilt the pelvis forward to maintain balance. For example, when the free leg is extended, the pelvis tilts forward. Although forward tilt of the pelvis can facilitate certain skating moves, postural problems can develop.

As a result of figure skating training, many skaters develop lumbar lordosis, commonly known as swayback. Lordosis is an increased posterior concavity of the normal lumbar curve, accompanied by a forward tilt of the pelvis. Athletes with this problem generally have strong back muscles but the abdominal muscles are relatively weak and are unable to impede the turning of the pelvis. These athletes should avoid exercises, such as back arches, that will further develop their back strength as this will only make the problem worse. Instead, they must work to strengthen the antagonistic muscles. Forward pelvic tilt can be reduced with exercise. A skater with severe lordosis should consult a sport physician and a physiotherapist for treatment.

- In the correct position, the chin is in, head is up, back is flattened, and the pelvis is straight.

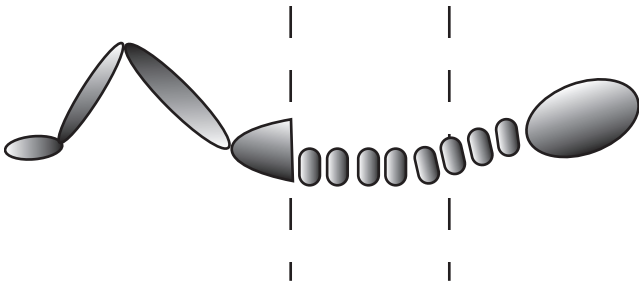
- In a strained position, the pelvis tilts forward, the chin is out, and the ribs are down, thereby crowding the internal organs, and the lower back.

The following exercises can help to correct a swayback:

1. THE PELVIC TILT

This exercise strengthens the muscles that control the pelvis, mobilizes joints and teaches pelvic control.

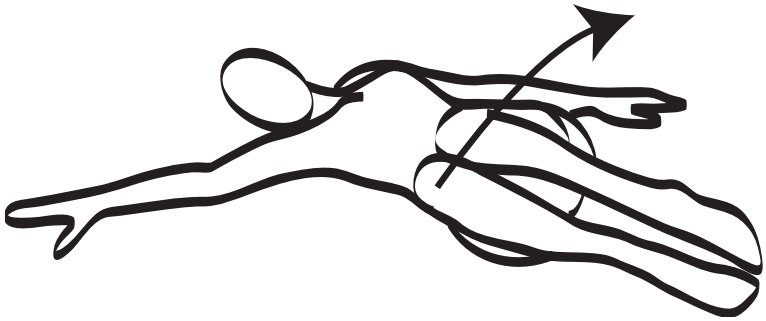
The skater lies with the feet flat and as close to the buttocks as is comfortable. Slowly tighten the buttock muscles and pull in the abdomen, flattening the lower back against the floor. Hold for five seconds and relax. Repeat 10 to 20 times daily.



2. THE PELVIC ROCK

The pelvic tilt can also be performed from a kneeling position. Arch the back like a cat, dropping your head at the same time. Hold for a count of ten, relax for a count of five. Repeat for one to two minutes at least once a day.

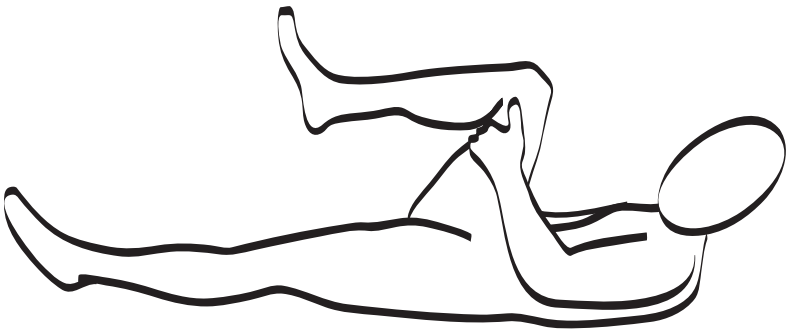
The pelvic rock is a rotation for the joints in the lower spine. The skater lies on his/her back with the arms straight out to the sides. The knees are bent and feet flat on the floor as near the buttocks as is comfortable. Keeping the arms outstretched, rock the knees side to side rhythmically. Try to touch the floor with the knee but do not force it.



3. THE HIP STRETCH

The hip stretch remedies shortened hip muscles and swayback; common causes of lower back pain.

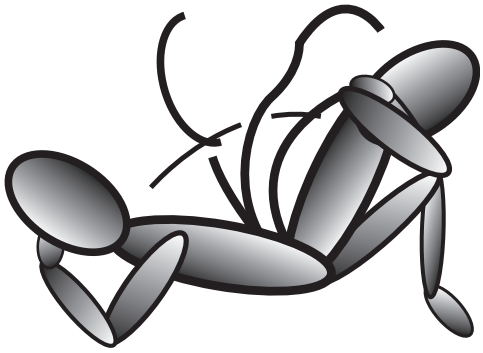
The skater lies on his/her back and slowly pulls one knee as close to the chest as possible. At the same time, force the other leg down. Hold for a count of five, and repeat on the other side. Repeat daily for one to two minutes on each side.



4. SIT-UPS

Sit-ups with the knees bent are the best exercise for strengthening the abdominal muscles. The hands are interlaced behind the head. Sit-ups may be made more difficult by performing them on an inclined board so that the skater has to work against the force of gravity. It is most effective to perform sit-ups slowly. The skater should roll him/herself up to a sitting position to the count of five “steam boats” (positive movement) and then down again to five “steam boats” (negative movement).

The full sit-up is a useful exercise for figure skaters, as the final position is very similar to that of the sit spin.



5. BEND SITTING

Sit on a chair with the hands folded in the lap. Bend forward, bringing the chin between the knees. Then return slowly to the starting position while tensing the abdominal muscles. On the return, slowly straighten the lower back, the upper back and finally the neck. Do not lift the head first. Relax and repeat 5 to 10 times. Remind the skaters not to hold their breath!

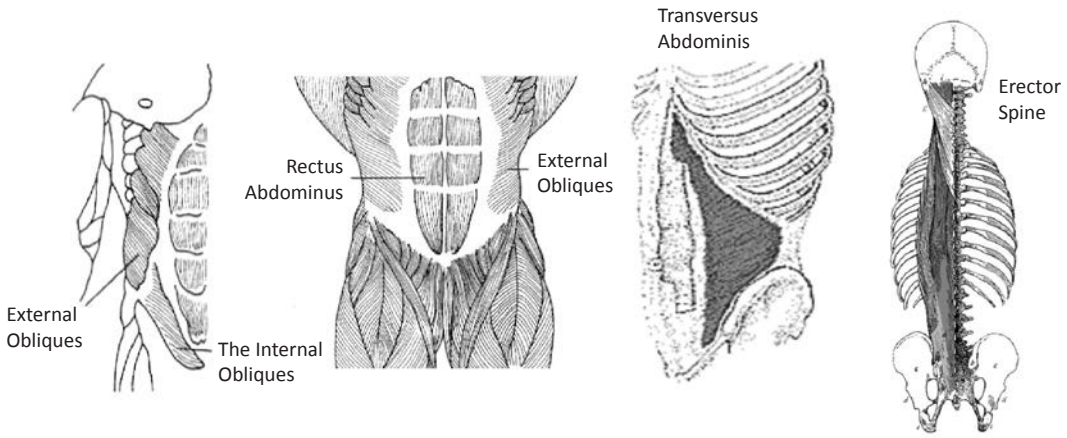
This is a good counter exercise to back arches and is also a good “release” exercise for the back that should be performed following a skating session.

CORE STRENGTH & STABILITY

What is the "Core"?

One of the most important concepts for a figure skating coach to understand is that of core strength and stability. The core refers to the trunk region or mid section of the body. The core is also sometimes referred to as the power zone of the body as it is the center of one's strength and the base of support for all other movements.

The core refers to the trunk region of the body incorporating both the abdominal and lower back muscle groups. There are four pairs of muscles that make up the abdominal wall: the external oblique, internal oblique, transverse abdominis and the rectus abdominis. From a functional point of view these muscles act to protect and support the organs in the abdominal cavity and help with breathing.1 From a sports point of view, these muscles act as a source of strength and stability and also help protect the lumbar spine from injury.



The External Oblique: This is the strongest and most superficial or external layer of the oblique muscles. It originates at the lower eight ribs and runs downward to attach on the iliac crest or the top of the hips bone and linea alba (mid line of the trunk). It is involved in any lateral rotational movement or abdomen compression.[2]

The Internal Oblique: This muscle lies underneath or internally to the external oblique. It forms the front and side aspects of the abdominal wall. It originates on the iliac crest, and various ligaments and fascia and runs upward to insert on the cartilage's of the 10th, 11th, and 12th ribs on each side. It is involved with lateral rotation and compression of the abdomen.[3]

1 Van De Graaff, K.M. (1984). Human Anatomy, 3rd ed. Muscular System, Support and Movement. pp.243-246. Wm. C. Brown Publishers

2 Van De Graaff, K.M. (1984). Human Anatomy, 3rd ed. Muscular System, Support and Movement. pp.244. Wm. C. Brown Publishers

3 Arnheim, D.D., and Prentice, W.E. (1993). Principles of Athletic Training: Chpt 20: The Abdomen and Thorax (pp. 618 - 632). 8th ed. Mosby-Year book Inc.

Transversus Abdominis: These are commonly referred to as the lower abdominals and are the deepest of the abdominal muscles. These muscle fibers run horizontally or transverse across the bottom of the abdominal cavity. They originate on the iliac crest, inguinal ligament and the costal cartilage of the last six ribs. It inserts on the xiphoid process, linea alba and pubis. It is involved with abdomen compressions and work to hold the abdominal contents in place.[4] [5]

Rectus Abdominis: This muscles run straight down the front of the abdomen. It originates on the pubic crest and pubis and inserts on the costal cartilage of the 5^{th}-7^{th} ribs and xiphoid process. Longitudinally it is divided by the linea alba. It aids in trunk flexion, rotation, lateral flexion and in compression of the abdominal cavity.[6] [7]

Erector Spinae: This large group of back muscles extends from the sacrum to the skull. The erector spinae muscle group is actually made up of three groups of muscles; iliocostalis (farthest from the spine), longissimus and spinalis (closest to the spine). The erector spinae are frequency strained with improper lifting when in a flexed position.[8] The main action of these three muscles groups combined is extension of the lumbar, thoracic and cervical regions.[9]

Why train the core?

1. Injury prevention

The number one reason to encourage core conditioning is for the prevention of injuries. Ensuring longevity within the sport and mobility as a healthy adult is key. It has been shown that single skaters have fairly well developed legs, but poorly developed core strength. By incorporating an exercise program to strengthen the core region, the lower back pain and tension that some skaters experience could be alleviated.[10] [11] Every day figure skating coaches witness numerous high impact falls. While some acute injuries may not be preventable, prevention of chronic injuries through off-ice core training must be encouraged. By focusing on stabilizing and strengthening the core area, the lumbar spine and surrounding structures can be protected from potential injuries that can develop due to high training loads[12] , both on and off the ice.

4 Arnheim, D.D., and Prentice, W.E. (1993). Principles of Athletic Training: Chpt 20: The Abdomen and Thorax (pp. 618 - 632). 8th ed. Mosby-Year book Inc.

5 Van De Graaff, K.M. (1984). Human Anatomy, 3rd ed. Muscular System, Support and Movement. Pp.244. Wm. C. Brown Publishers Van

6 De Graaff, K.M. (1984). Human Anatomy, 3rd ed. Muscular System, Support and Movement. Pp.244. Wm. C. Brown Publishers

7 Arnheim, D.D., and Prentice, W.E. (1993). Principles of Athletic Training: Chpt 20: The Abdomen and Thorax Pg. 618 . 8th ed. Mosby-Year book Inc.

8 Schenk, R., Orlando, V. (Dec 1997). Training the Abdominals to Prevent Low back Injury. NSCA J. (pp. 59-62).

9 Van De Graaff, K.M. (1984). Human Anatomy, 3rd ed. Muscular System, Support and Movement. Pp.248. Wm. C. Brown

10 Publishers Smith, A.D., and Micheli, L.J. (1982). Injuries in competitive figure skaters. Phys. Spt. Med. 10(1): 36-47.

11 Schenk, R., Orlando, V. (Dec 1997). Training the Abdominals to Prevent Low back Injury. NSCA J. (pp. 59-62).

12 Wohlfahrt, D., Jull, G., and Richardson, C. (1993). The relationship between the dynamic and static function of abdominal muscles.Australian J. Physiotherapy. 39(1): 9-13.

2. Improved posture and performance

The importance of the core area cannot be over emphasized to coaches, skaters and parents. A poorly developed trunk area weakens a skater's base of support and can negatively affect every single movement carried out. The trunk has a crucial role in maintaining stability and balance with any movement involving the extremities.[13] The strength of the trunk is of great importance as it is the area that provides resistance against gravity and momentum.[14] A strong core will allow for better control and stability when high acceleration moves and jumps are executed.[15] In addition, the overall posture of a skater may be improved. Attention needs to be given to the vertical line created from the hips through to the head. One of the biggest problems coaches see with single skaters is a lack of control when landing a jump. A skater's upper body tends to bend forward resulting in a touch down or a loss of the 'check position'[16]. A stronger core will enhance a skater's take-off position, air position and check position upon landing. This in turn can only improve their posture and overall performance.

How do you train the core?

Strength training programs must focus on developing the core region of the body and developing this region as the base of support for all other movements. This point is especially important for young athletes as some of the most common factors that predispose young athletes to chronic lower back pain include poor strength of the back extensors and abdominal muscle groups. As with any off-ice conditioning program, the progression must be gradual, supervised and monitored for effectiveness.

The following **FITTS** principle provides guidelines for implementing core conditioning sessions.

Frequency:
Ideally the core should be trained four times a week, with a minimum of two times a week and a maximum of five times per week.

Intensity:
Core conditioning sessions should vary in the level of intensity. At least one of the workouts should be at a high intensity or rated at a level of great difficulty. One workout should be lower in intensity while the other two are rated at a moderate level of intensity. Intensity can be increased or decreased by changing the time, reps, sets, angle or resistance being used.

[13] Andersson, E., Sward, L., & Thorstensson, A. (1988). Trunk Muscle Strength in Athletes. Med. And Sci. in Spts. & Exer. Vol 6, No. 6. (pp. 587-592).

[14] Richardson, C., Toppenberg, R., and Jull.G. (1990). An initial evaluation of eight abdominal exercises for their ability to provide stabilization for the lumbar spine. Australian J. of Physiotherapy. 36(1): 6-11.

[15] National Strength and Conditioning Association Journal. (1988). Strength and conditioning program for figure skating. 10(4): 26-30.

[16] Carroll, F. (1999). Skater's Edge Jan/Feb ed. Pp. 3. Vol 8, No. 3. Skater's Edge, Kensington, MD.

Time:
Core conditioning sessions will range from 15-25 minutes in length. The exercises can be done all at once, or put in a circuit in between other exercises. A warm-up must proceed a core session with some back and abdominal stretches afterwards.

Type:
Some core conditioning sessions will focus more on endurance where the focus is on increasing the number of contractions or time an exercise can be performed. Another session may focus on stability where different balance drills are being conducted. Another session may focus on building the strength of the trunk region by using increasing resistance - variety is the key!

Specificity:
Every training session needs to include sport specific movements. Trying to create exercises that mimic the sport as closely as possible is key. At the end of each session it is important to transfer the concept of a tight and strong core to a movement that the skater commonly performs. For example, get the athlete to re-create the 'tight core' feeling and apply it to their landing position.

SAMPLE CORE CONDITIONING PROGRAMS
Start with Program 1. Do not progress to the next level until you have completed #1.

PROGRAM 1
Ball Crunch x 20 (medicine ball optional)
Side Bridge x 45" per side on Toes
Superman x 15
Bicycle Abs Circuit 15" on 10 off x 4
Dead Bug x 10 per side on mat
Glute Work, Reverse Bridge x 60"

X2

PROGRAM 2
Front Bridge x 30" Toes x 10 " Knees x 40" Toes
(Fit Ball Optional) Side Oblique Crunch x 15 per side
Glute Med, Single leg Reverse Bridge with Hip Lift x 15 per side Alternating Arm and Leg Raises x 15 per side
Dead Bug on White Roll Lower x 15 per side
Around the World x 2 (Fit Ball Optional)

X2

PROGRAM 3
Reverse Curl (no ball) x 10
Reverse Bridge Toe Touch/V sit x 10 per side Side Bridge x 45" per side with 10 hip lifts
Dead Bug on White Roll x 15 per side
Ball Roll-ins
Ball Single Leg Squat against wall with Glute Squeeze x 10 per side

X2

POWER

What is power?

Power is the combination of strength and speed. It is the rate of doing work. Strength stands only for the ability to do work and speed stands for the "quickness" of doing work. To perform work quickly requires power. For example, basic skating requires strength, but stroking quickly requires power.

Why is power important?

Power is one of the most predominant physical attributes displayed in figure skating. Most free skating skills are dependent on this quality in that the skater must move his/her body or body parts quickly, thus requiring strength and speed simultaneously. Jumps, thrusts and stroking require good leg power. Often activities to develop strength are used when activities for the development of power should be used instead. Coaches should emphasize that speed and power building activities are equally important.

How can power be developed?

Power like other physical attributes must be regularly included in skating classes. Strength exercises and activities done with an emphasis on speed are most desirable.

On-ice exercises for power

The following on-ice exercises combine speed and strength:

1. FAST, CONTINUOUS BUNNY HOPS

    - Swing the free leg as high as possible on each jump.
    - Each jump should take off immediately after the previous is landed.
    - Alternate circuit beginning on the left and then on the right.
    - Cover the entire ice surface.

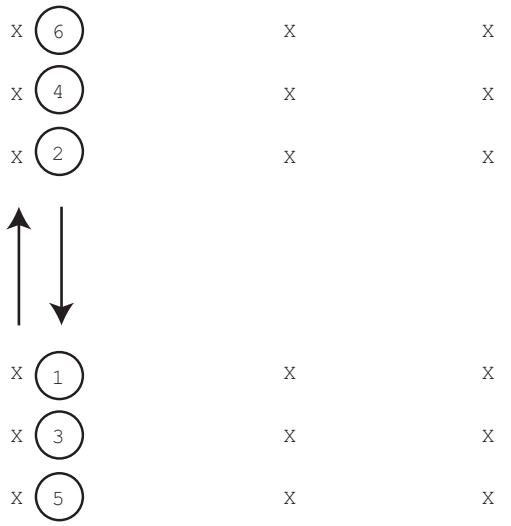
2. CONTINUOUS WALTZ JUMPS IN A CIRCLE

    - Aim for good spring and maximum use of the free leg and arms.
    - Each jump should take off immediately after the previous is landed.
    - Repeat in the opposite direction.
    - Place on a circle.

3. SPRINTS

    - Sprint from one blue line to the other.
    - Come to a complete stop at each blue line and then take a rest.

4. RELAY RACES ON-ICE SKATING FORWARDS, BACKWARDS, BUNNY HOPS, ETC.



5. PERIMETER OR DOUBLE CIRCLE STROKING

   a) Skate slowly five seconds.

   b) Sprint 15 seconds.

   c) Skate slowly five seconds.

   d) Sprint 20 seconds.

   e) Skate slowly five seconds.

   f) Sprint 25 seconds.

   * Repeat entire sequence.

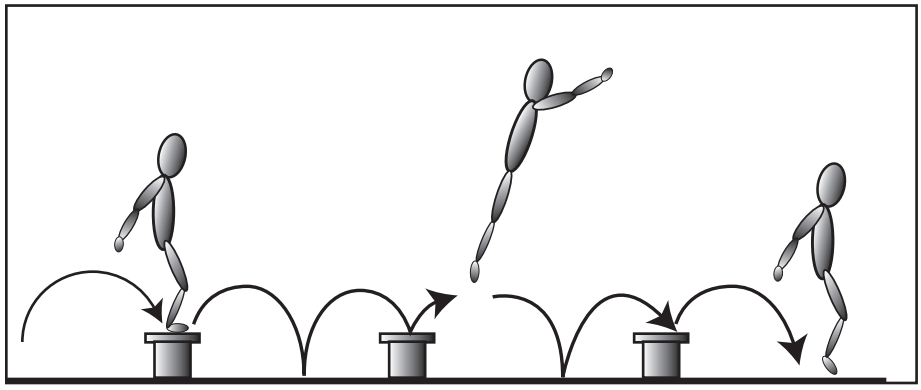
   Progression

      a) Increase the number of repetitions.

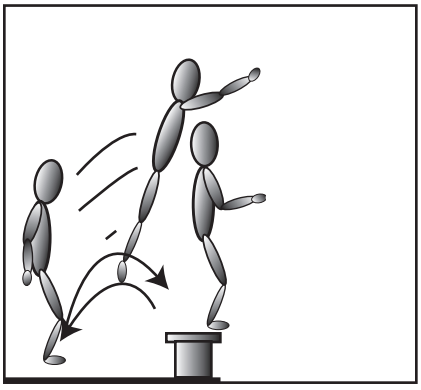
      b) Increase the length of the sprint period.

Note: This exercise can be done forwards and backwards in a clockwise and counterclockwise direction. Use music, a whistle or a hand clap to signal the beginning and end of the sprint periods.

Off-ice exercises for power



Depth jump series



Depth jump

FLEXIBILITY

What is flexibility?

Flexibility is a very important physical component with respect to skating performance. Synonymous with the term suppleness and joint mobility, flexibility is:

"The range of possible movement in a joint or series of joints (spine)."

This range of movement could describe the passive range which is the degree that a joint can be moved by some force, such as manual stretching by another person. It could also describe the active range which is the degree to which a joint can be moved by one's own muscular force.

Flexibility is a quality that is joint specific, that is, a person may be very flexible in one set of joints (hips) but not so in another set (shoulders).

Flexibility can be trained. An inflexible person can become very flexible. Young children are generally flexible due to their play activities but flexibility decreases with age and lack of specific training.

Why is flexibility important in figure skating?

The importance of flexibility to figure skating lies mainly in two areas:

1. Good flexibility will decrease injuries and contribute to a better physical condition; both should be goals of recreational, test and competitive skaters.

2. A full range of joint mobility is necessary for graceful, rhythmical aesthetic movement; important components of our sport.

What limits flexibility?

The restricting factors are the soft tissues - the muscle connective tissues, tendons (joining muscle to bone) and ligaments (joining bone to bone). To increase flexibility one must increase the range of stretch of these soft tissues. These tissues limit flexibility, especially passive flexibility. Active flexibility can also be limited by a lack of strength in the muscles that are used to pull the limb to its extreme.

Training flexibility

Whenever possible, flexibility training should be performed to music. This not only makes training more enjoyable, it can also help to improve the skater's rhythm and interpretation of music.

The basic methods of stretching that are recommended are:

- Static stretching
- Assisted stretching

Static stretching

- The athlete places him/herself in a position of stretch and holds this position for a period of time (60 seconds).

Assisted stretching

- This method incorporates the use of a partner or assistance of the coach to manually stretch the athlete. There are three types of assistance that can be given:

PASSIVE STRETCHING

- The partner adds gentle pressure to increase the stretch on the joint.

STRETCH AND HOLD

- The partner stretches and then the athlete tries to hold the limb at the furthest limit of movement.

LIFT AND PRESS

- The athlete moves his/her limb to the maximum stretch position. The partner resists as the athlete tries to press the limb out of the stretched position. The athlete then moves the limb again to a new stretched position and the process is repeated.

In all of the above techniques for gaining flexibility it must be remembered that the body has several reflexes which act as safety mechanisms to prevent overstretching a joint. To improve flexibility these reflexes must be inhibited by:

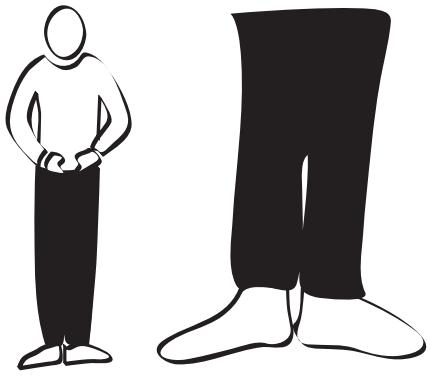
- Being warmed up
- Stretching slowly
- Relaxing
- Exhaling during the stretch

Most importantly, coaches must encourage regular stretching since gains in flexibility will not otherwise occur.

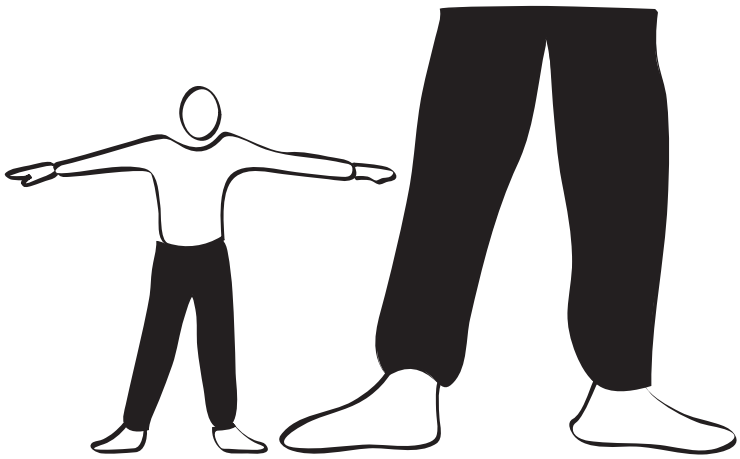
Off-ice dance such as jazz, ballet and rhythmics can also be very beneficial to figure skaters. In addition, participation in gymnastics and yoga are effective ways of increasing a skater's flexibility.

The following is a basic exercise routine which can be done to music. It was designed by the late André Denis, a dance teacher who had worked with competitive figure skaters at Skate Canada national seminars for several years.

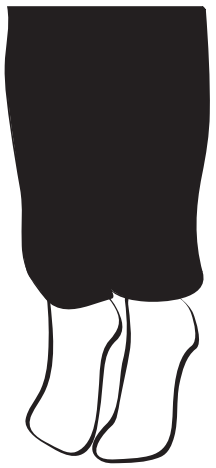
Exercises



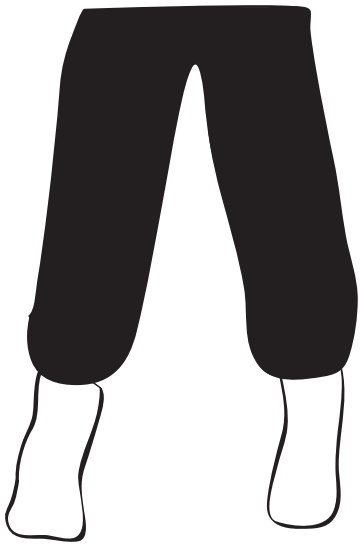
Ballet 1st



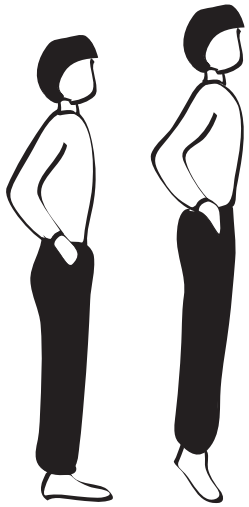
Ballet 2nd



Jazz 1st



Jazz 2nd



Relévé

1. BALLET PLIÉS IN FIRST POSITION

Purpose: To strengthen the quadriceps

- For figure skaters, André used only pliés in 1st position.
- It is not necessary to go through the exercise in all five positions.

2. ANKLE RELÉVÉS IN JAZZ FIRST AND BALLET FIRST POSITIONS

Purpose: This exercise strengthens the ankles so that they can be plantar flexed to achieve additional height on a jump take-off

- Skaters need to increase their flexibility in the ankles.
- Skating boots restrict the ankles.

3. ANKLE FLEX AND POINT

Purpose: To loosen up the ankle and improve control

- Point the foot, stretching the muscles across the front of the ankle.
- Flex the foot to stretch the Achilles tendon.

4. FREE LEG SWING IN BALLET FIRST POSITION

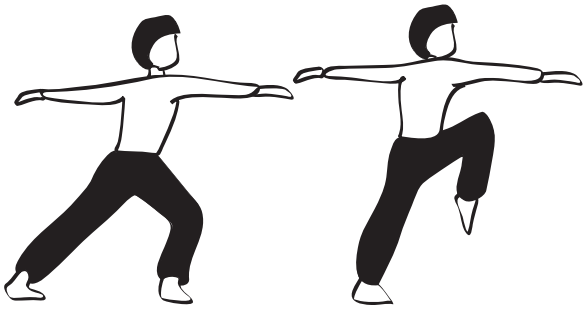
Purpose: To achieve control of the whole leg and improve the landing position

- Pass through ballet 1st with each movement.
- Free leg should be turned out.

5. KNEE RAISES

Purpose: To strengthen the back of the thigh and stretch the calf muscles and to help with jumps

- Keep toes pointed down.



6. STRETCHING THE BACK OF THE LEG

Purpose: To stretch the back of the leg

- Grasp one knee with both hands.
- Press the back into the floor.
- Gradually straighten the bent leg, allowing the unemployed knee to bend as necessary.

Center exercises

1. STRETCH IN JAZZ SECOND POSITION

Purpose: To increase overall flexibility

- Bend the right knee and gently hold the hip on the left side.
- Cross back, stretching; right arm is up and left hand is on the hip.

2. SIDE BEND IN JAZZ SECOND POSITION

Purpose: To increase flexibility of the trunk

- It is essential that the hips remain square

3a. FIRST OVERALL STRETCH

Purpose: To increase overall flexibility

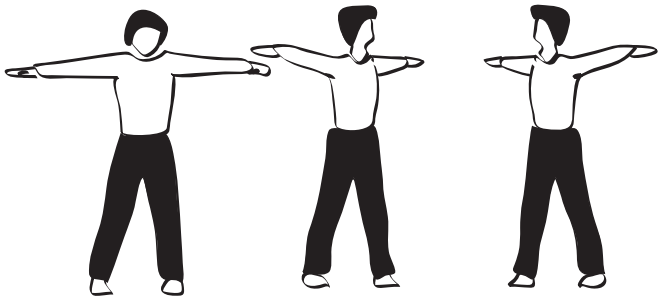
- Stand in Jazz 2nd position with the arms extended in front
- Keep hips square and feet on the floor
- Turn to the right - count 1
- Palms up, elbows in - count 2
- Push hips towards the wall, lean back and make a V with the arms
- Head back - count 3
- Bend forward, chest to knee - count 4
- Stay as close as possible to the leg as you turn, flat on the left foot - count 5
- Come up facing the left wall - count 6
- Facing front - count 7
- Elbow in - count 8
- Repeat on left side

3b. SECOND OVERALL STRETCH

Purpose: To increase overall flexibility

- In Jazz 2nd position - side bend, arms over the head - count 1
- Reach forward into a completely flat back position, arms extended to the front - count 2
- Back contraction, tuck in your head - count 3
- Flatten back - count 4
- Reach with left hand and grasp the left ankle - count 5
- Stretch the small of the back as flat as possible - count 6
- Return to side bend - count 7
- Straighten up - count 8
- Repeat on right side

4a. TRUNK ROTATION-FIRST PROGRESSION



Purpose: To increase flexibility of the trunk

- Jazz 2nd, arms extended with palms up
- Rotate in the trunk, four counts towards the right, keep the hips and feet forward
- Back to the center for four counts
- Repeat on the other side
- Repeat entire exercise four times

4b. TRUNK ROTATION-SECOND PROGRESSION (WASHING MACHINE)

Purpose: To increase flexibility of the trunk

- Jazz 2nd, hips square
- Arms are held high, fists are tight
- Body moves as one unit in short, rotating movements towards the right
- Count: and 1 and 2 and 3 and 4 (release back to the centre on “and”)
- Repeat on left side
- Repeat four times (right, left, right, left)

5. KICKS

Purpose: To stretch the hamstrings and Achilles tendon

- Jazz 1st
- Right leg extended to the back, left knee is bent, arms extended to the side
- Lift the right knee to touch the right shoulder, point the toe down
- The right heel touches the floor after the kick
- Keep the supporting leg and back straight
- Eight counts
- On last count walk forward and repeat on the other side
- Repeat the exercise four times

6. SMALL BALLET SECOND, ARMS IN BALLET SECOND

Purpose: To stretch the inside of the thighs

- On count 3 bring right arm in
- On count 4 bring left arm in
- On count 5 bring right arm up
- On count 6 bring left arm up
- On count 7 bring right arm out to side
- On count 8 bring left arm out to side
- Count 1 - keep hips square look to left, right arm over the head
- Count 2 - back to centre
- Count 3 - bend right knee and slide
- Count 4 - turn feet in, slide to Russian split

- Arms in front, then hands on floor
- Walk forward
- Lying on stomach, bring legs together, pressing heels down

Floor exercises

1. BACK ARCHES

Purpose: To improve layback spin position

- Lying on the floor, support upper body with hands
- Rise up to an arch
- Four counts up slowly
- Hold for four counts
- Down for four counts
- Keep back straight, hips square

2. BACK STRENGTHENING EXERCISE

Purpose: To improve layback spin

- Lying on the stomach, bring arms forward
- Lift shoulders off of the floor to an arch position
- Hold up for two counts
- Control for two counts on the way down

3. HALF SIT-UPS

Purpose: To strengthen the abdominals

- Lying flat on the back, hands at the temples
- Keep the feet on the floor
- Roll up slowly and evenly and touch the elbow to the opposite knee

4. OVERALL STOMACH EXERCISE

Purpose: To strengthen the abdominals

- Lying on back, arms out to the sides
- Legs extended and together, toes pointed
- Count 1 - bring legs to the right [2” (5cms) from the floor], knees straight
- Count 3 - return to the center
- Count 4 - bring legs to the left
- Count 5, 6, 7, 8 - full circle with the legs
- Count 8 - back to the center ready to restart

5a. SIT ON THE FLOOR WITH KNEES UP AND SOLES OF THE FEET TOGETHER

Purpose: To improve turnout of the hips

- Place an easy pressure on the knees with the elbows
- Keep the small of the back straight

5b. INNER THIGH STRENGTHENING EXERCISE

Purpose: To strengthen the inner thighs

- Cross arms and wedge them between the knees
- Squeeze legs together for two counts, lengthen arms and relax
- Move hands to wrist and repeat
- Move to hand to hand position and repeat
- Bring legs together slowly after exercise

6. SITTING ON THE FLOOR WITH LEGS EXTENDED

Purpose: To prevent shin splits

- Jazz 1st
  - Point
  - Flex with heels lifting from the floor

- Ballet 1st
  - Point
  - Flex with heels lifting from the floor

- Eight counts in each position
- Shake legs out

7. ROLL BACK

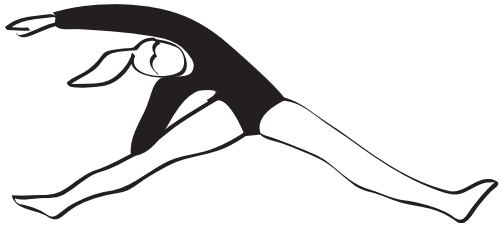
Purpose: To stretch the hamstrings

- Sit up straight, toes pointed
- Count 1 - lean forward and roll spine
- Counts 2, 3, 4 - roll back on spine, ball of feet touching the ground
- Hands on the back for four counts
- Point toes and push up to a shoulder stand
- Count 5, 6 - bend the knees and round the back
- Count 7, 8 - roll forward
- Repeat twice
- Last time roll forward on the floor in 2nd position

8. STRADDLE SIT

Purpose: To stretch the inner thighs and hamstrings

- Feet turned out, toes pointed, back of the knees locked
- Eight counts forward - palms up and reach forward
- On count 8, straighten up
- Eight counts forward towards right leg
- On count 8 back to the center
- On count 1 face the left leg
- Seven counts forward, on count 8 return to center



Variation: side stretch in a straddle position same counting

Isolation exercises

Definition: Exercises which work one part of the body independently from the rest. Purpose: To develop control and flexibility of individual body parts.

Starting Position - Stand erect in Ballet 1st

Ankles

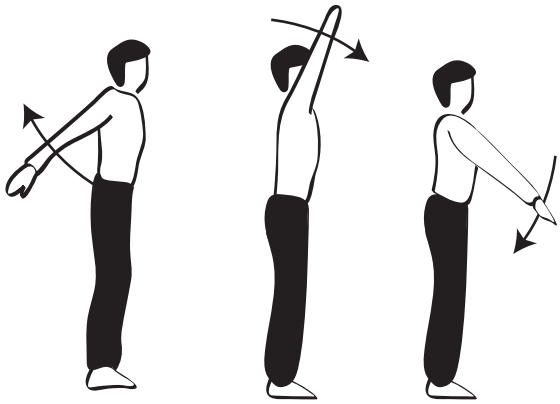
- Open in Ballet 1st - circle out, circle in
- Open into Jazz 2nd

Wrists

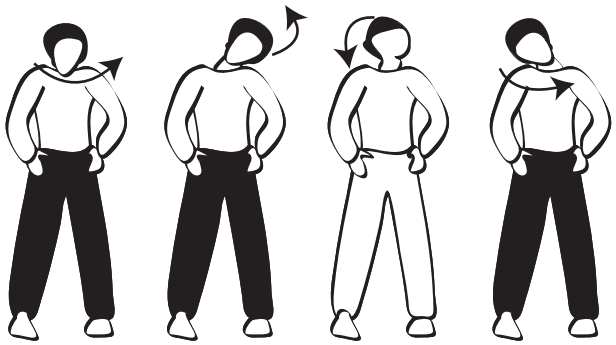
- Eight back and eight forward

Arm Rotation

- Eight small circles
- One arm circling across
- Both arms circling across



Head



- Forward and backward - eight counts
- Side to side - eight counts
- Tilt - eight counts
- Head rolls - Four times each side (do not roll the head to the back)

Shoulders

- Isolation
- Together

Shoulder blade

- Pull in one side at a time

Trunk

- Sideways
- Front and back

Hips

- Side to side
- Front and back

HOW TO ACHIEVE AN EFFECTIVE WARM-UP

Why do a warm-up?

All skaters, no matter what their age or level, should be encouraged to do a proper warm-up before getting on the ice. Here are the three main reasons:

1. Possible injury prevention by getting the body ready for activity
2. More effective use of ice time by not wasting time warming up on ice
3. Create a familiar pattern: what a skater does in practice is what they will do in competition.

Observation:

It makes sense to warm up the body before starting any type of physical activity. Most skaters arrive at the rink after having either sat in a classroom all day or on the weekend or even having woken up not that long ago. Skaters will naturally try to warm up their body even if they do not have a specific structured warm-up exercise in place. Observe a skater the next time they step on the ice, they intuitively know that they should stroke a few times to get warm, do some stretches by the boards to loosen up a little and carry on with some basic spins/jumps just to get the body ready.

As a coach and especially as the paying parent, wouldn't it make more sense to have the skater spend 15 minutes warming up off the ice so that on-ice time is used more effectively?

Yes - because the skater that did warm up before stepping on the ice will practice basic jumps and spins for about five minutes while other skaters that have not warmed up off the ice will spend at least 15 minutes warming up on the ice. For the coach and skater, one benefit of an effective off-ice warm-up is being able to request their program first while others are still warming up - this would build into each session a simulated competition strategy of being the first skater.

Also, it seems that some skaters have the habit of not warming up off-ice at all during their practice sessions, yet at a competition or test day they will spend 10-30 minutes warming up off the ice. Once again, what a skater does in competition should reflect what they do in practice to ensure success. While the body becomes trained from repetitions, a familiar set pattern is comforting to a skater - a true fact for all skaters no matter what age or level.

The added benefits of an effective warm-up:

- The body, specifically the heart rate and the respiratory system, are increased significantly allowing adequate oxygen to get to the working muscles.
- It means warming up the body and getting it ready for the upcoming workout.

- During a warm-up, heart rate increases which causes an increase in cardiac output or more blood being pumped out of the heart. The body temperature of athletes will increase with more blood flowing to the working muscles. For all of this to occur, a minimum of 10 minutes is required if larger muscles of the body are used in the warm-up.[1] If the skater is in a cooler environment, it will likely take longer.

Building proper off-ice warm-up time into a skater's training schedule not only requires education on the part of the coach but effective communication of this knowledge to both the skater and the parents. Often a skater's schedule is in the hands of the parents - educating all parties involved will help support the skater and his or her needs and ensure that an off-ice warm-up occurs before stepping on the ice.

Components of an effective warm-up: (Table 1)

Phase	Exercise	Duration
1. Off-Ice - no skates 2. Off-ice - with skates	• 5-7 minutes of light aerobic activity • static stretching • dynamic stretching • sports specific skills (i.e. small landing positions, spirals, etc.)	• 10-15 minutes • 5 minutes
		Total time - off-ice: 15-20 minutes
3. On-ice	• 2-3 rounds of stroking • begin technical warm-up	

The above table outlines the three phases that need to be included in every skater's warm-up no matter their age or skating ability. By getting the larger body parts moving in phase 1, joints are given time to become lubricated and the muscles being used are given adequate time to warm up. Warm muscles tend to stretch better than cold muscles and most skaters like to stretch before stepping on the ice.

Conclusion:

Ending a warm-up with a few laps of stroking before working spins and jumps is a great way to move the skater from the physical preparation aspect of a warm-up to the technical component involved in the sport of figure skating.

[1] Alberta Fitness Leadership Certification Association: Fitness Leader Manual. (1985). Chapter 4: Physiology of Exercise.Pg.7-13.

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HOW TO ACHIEVE AN EFFECTIVE COOL-DOWN

As discussed in the warm-up section, all skaters no matter what their age or level should be encouraged to do a proper off-ice cool-down. This is particularly important for post-pubescent skaters and/or more advanced skaters as they have the ability to generate greater amounts of lactic acid due to their physiology and the number of jumps and spins carried out in one session.

The three main reasons to include an effective cool-down after a free skate session:

1. Quicker recovery from a session that may have caused a build-up of lactic acid
2. Gradual decrease of heart rate, respiratory rate and body temperature
3. Possible injury prevention by stretching out a muscle that has been taxed over and over

Skaters are often encouraged to do a cool-down to help prevent future muscle soreness and perhaps facilitate a faster recovery. Research has shown that active recovery is more effective than a passive recovery in the elimination of lactic acid after a strength training workout. In fact, following a strength training workout, if active recovery is put in place (i.e. light jogging or cycling) in the first 10 minutes following the workout, up to 62% of lactic acid and other waste products can be removed.[2] As mentioned above this does apply more to post-pubescent skaters who have the ability to accumulate significant amounts of lactic acid due to their physiology and also due to the intensity of their skating as compared to a younger skater both in age and ability.

In addition, a cool-down makes sense if skaters have just gone through a stroking session or double run throughs. Ending a high intensity session without letting the body properly cool down isn't safe for the athlete.

Usually if a coach is conducting a stroking session, they will build in an on-ice cool-down; however, often during a free skate session, skaters are trying to get that last jump in before the Zamboni floods the ice and so no on-ice cool-down occurs. This is where the coach must implement the following cool-down with their skaters:

[2] Bompa, T.O. (1993). Periodization of Strength: the new wave in strength training. Chpt 17: Fatigue, muscle soreness, and recovery from fatigue. Veritas Publishing Inc. Pg. 234

Components to an effective cool-down (Table 2)

Phase	Exercise	Duration
Off-ice - no skates	• 5-7 minutes of light aerobic activity • static stretching only • drink lots of water	• 10-15 minutes

As a side note it should be mentioned that again educating both the skaters and parents on the importance of a proper cool-down will help ensure it happens. Most parents and skaters are eager to get home and therefore spending an extra 15 minutes after the session cooling down may not be appealing. The skater and all involved parties must be educated that a proper cool-down will help their next practice, form good habits for competition and help avoid injuries that could potentially end their season early.

Conclusion:

It was also mentioned that cool-downs are very important for skaters whose sessions are of a higher intensity level - typically older and more competitive skaters. While this may be true, we also know that habits are formed at a young age and by having a beginner level skater get in the habit of cooling down, they will then most likely form good habits for their future in skating.

DEVELOPING EFFECTIVE OFF-ICE TRAINING PROGRAMS - KEY COMPONENTS TO CONSIDER
by: Tricia Orzeck- Skate Canada Professional Coach & Sport Performance Consultant

A combination of physical training, specialized classes, and evaluation/testing that is adaptive to pairs, singles, dance, and synchronized skating disciplines is a great recipe for optimal training programs.

PHYSICAL TRAINING
The physical component of off-ice training should include elements such as cardiovascular fitness (aerobic, anaerobic), strength training/power (overall, sport specific, core), balance/co-ordination, (general and sport specific), agility/speed, flexibility, and dance or body awareness classes (ballet, jazz, modern, ballroom, yoga, karate, pilates). Each of these elements are essential for overall fitness and development of any athlete, and all should be trained to prevent injuries, develop well-rounded athletes, and provide an adequate physical base so that sport-specific exercises (on or off the ice) can be performed safely and more efficiently.

Examples:

Cardio - strengthens the ability of your heart, lungs, and circulatory system to deliver oxygen and fuels to your working muscles. It includes both aerobic and anaerobic elements. Skaters should spend a minimum 20-30 minutes of continuous activity (biking, running, stair-climbing, skipping), and include alactic and lactic intervals during certain workouts.

Strength/power - ability to lift and move your body parts through a distance and against resistance. Resistance training, body weight exercises (free weights, dynabands, push ups, crunches) should be done 2-3 times a week or alternating upper and lower body in which a fitness professional can set up a strength program with specific reps, sets, and exercise prescription for different levels and ages of skaters.

Balance/co-ordination - Skaters need a great deal of general balance and in specialized movements/positions on the ice. In addition, co-ordination is essential for skaters to perform footwork and other complex movements on the ice. There is no upper limit of training of these exercises and should be incorporated regularly. Swiss balls, balance boards, static skating positions, and games which require co-ordination of arms and legs or with other skaters will develop this component.

Agility/speed - Quick movements in a variety of directions are essential for the most skillful skater. A variety of strength exercises can be adapted to include agility/speed, as well as creating obstacle courses with various activities. I would recommend a base of cardio and strength before incorporating agility/speed exercises to minimize injury and maximize repetitions of exercises.

Flexibility - A wide range of motion about a joint in skating allows for ideal aesthetic appearance, decrease risk of injury, and ability to perform to your power potential (since muscles can reach their full length before performing these explosive movements). Flexibility should be ongoing when muscles are warmed up for maximum application.

Dance/body awareness - (adaptive): Skaters require the element of artistic impression in all of the disciplines, in addition to being aware of their body to execute skating movements or be aware of positioning to skating partners. Ballet, jazz, and modern dance can develop such aspects in addition to teaching various body positions for different styles of performance (classical to more modern music). Specifically for dancers, ballroom, swing, or Latin styles of dancing teaches expression and body positioning with their partners. Lastly, classes such as yoga, karate, or movement can strengthen skaters' awareness of body movements and fine tune their ability to perform positions required for the different disciplines and skills of skating.

Depending on the amount of time available for off-ice training, some of these elements can be combined in one class, and some elements may need to occur more frequently depending on the specific discipline (i.e. ice dancers may benefit from several dance/body awareness classes). Strength and cardio should occur at least twice per week to achieve some development and minimum fitness level. Flexibility/balance/co-ordination can occur often (incorporated in classes), as well as dance/body/awareness since these elements are less straining on the body as compared to concentrated strength/cardio sessions (see Q-2 & 3 for information of how to combine these elements in a program and when to train more specific components).

General Overall Strength Workout Examples:

1) Warm-up & general stretching: 5-10 minutes (any or combination of running, skipping, stairs)

2) Circuit: 10 exercises x 2-3 sets
   - Each exercise below is timed for this example circuit with 30 seconds for the 1st set, 45 seconds for the 2nd set, and 30 seconds for the 3rd set.
   - Skaters should aim for a minimum of 10 reps for each of the exercises using concentric type contractions.
     a) Alternate Lunges b) Push-ups
     c) Hamstring Rolls (using Swiss balls)
     d) Dips
     e) Seated row (with dynabands)
     f) Calf raises (with hand held dumbbells) g) Front stabilizer (on elbows)1
     h) Abductor walk (with band)2
     i) Shoulder raises alternating front and side (using dumbbells)
     j) Ball balance (knees or seated)

   - Change time (or minimum reps) and sets depending on level and ability of skater.
   - Modify exercises using similar muscle groups for different resistances and/or based on the availability of equipment.
   - This average level program is designed for most classes/rooms that have little or no equipment available.

3) Cool-down and full body stretch: 5-10 minutes.
   (include an easy jog and be sure to stretch all muscles used in the circuit)

Notes: The front stabilizer simulates a held push-up position with a straight back and on the elbows in this example.

The abductor walk incorporates the use of an exercise band or surgical tubing stretched from one hand held at the skater's side, along the side of the leg, under both feet, and up the other leg into the skater's other hand. The skater then proceeds to 'walk' laterally in one direction and then switches (every 5-8 steps) to the other direction in the allotted time.

General core strength with balance class examples:

1) 5-10 minute warm-up

2) Work-out: Three groups with three exercises in each group, 2-3 sets performed rotating through groups. (i.e. group 1 starts with crunches, then stabilizers, then balance and all exercises are repeated starting with crunches again for subsequent sets- repeat 2-3 times depending on time/ level of skater)

a) Crunches	- regular - legs up - oblique	15-20 reps each x 2-3 sets	
b) Stabilizers 1	- front	(60 sec. 1st set, 45, 30)	
	- side	(45 sec., 30, 30)	x 2-3 sets
	- reverse	(60 sec., 45, 30)	
c) Balance	- stork stance	(60 sec., 30, 30)	
	- R spiral	(45 sec., 30, 30)	x 2-3 sets
	- L spiral	(45 sec., 30, 30)	

3) 5-10 minute cool-down (easy jog) and proprioceptive neuromuscular facilitation (PNF) stretching (with a partner).

Notes: The stabilizers incorporate static positions held for the allotted time. The front stabilizer simulates a held push-up position (on hands or elbows). The side stabilizer is held (on the hand or elbow) on either side with the legs together and forming a straight line through the entire body. The reverse stabilizer simulates a 'dip' position with the hips up, forming a straight line from the heels to head (facing up). Skaters can be on either the hands or elbows, held behind the back to keep the elevated position. All stabilizers can be done using a Swiss ball for increased difficulty.

A professional fitness consultant/trainer can adapt exercises and classes to fit your yearly training plans and sport specific disciplines.

SPECIALIZED CLASSES

Incorporating informational/educational seminars that focus on elements that affect the skater's ability to perform physically are essential for both short term and long term development - in and out of a sport.

Informational: include information about competitions, reviewing yearly plans, video analysis, tests, Skate Canada test and competitive structures, relevant rules, judging, partner try-out information, upcoming seminars/team selection, etc. that skaters do not always understand or know about.

Nutrition: teaching skaters general nutrition as well as sport specific aspects that are important to proper recovery, regeneration and efforts toward optimal performance.

Injuries: skaters/athletes often get injured at some point in their skating careers. From a fall to a more serious ligament tear, athletes need to understand what they can do (physio, stretches, exercises), particularly short term (icing, bandaging), and other activities that keep them involved in the sport when they are injured and are unable to skate or perform certain activities.

Mental training/sport psychology: classes that cover methods of relaxation, concentration/distraction control, competition/test preparation, goal setting, positive self-talk, visualization/imagery, and specific variables such as confidence building, individualized self-talk, reframing, recognizing signs of over-training, motivation, sport transition/career, etc.

The sport science aspects can be covered generally by professionals at different levels; however, as skaters develop more specialized questions/needs consulting a specialist trained (M.D, R.D., MA/PhD. levels) in these areas is essential (sports doctor, nutritionist or sport psychologist). Keeping these sessions as interactive, hands-on, and with a variety of topics is usually most effective to implementing this important component for a skater's sport-specific development as well as overall personal development.

EVALUATION/TESTING

Indirect or direct fitness testing, assessment of program, incentives/recognition through monitoring progress are important to ensure the program is running well and the give more objective measures to the skaters on their individual progress.

ADAPTIVE

The specialized aspect and testing protocol are somewhat generalized across different disciplines. There might be a greater focus on testing scores for a specific discipline (upper body for pairs/synchronized skaters) or incorporate communication/team building in mental training classes (for pairs/dancers, synchronized skaters). The physical training should contain a similar coverage of components for adequate base of physical fitness, but become more sport-specific during specific preparatory phases and competitive phases of the yearly training plan. For example, incorporating more dance/movement classes for dancers, lift classes for pair skaters, and plyometric/jump classes for singles skaters should be implemented to adapt off-ice training to the needs of the skater. Coaches and sport science professionals should discuss needs of the skaters and training phases in order to ensure on-ice and off-ice are complementing and designed for maximum effectiveness.

Q&A: BALANCING YOUR ON-ICE TRAINING WITH A GREAT OFF-ICE TRAINING PROGRAM
by: Tricia Orzeck, Skate Canada Professional Coach & Sport Performance Consultant

Q-1: How do I schedule and incorporate all of the key aspects of a well-balanced off-ice training program into the overall skating program?

- Depending on the season and training phases and level of the skater, components such as physical training (fitness, dance/body awareness), specialized classes (informational, nutrition, injury prevention, mental training), evaluation/testing (adaptive to all discipline - pairs, singles, dance, and synchronized skating) can be combined in a variety of ways in a well thought out yearly plan - begin with general elements and move towards more sport specific and competition preparation aspects (please refer to Q-2 for more information).

- Usually two to three classes per week during fall/winter sessions and five classes per week for summer sessions seems to work well in terms of scheduling programs, meeting the skater's needs and personal finances (in conjunction with school and external activities), and facility availability.

- During fall/winter sessions, the following three classes per week example will give you an idea of how it can be divided:

    - One class of cardio and strength exercises
    - One class of balance, co-ordination, flexibility and core strength
    - One class of dance movements: specialized classes can be rotated once every three weeks or even once a month with either the dance class or balance co-ordination class. Instructors who are trained in both fitness and sport sciences could incorporate mental training exercises, nutrition awareness and informational aspects while training the physical elements

Sample Schedule:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Balance, core strength, co-ordination & flexibility	No off-ice		Dance/ movement		Cardio & strength session	Off

- The cardio and strength session starts on a Saturday to give adequate recovery, with dance/ movement as the middle session.

- Skaters may have other sports or activities on alternate days, or older skaters supplementing group sessions with individualized programs, designed to coordinate with skating program activities so that over-training does not result.

- It is best to rotate the type of sessions throughout the week over the year so that skaters can learn to adapt to different stresses throughout the week. It also allows skaters that skate on one or two of the days to have off-ice training opportunities

- If a specialized instructor comes in for dance/movement, the Saturday and Monday sessions can rotate for variety and topic coverage, leaving the Thursday session as is which can also assist as a recovery.

- To add variety, the dance movement class or balance/core can be substituted with other specialized classes such as nutrition, injuries, informational, mental training, and aerobics, boxercise, yoga or karate

- Cardio and strength sessions can be taught a variety of ways, including special games or utilizing other sports. Most professionals will incorporate a variety of exercises or activities and have versatile teaching styles to keep interest and enjoyment for all types of skaters.

• During summer, five classes per week for example may be divided as follows:
  - One class of cardio (with anaerobic training as aerobic base increases)
  - One class of cardio/strength combined
  - One class of strength/core strength
  - One class of dance/movement, balance, flexibility
  - One class of specialized/informational (different topics each week)

Sample Schedule:

Monday	Tuesday	Wednesday	Thursday	Friday
Cardio (aerobic & anaerobic)	Dance / movement, balance, flexibility	Strength	Specialized class	Strength, core & cardio (50/50)

- The “cardio only” class can be rotated with strength sessions depending on the level of fatigue of skaters. Keeping low key classes between cardio/strength sessions gives adequate time for recovery.

- Older skaters can substitute strength sessions with supervised individual weight training programs.

- Specialized classes can rotate through a variety of topics, including preparation for summer competitions, jump classes, guests, rest/recovery & full regeneration.

- Dancers can substitute the cardio session with another dance/ballroom class and change strength sessions into a combo strength/cardio to get a minimum of twice per week.

- Summer is a great way to build adequate bases in physical and mental preparation since skaters often have more time available and will be entering fall season preparing for competitions and beginning to fine tune skills.

- A day of recovery is usually adequate between strength/cardio sessions, which provide an ideal time to incorporate dance and specialized classes. Elements as discussed at the beginning can be instructed in a variety of ways, maintaining the interest and optimal levels of exertions of the skaters.

Q-2: My skaters have an adequate base training in all components. What exercises can be implemented to focus on skating-specific needs and at what time of year should these types of activities be included?

- Prioritizing the goals of off-ice training requires that the skater, coach and conditioning specialist manipulate the fitness and training components so the skater is peaking at the appropriate time of the season. This systematic approach is called periodization of training. The purpose of an off-ice periodization schedule for skating is to provide the coach and skater with a realistic overview of the off-ice training year, prevent injury and over-training and to encourage coaches and skaters to prioritize competitions.

- Skaters typically have a monocycle - one peak for their year. For simplicity, a monocycle will be discussed to give you an overall idea of what can occur during specific phases. Some exercises for sport-specific phases will be briefly discussed. I highly recommend that you consult a professional fitness consultant/trainer that can address the various sport-specific training phases with a number of great exercise ideas.

- Briefly, the general preparatory phase (usually spring/early summer) focuses on building a strong base to prepare the skater for more specific training and it also addresses nutritional habits, mental strengths/weaknesses, and possible injuries.

- Specific preparatory (usually mid-late summer/beginning of fall): During this period, intensity should be increased while volume begins to decrease - off-ice exercises that simulate on-ice skating specific moves and discipline-specific elements should be implemented.

    - **Cardio sessions** should include anaerobic training (intervals through running, fast skipping, cycling, etc.) and include skating specific sessions such as in-line skating and/or on-ice stroking sessions.

    - **Strength training** sessions can be adapted to focus on muscle groups specific to a given discipline (i.e. upper body for pair skaters & synchro skaters) and include power or muscular endurance, while still maintaining general strength in other areas.

    - **Power moves** such as plyometrics and off-ice jumping would be the best sport specific exercises to consider; however, without adequate strength (developed in general preparatory phase), skaters may get injured. Power = strength + speed, so without proper strength, quick explosive movements for plyometric/off-ice jumping cannot be added safely or efficiently.

    - **Balance exercises** could become more specific by holding spiral positions, landings, pair/dance positions, and develop kinesthetic sense concurrently (closing eyes, increasing awareness of different positions of the body).

- **Agility and speed** can be incorporated into the cardio/strength sessions (obstacle courses, quick starts/stops, lateral movements, jumping exercises such as burpees, split squats, box jumps for example) and are most sport-specific when performing these movements on the ice.

- Specialized classes should become more individualized by teaching skaters what works best for them in practice and ultimately in competition settings. Working on exercises can be done off-ice and then applied on-ice, with evaluation or re-assessments done in subsequent off-ice classes.

- The competitive phases (usually November-March) focus on refining developed skills, in addition to maintaining optimal physical/mental fitness and developing individualized competition plans.

General periodization of off-ice training: competitive

Month 04/05	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Major Competitions								Sectional	Challenge	Jr. or Sr. Canadians		
Training phase	General preparation		Active REST	Specific preparation		Pre-competitive		Main competitive				Transition
Physical fitness	Overall body, general base		Other sports	Skating specific anaerobic, power		Individualized, comp pre,refinement		Maintenance				Rest & recovery
Mental training	Assess strengths & weaknesses, goals		Alternate applications	Build weaknesses + application		Refine individual skills		Maintenance of refined skills, comp prep, motivation, regeneration				Break
Informational	Assess nutrition, Injury		Adaptation	Application		Refinement		Maintenance				Recovery

- This example encompasses a general periodization of a competitive skater's training phases and related changes in off-ice training (i.e. physical fitness, mental training, and informational type classes). A monocycle is represented for simplicity, including only the major competitions of most competitive skaters.

- Specific dates for competitions, other important events (internationals, summer competitions, simulations, tests) technical periodization (solo development and practice, learning and refinement of jumps, lifts, etc.) and specific activities for off-ice programs (strength periodization, cardio progression, nutrition adaptations, psychological skill development) as per a full comprehensive Yearly Planning Instrument (YPI) should be planned out with individual modifications for skaters as needed. Collaboration with main on-ice coaches and off-ice programmers or specialized consultants would be essential for the most effective overall program.

General periodization of off-ice training: STARSkater

Month 04/05	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Major Competitions								Clubs	Interclub	Cosic		
Training phase	General preparation		Active REST		Gen Prep	Specific	Pre Comp	Main competitive				Transition
Physical fitness	Overall body, general base		Other sports		Base	Skating Specific	Refine	Maintenance				Rest & recovery
Mental training	Assess strengths & weaknesses, goals		Alternate applications		Build	Apply	Refine	Maintenance of refined skills, comp prep, motivation, regeneration				Break
Informational	Assess nutrition, Injury		Maintain healthy		Adapt	Adapt	Refine	Maintenance				Recovery

Resource: BOMPA, T. (1999). Periodization: Theory and methodology of training (4th Ed.). Human Kinetics: Champaign, Illinois.

Q-3: HOW CAN I USE MY STROKING SESSIONS TO COMPLEMENT MY OFF-ICE TRAINING PROGRAM?

- Stroking sessions are a great way to develop skating specific skills - 15 minute stroking sessions two or three times per week can be incorporated into your club's skating programs. A combination of elements that defines edges, turns, power, speed, agility, cardio, test stroking, artistic/music interpretation, field movements/footwork, form/body positions, technical/stroking mechanics or simulations complements a well-balanced stroking regime.

- To optimize a skater's off-ice training, topics or elements covered off-ice can be rotated with on-ice topics (e.g. If skaters have an on-ice cardio session on Monday, off-ice cardio could be on Wednesday allowing two cardio sessions per week, rather than in the same day). The following schedule is based on skaters skating four times a week during the fall winter season, with two stroking sessions (15 min.) and three off-ice sessions (45 min) incorporated into the program.

Mon	Tue	Wed	Thu	Fri	Sat	Sun
Balance, core strength, co-ordination & flexibility	No off-ice		Dance/ movement		Cardio & strength session	Off
	Cardio, STARSkate, power		Edges & turns, agility			

- Keeping the same "topics" for each month before rotating, allows for a progression of skills in certain areas (e.g. gradually increasing the minimum continuous cardio times).

- Rotating topics on each day from month to month, and coaches/instructors teaching allows for both variety and ensuring all skaters receive training in all aspects (i.e. skaters that may not skate every skating day).

- Within each month, various aspects and different ways to perform elements of each topic can be changed from week to week as well, which also keeps variety and adequate coverage of skills and areas (e.g. edges/turns can be performed slower on circles one week, put into continuous patterns for speed and agility, to hydroblading for depth, and incorporating field movements or artistic aspects). Creativity and variety tend to 'spice' up sessions and keep skaters learning and progressing in their skating abilities.

Topic rotation example:

FALL 03	Monday	Tuesday	Thursday	Saturday
SEPT. Off-ice	(45 min.) BALANCE CORE STR. FLEXIBILITY CO-ORD.		(45 min.) DANCE/ MOVEMENT	(45 min.) CARDIO & STRENGTH
Stroking		(15 min.) CARDIO & TEST STROKING	(15 min) EDGES & TURNS	
OCT. Off-ice	(45 min.) CARDIO & STRENGTH		(45 min.) DANCE/ MOVEMENT	(45 min.) BALANCE CORE STR. FLEXIBILITY Co-ORD.
Stroking		(15 min.) AGILITY & FOOTWORK	(15 min.) CARDIO (anaerobic) & POWER	
NOV. Off-ice	(45 min.) STRENGTH & PLYO.		(45 min.) INFORMAT. (nutrition, relax., comp prep etc).	(45 min.) CARDIO With INTERVALS (anaerobic)
Stroking		(15 min.) STARSkate. & STROKING TECHNIQUE	(15 min.) FIELD MOVEMENTS & ARTISTIC	
DEC. Off-ice	(45 min.) CARDIO & STRENGTH		(45 min.) DANCE & FLEXIBILITY	(45 min.) CORE STR. & BALANCE
Stroking		(15 min.) EDGES & TURNS	(15 min.) CARDIO WITH FOCUS ON FORM	

Comments - Topic Rotation:

- The rotation schedule outlined is an example of one way to complement on-ice with off-ice and some consideration of periodization aspects (i.e. November is typically a competition month). Coaches can also have opportunities to teach aspects that they prefer and on days that they are available.

- Topics chosen: the example given illustrates some ideas for main areas to work on, which can be broken down into various elements depending on the needs of the skaters.

- Similar scheduling can be done for each of the levels at a given club, and modified for the number of sessions each level has, in addition to any other programs occurring or supplemental sessions (i.e. skater development). Consultants can work with your club/coaches to program topics tailored to the level and ability of skaters, number of sessions, sport-specific specialization and needs of the club.

Q-4: I've developed an off-ice training program that includes all components for the well-rounded skater. Who can I hire to teach/instruct the classes?

- A great place to start is with your own coaching staff that may have training in a specific component - fitness, nutrition, psychology, etc. Skate Canada has an excellent contact list of sport science professionals that you can access on the Sports Science page of Skate Canada website. Qualified instructors can also be found through local colleges/universities, referrals from instructors/coaches who teach one component but not others, and from local dance studios or sports facilities. Some professionals/experts are trained in several components which is ideal for program planning, cost effectiveness, and providing a greater variety of expertise to service your skaters.

- Although all coaches are educated on all these components at some point in their coaching careers, more specialized application usually requires an expert who works primarily in that field since they would be most current on recent trends and research in their specialty and can ensure exercises are applied correctly.

- Following are some ideas of instructors for various components:

    - **Skating coaches:** Teaches specific disciplines, are technical experts, athlete managers, etc. should have received training in general fitness components - cardio, overall general strength, nutrition, mental training and injury recovery.

    - **Strength/fitness:** General fitness is fairly common to the average Canadian, but once physical fitness becomes more sport-specific, training methodology and current knowledge is required to apply exercises and develop those needed by skaters.

    - **Nutrition:** Individual nutrition assessments can be useful for skaters with any nutritional deficits or simply trying to fuel up for optimal performance. Registered dieticians or certified nutritionists should be consulted for these individual needs.

- **Dance/body movement:** Instructors at local dance studios who teach ballet, jazz, ballroom, and at local fitness centers for pilates, yoga, karate, aerobics, boxercise.

- **Mental trainers/sport psychologists:** Coaches and university graduates who have been educated on sport psychology techniques can teach skaters basic mental skills and coping strategies for ideal performance. However, when problems arise that are very individualized, ongoing, or constitute other issues (such as severe anxiety, irregular eating patterns, undue stress, attention difficulties, drug abuse, etc), it is recommended that you seek the advice of a clinical psychologist or sport psychologist.

- **Sports medicine physician, chiropractor, physiotherapist, kinesiologists and athletic therapist:** All of these can help with sport specific injuries, recovery, and rehabilitation.

- **Program consultant:** An experienced coach, trainer or educator who has received education and training in applying sport specific training components could help clubs or other coaches set up the ideal off-ice training program. Although a consultant does not necessarily need to have been a skater themselves, understanding the needs of figure skaters would be beneficial to creating and implementing the optimal program. Consultants should perform an initial consultation/ assessment with the main coach/director and/or club to ensure that off-ice training coordinates, complements and is tailored enough to meet the needs of the skaters being trained.

CIRCUIT TRAINING

Circuit training is a fitness training method which consists of a number of different activities arranged in a circular fashion. The exercises may be arranged in any order but it is advisable to alternate exercises for a particular body part. For example a circuit should not have four exercises in a row for leg power.

To determine the number of repetitions for each exercise, a skater tests him/herself to determine maximum repetitions in one minute for each exercise. The maximum amount is divided by two to determine the training load. The entire circuit is repeated three times.

$$\text{Maximum in one minute*} \quad \frac{\text{_____}}{2} = \text{_____} \quad \text{(Training Load)}$$

REPEAT ENTIRE CIRCUIT THREE TIMES

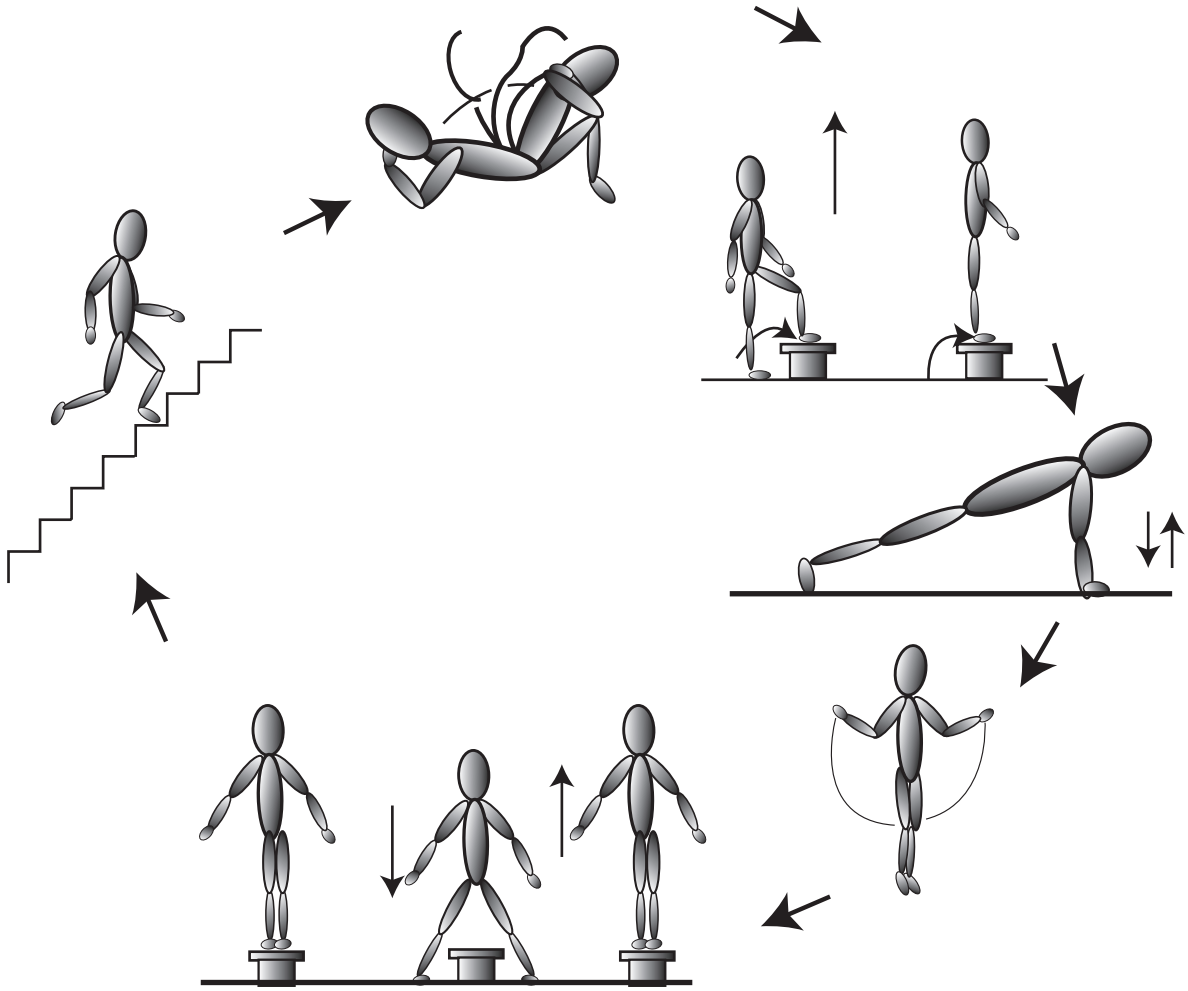
* For certain power exercises such as push-ups, a maximum in 30 seconds should be tested.

The circuit should be completed in a “target time”. A skater should strive to increase the number of repetitions of each exercise with the given time limit and this number should be recorded after each training session in order to assess progress.

Circuit training card

Activity	Record date and maximum number of repetitions of each exrcise.												
1. Stairs													
run up walk down													
2. Sit-ups													
3. Step-ups													
4. Push-ups													
5. Skipping													
6. Straddle hops													

Sample circuit



ORGANIZING A CONDITIONING SESSION

A conditioning session should consist of:

I Warm-up

II Circuit training
Running
Alternatives Skipping
Cycling
Stroking (on-ice)

III Strength/power exercises (included in circuit training)

IV Flexibility and cool-down

A training session should be approximately 45 minutes in length.

FITNESS TESTING

A physical preparation program should include a pre-training fitness test and on-going fitness evaluations. The latter should be done approximately once per month during training. Fitness testing is important for several reasons:

- To assess the skater's present condition (strengths and weaknesses) or change in condition
- To determine the effectiveness of a training program
- To motivate skaters

A fitness testing battery for skaters should include tests to measure aerobic capacity (the ability of the heart and lungs to utilize oxygen), leg power, muscular endurance and flexibility in the hips and trunk.

Fitness can be measured using "laboratory" or "field" tests. Laboratory tests are much more accurate but are more expensive and require trained personnel. Field tests are easier to administer and less expensive but lack the accuracy of laboratory tests. Although laboratory tests are necessary for the competitive skater, field tests are adequate for the test skater, however they must be used with caution.

Fitness Area	Off-ice Tests	On-ice Tests/Exercises
Aerobic capacity	12-minute run Step test Astrand MVO2 test	Maximum number of laps skated in a specified period of time
Leg ower	(Sargeant) Vertical jump test Standing broad jump	2-foot hopping from blue line to blue line Timed lap skating
Abdominal strength	1 minute speed sit-ups	Shoot the ducks (rising)
Muscular endurance	Flexed arm hang 1 minute speed push-ups	Any stroking exercise, continued for 30 minutes
Trunk flexibility	Bend and reach Trunk rotation	Layback spins Ina Bauer Lunges
Hip flexibility	Active leg raises	Spirals Spread eagles Drags Arabesques Split jumps
Anthropometrics	Height Weight % Fat (skinfolds)	n/a

Precautions in testing

These points should be kept in mind when administering fitness tests:

- If test instructions are not followed precisely, the value of the results is either greatly reduced, or zero. The procedures for warming-up, practicing the tests and giving instructions to performers should be meticulously followed to ensure consistency of conditions.

- Wind and surface conditions can affect results. The running tests should be undertaken only in still air or in a gentle breeze. If they are performed on grass the field should be dry.

- Stopwatch error will not be a problem if the user is consistent with his/her technique of starting and stopping the watch.

- Administrators of test items should always convey an air of the importance of the event and show that they expect the “best” performance from the individuals.

- Skaters must wear gym shoes and shorts for all testing sessions.
- Follow these simple safety rules:

    1. “No pain; no gain” is NOT valid. Keep in mind that overload must be gradual.
    2. In order to increase flexibility, stretches must be held for at least 20 seconds.
    3. Only the athlete really knows how far he/she can stretch. Allow the positive effects to speak for themselves and ask skaters how they feel now that they are improving their physical fitness levels.

Fitness tests for skaters

Common fitness tests are described on the following pages.

Aerobic capacity tests

ASTRAND-RHYMING MAXIMUM OXYGEN UPTAKE TEST (MVO2)

- This test is a stress test on a bicycle ergometer accompanied by an exercise electrocardiogram (ECG). Athletes can have the MV02 Test done at a university, Y.M.C.A./Y.W.C.A. or fitness centre.
- Oxygen uptake is the measurement of the ability of the heart and lungs to provide oxygen to the working muscles. In this test, Maximum Oxygen Uptake is predicted from the heart rate after six minutes of work at a submaximal workload with a + or - 10% error.

12-MINUTE RUN

- This is a simple test which measures cardiovascular/fitness. All that is required is a 440 yard (400 meter) track. The skater is instructed to complete as many laps as is possible during a 12-minute period. Skaters should aim to maintain a steady pace for best results. The number of laps is converted to miles and fitness is assessed by using a set of norms.

STEP TEST

- This test is based on a modified double step test of cardio-vascular fitness. The stepping exercise is performed to a musical cadence adjusted for different gender and age groupings, immediately after performing this exercise, pulse rate is taken.
- The Step test is a progressive test that is administered in two stages. If pre-determined pulse rate ceilings are not exceeded or equaled after the first stepping exercise, subjects are allowed to perform a second stepping exercise at an increased tempo. The pulse rate after being directed to stop determines personal fitness level.

Leg power tests

The two most commonly used tests of leg power are the standing long jump and the vertical jump. Both of these tests are easy to administer.

THE STANDING BROAD JUMP TEST

- This test is used to measure leg power in jumping forward. With the feet parallel to each other and behind the starting mark, the skater bends the knees and swings the arms, and jumps as far forward as possible. The number of centimeters between the starting line and the nearest heel, upon landing, is the score. Three trials are permitted and the best score is recorded.

THE VERTICAL JUMP TEST

- This test is used to measure the power of the legs in jumping vertically upward. Keeping the heels on the floor, the skater reaches upward as high as possible and makes a mark on the wall. The skater then jumps as high as possible and makes another mark at the height of the jump. The number of centimeters between the reach and the jump is the score. Three to five trials are permitted and the best score counts.

Strength test

ONE-MINUTE SPEED SIT-UP TEST

- This test measures the strength-endurance of the abdominal muscles. The abdominals are important for correct pelvic alignment and critical to good posture. In this test the skater lies on a mat with the knees bent and feet flat on the floor. The hands are held at the temples. A partner holds the feet throughout the test. The skater sits up and touches both elbows to his/her knees and returns to the starting position. The score is the number of times the elbows touch the knees in 60 seconds.

- Strength may also be tested by measuring the maximum weight that can be lifted in one attempt.

Flexibility tests

THE BEND AND REACH TEST

- This test is designed to measure the flexion of the hip and back as well as the elasticity of the hamstring muscles. The skater reaches forward from the hips, keeping the knees flat, palms down and both hands even. The skater stretches as far as possible along the scale and holds the position for two seconds.

THE TRUNK ROTATION TEST

- This test measures the lateral flexibility of the trunk. The skater stands next to the wall behind the 30 cm line, drops the left arm and extends the right arm straight out from the side at shoulder height. The palm faces the floor with the fingers extended. From this position the skater twists clockwise as far as possible so that he/she touches the scale on the wall with the right hand. The test is repeated in the other direction.

Skin Fold Subcutaneous Fat Measurement

- The Harpenden skinfold caliper is used to measure subcutaneous fat. The objective is to measure the thickness of a complete layer of skin and subcutaneous tissue without including any underlying muscle tissue. A double layer of skin and fat is grasped with the thumb and forefinger and the calipers applied. Six sites are measured to assess fat: the chest, triceps, subscapular, supra-illiac, umbilical and front thigh. For females the rear thigh is measured in place of the chest measurement.

- Using the formula developed by Dr. Michael Yuhasz, the percentage fat is determined using the sum of the six skin folds.

Interpretation of test results

Now that we have gone through the major fitness tests, you may wonder: "What is a good score on the various tests?" How do I detect weaknesses in my skaters based on test results?"

Norms have been developed for these tests based on large samples of people. Separate sets of norms have been developed for males and females for each age group. Most of these norms are based on samples of school children, college students and the normal population as there is a scarcity of statistics on athletes. Because of this fact, skaters doing a 2 or 2-1/2 minute program should be in the "Good" category and skaters doing 3 minutes or longer should be in the "Excellent" category.

The best way to measure the improvement of a skater, however, is to compare his/her test results to a previous set of test results that were recorded under the same conditions.

12-Minute Run

- The number of laps completed in 12 minutes should be converted to miles and scored using the following set of norms:

Fitness	Category	Males	Females
I	Very Poor	Less than 1.	Less than .94
II	Poor	1.00 - 1.24	.95 - 1.14
III	Fair	1.25 - 1.49	1.15 - 1.34
IV	Good	1.50 - 1.74	1.35 - 1.64
V	Excellent	1.75 +	1.65 +

* Norms from "Aerobics" by Kenneth Cooper

MV02

A skater needs to have a high MV02 to complete a free skating performance without fatigue. The higher the MV02; the better. Some guidelines of desirable values for MV02 for skaters of various ability levels are suggested but it must be stressed that the higher the aerobic capacity the better it is for the skating performance.

Program Length	Oxygen Uptake
2 or 2-1/2 minutes	50 ml/kg/min.
3 minutes	55 ml/kg/min.
4 or 5 minutes	60 ml/kg/min.
Top Competitors	60 ml/kg/min.

Step test

- Based on recovery pulse rate after a three-minute stepping exercise, fitness level is classified as either undesirable, minimum or recommended.

- Pulse rates at which the Step test should be terminated and corresponding percentages of aerobic power are as follows.*

	After 3 min. stepping		After 6 min. stepping	
Age	10 sec pulse rate	% V0" max.	10 sec pulse rate	% V02 max.
15-19	29	80	26	70
20-29	28	80	25	70
30-39	27	80	24	70
40-49	25	75	23	67
50-59	24	75	22	67
60-69	23	75	always terminated after 6 min.	

Other tests

- The flexed arm hang, speed sit-ups, standing broad jump and vertical jump test have separate norms for males and females and for various age levels. Use the norms included in the handout to evaluate your skater. Remember, figure skaters should obtain the 80th percentile or above.

Fat percentage

- Seven to nine percent fat has been recommended for male skaters and 10 to 12 percent fat has been recommended for females. If a skater's percentage fat is higher than this, he/she should attempt to lose fat by reducing caloric intake. Excess fat will impair jumping ability as well as detract from a skater's appearance on the ice.

- Skaters should score high, the 80th percentile and above, if you are using norms based on the average population.

- Some data is available on figure skaters from the Skate Canada Elite Athlete Programs department. This data will give you an idea of how your skaters compare with the national Novice, Junior and Senior skaters.

ACKNOWLEDGMENTS

Back Talk. Worker's Compensation Board of B.C.

Depth Jump Training Manual. Canadian Figure Skating Association.

Development of the Canadian Home Fitness Test. Shephard, R.J., Bailey, D.A., Mirwald, R.L. Canadian Medical Assn. Journal 114(8) . Canada, 1976.

RECOMMENDED READING

Bob Anderson. *Stretching*. Shelter Publications, Random House. USA, 1980.

P. Astrand and K. Rodahl. *Textbook of Work Physiology*. McGraw-Hill Book Company. Canada, 1970.

B. Cook and G. Stewart. *Get Strong*. 3S Fitness Group Limited. 1979.

J. Percival and J. Taylor. *The Complete Guide to Total Fitness*. Prentice-Hall of Canada, Limited. Canada, 1977.

G. Stewart and B. Faulkner. **Bend and Stretch**. 3S Fitness Group Limited. 1979.

ADDITIONAL RESOURCES

Fitness Ontario Leadership Program (FOLP) (416) 495-3427

- Provides course on exercise design
- Recommended books: *Children and Exercise 12*
  Injury Control for Children and Adolescence
  Winter Sports Medicine Book

Sport Research Intelligence sportive (SIRC) www.sirc.ca

FITNESS TRAINING - SPECIFIC RESOURCES / PRODUCTS

This section includes resources for functional conditioning, core stability, strength/ resistance training, cardio conditioning and flexibility training.

PRODUCT / DESCRIPTION	PROVIDER
ISU "How to Series" (VHS & DVD) Includes skating (and element) specific exercises, using a stability ball and an athlete's own body weight. Very easy-to-use format.	International Skating Union
Complete Functional Conditioning (Manual & DVD) * All exercises included can be done anywhere, with minimal equipment. Material provides basic exercise and progressions. Functional conditioning explained simply and effectively (our athletes do not need to be in the weight room!).	Developing Athletics
Strength Ball Training (Book & DVD) * Develop sport-specific strength, power, and flexibility with strength ball training. Used by elite athletes in all major sports, Swiss ball and medicine ball exercises develop balance and stability while stimulating muscle growth for fitness and performance. Written by strength and conditioning experts to the pros, Strength Ball Training presents 69 exercises-among them flexibility, joint stabilization, and strength exercises-that target all of the major muscle groups.	Amazon.ca
The Great Medicine Ball Handbook* The Great Medicine Ball Handbook is illustrated with black and white photographs, the clearly depict the exercises, with well-written explanations. It is approximately 60 pages in length, with exercises covering every major muscle group. The Great Medicine Ball Handbook will help you on the path to personal excellence and is a valuable tool for any Skate Canada member's off-ice training program.	Amazon.ca
Resistance Training for Health and Rehabilitation (Book) * Addresses the role of resistance training for health, disease prevention, and rehabilitation. Collection of current thinking of leading researchers and scientists and presents a sound rationale for including resistance training as a health benefit.	Amazon.ca
Pilates on the Ball (Book & DVD) * A unique and exciting synthesis of two highly acclaimed fitness techniques: Pilates Method and the Swiss exercise ball. Non-impact Pilates exercises on the ball can be adapted for all levels of ability. Shows how to practice Pilates techniques without expensive equipment. Professionally illustrated with black-and-white photographs for maximum learning.	Amazon.ca
High-Powered Plyometrics (Book & Video) * Developed and narrated by Jim Radcliffe, one of the top authorities in plyometric exercises, this video is loaded with progressively complex intermediate and advanced plyometric exercises that will help improve strength, power, and speed. Create and customize a sport-specific 12-week plyometric program by choosing exercises from the three categories of the training continuum for a total body workout, or group the exercise to target the specific body segments that are needed to work on most: lower body, trunk, and upper body.	Amazon.ca

FLEXIBILITY TRAINING	
The Great Stretch Tubing Handbook (Book) * The Great Stretch Tubing Handbook includes exercises that work each part of the body. Includes flexibility exercises for chest, shoulders, rotator cuff, back, biceps, triceps, forearms, core, and legs. Each movement is demonstrated by a model. You don't have to guess about how the movement is executed.	Amazon.ca
Various Resources - Stretching.com A great site with up-to-date information on stretching and flexibility training.	stretching.com
Yoga for Athletes (DVD) * Athletes can build flexibility and strength for their sports by cross-training with a targeted yoga workout. Yoga for Athletes presents 12 different customized yoga sessions ranging from 20 to 60 minutes in length. Though not sport-specific to figure skating, the various programs available will be valuable to Skate Canada athletes. **Power Yoga Plus (Video/DVD) *** With Denise Austin, Power Yoga Plus features 20 minutes of power and stamina work, and 20 minutes of Pilates - focusing on abs, glutes, hips & thighs.	Amazon.ca Amazon.ca
Yoga Mind and Body (Video/DVD) * With Ali McGraw and Erich Schiffman. Video runs 53 minutes and includes gentle stretching, in the Hatha style.	Amazon.ca
The Flow Series: Total Yoga (Video/DVD) * With Tracey Rich and Ganga White. Video series that features three different levels in both Hatha/vinyasa style - Level 1 (Earth), Level 2 (Water) and Level 3 (Fire). Runs approximately 53 minutes for each video in the series.	Amazon.ca
The Yoga Handbook (Book) * Written by experienced Yoga teacher and dancer Noa Belling, this handbook takes readers through the philosophy and practice of the ancient art of Yoga. It is an authoritative guide that encourages readers to practice Yoga and experience the benefits for themselves. Aimed at beginners and those who wish to improve their technique, the photographs and precise instructions in this book bring Yoga within everyone's reach.	Amazon.ca

The resources included have been recommended by certified professionals, however the provision of this listing and its contents does not constitute endorsement by Skate Canada of the linked web sites, or the information, products or services contained therein. Unless otherwise specified, Skate Canada does not exercise any editorial control over the information you may find at these locations. All information is provided with the intent of meeting the vision of Skate Canada - in assisting the attainment of personal excellence.

Section 4:

PSYCHOLOGICAL PREPARATION

PSYCHOLOGICAL PREPARATION

Written and adapted by Tricia Orzeck, as part-time faculty at Ryerson University - re-printed with permission.

Introduction

The common phrase "optimal performance is 90% mental and 10% physical" is becoming more apparent as we watch athletes with superior physical skills fail to meet performance expectations in their main competitive events. Although, without adequate technical and physical preparation, mental strength can only take the athlete as far as the limitations of their body, psychology is prevalent in every aspect of training and the skating environment. Basic communication, motivation, stress management and goal setting are just a few of the essential items that athletes encounter every day and underlie psychological mechanisms. Coaches can learn a variety of basic techniques that can help athletes learn their skills more efficiently and deal with any type of outcome more successfully.

Knowing your athlete and understanding their personality styles and make-up will enable a coach to better select strategies that help them reach their goals.

As a coach you need to know:

- how psychological processes influence sport performance
- basic mental training strategies and applications
- how to integrate mental training into programs
- and understand more complex psychological issues

WHAT is mental training and sport psychology?

Any time an athlete thinks, feels, behaves, communicates verbally or non-verbally, observes or relates internally and externally in the range of human experience, psychological processes are occurring. In sport, any level of activity, from the physical/skill component to tactical/strategy component requires psychology. Sport psychology looks at all the psychological components intermixing with sport performance.

Mental training is a way to develop certain mental skills found to be important in sport performance and its aim is to enhance an athlete's ability to perform certain behaviours or skills in his/her sport. These basic skills are used in different ways by different athletes, may be natural strengths or could contribute to poor performance if not used correctly.

The major difference between sport psychology and mental training is the scope of work and knowledge that is used. Mental training is on the side of performance enhancement which aims to move sport performance beyond average. This type of application falls into the realm of positive psychology and life-style coaching. Businesses use these types of strategies to optimize their organizations and employee's work performance. Sport psychology looks at anything that can include an athlete's cognitive, behavioural or affective processes. It will include mental training type skills and can examine and understand these processes at a more complex level, as well as provide the ability to understand the composition of an athlete and how he/she functions. The psychology enables the ability to assess how psychological processes affect the entire athlete in every facet of their lives and how this relates to his/her performance.

Mental training often tends to be used as a last minute band-aid solution to sudden stressors or unexpected individual stressors. It does not necessarily look at the roots of the stressors, how they pertain to this athlete and prepare for longer-term solutions to the stage of personal and athletic development of the athlete. Without strengths in all the essential mental skills pertaining to athletes, cutting edge performance and Olympic medals will not be achieved. An athlete needs to develop strengths in all areas and consequently know him or herself so that they can put themselves into the psychological state that they need to achieve their best physical performance at every competition. This can take years to develop particularly since the psychological make-up of a person can be influenced throughout normal growth processes and can be completely different in various contexts.

Sport psychology work can be seen on a continuum:

ISSUES **(NORMAL)** **ENHANCEMENT**

Examples of things covered:

Eating disorders	Imagery	Stress management
Depression	Positive self-talk	Motivation
Substance abuse	Relaxation	Communication
Burnout	Energizers	Career transitions
Injuries	Competition preparation	Relationships
Confidence building	Attention/concentration	Hypnosis
Violence	Cue words/skill acquisition	
Perfectionism	Goal setting	

The 'enhancement' issues are common mental skills that have been known to contribute to optimal performance. The 'issues' component usually indicates more personal problems that negatively affect performance, often relate to personality, and cause some form of distress for the athlete. The items in the middle can fall on either side of the continuum. They can indicate both enhancement strategies or pertain to more personal issues and strategies would need to be tailored to either process. The ideal is to move an athlete to enhancement while considering any possible issues that throw them off of the middle range of the continuum. At any time during an athlete's development, changes along this continuum may occur and awareness of this will be essential for both performance and well being of the athlete.

Coaches should be able to apply the common performance enhancement strategies, both on and off the ice, and help their athletes become aware of what works best for them. The aid of a mental trainer or sport psychologist can help in this process which can be time consuming. They also need to be aware of possible personal issues and refer or consult with a sport psychologist when unsure. A good mental trainer or coach educated on psychological principles should be able to determine when the basic mental training skills are not enough to address cognitive, behavioural or affective processes which go beyond enhancement.

Brief History

Norman Triplett (1898) was the first researcher who looked at the relationship between mental and physical processes. His study looked at professional cyclists, equally matched physically, and found that paced races resulted in faster times. These results were attributed to the influence of competition as creating more effort than when cycling alone, as long as the athlete believed that he/she could meet the competition. The first research laboratory originated by Coleman Griffith, the "father of sport psychology" in 1925 and focused on psychomotor skills, performance, and personality. Today, sport psychology is being more widely used by athletes wanting "the edge" to their performance but even more so there is an open understanding of the contribution and influences of psychology in all facets of an athlete's development.

WHAT are specific mental skills required for figure skaters?

Figure skating is a highly complex sport that requires the integration of a range of skills and abilities. An athlete needs to not only understand and learn how to link all components to skating, but also needs to perform them at the same time in competition, and then deal with any extra stresses that occur with tests and competitions. Some of the most important mental skills for skaters include self-talk (for both learning and remaining positive), visualization (to recall and organize all of the components), and concentration (to learn the complex skills and combinations). Unique and advanced psychological processes that skaters face include perfectionism, body image, fear of falling (especially if injured before), dealing with the cold and environmental stressors and sometimes changing conditions (where skaters are on the ice, new spectators, music).

All athletes need an excellent degree of confidence, motivation, dedication, ability to goal set and deal with changes and stress. The peak performance characteristics discussed in pedagogy included:

Characteristics of Peak Performance

- loss of fear, no fear of failure
- no thinking of performance, automatic
- total immersion in the activity
- narrow focus of attention
- effortless performance
- feeling of being in complete control
- time/space disorientation (usually slowed down)
- universe perceived to be integrated and unified
- unique, temporary, involuntary experience

Each of these is achieved through psychological processes and most can be met through some basic mental skills that can be taught to athletes.

The major categories include:

- relaxation/arousal control
- visualization
- goal setting/planning
- concentration
- positive self-talk

Each of these will be discussed with relevant empirical knowledge and applications on and off the ice. First, an understanding of how mental processes are integrated into physical performance is discussed.

How physical skill is developed through mental processes:

Attention/awareness of specific cues and information encompasses the initial step towards performing behaviours or skills. This process also depends on what is retained /remembered, how information is processed and understood, and possessing the ability and motivation to perform the skill

Sensation ↑↑ Info processing ↑↑ Memory ↑↑ Behaviour

Awareness of different sensations and information occurs in the visual, auditory, and sensory-motor cortex where information is processed in the brain. Sensations incorporate the five senses: sight, hearing, touch, taste, and smell. The more adept the senses are the better chance the athlete has of being successful. Awareness of these sensations can be developed.

Examples:

- Refined depth perception, for example can indicate more accurately to a skater where everyone is on the ice or where a partner is in relation to him/her.

- Excellent hearing can be developed by musical training to make a solo become more automatic as they can hear minute changes in pitch, and timbre.
- Some senses can act as cues, the smell of the arena which initiates certain patterns of behaviour for some athletes, touch for dance partners that begin to almost feel like a sixth sense and movement becomes automatic.

Sensory Distortions:

The sensory process can be disrupted or less than optimal when influenced by psycho/ physiological reactions such as stress/anxiety, injury to senses, or chemical imbalances. The first process is always to be AWARE. Senses on every level can influence performance and athletes need to know how they can influence their thoughts, feelings and actions.

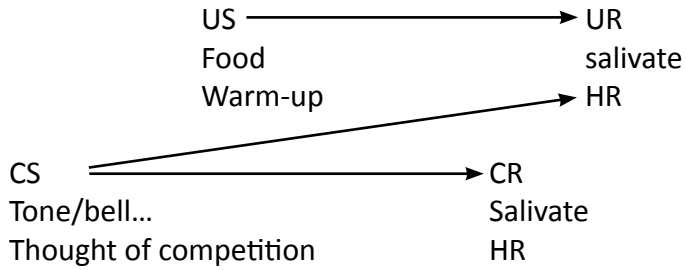
Learning

This is the relatively permanent change in behaviour due to experience and is an essential component to athletic development.

Classical Conditioning (Pavlov) - Involves involuntary, reflexive responses - Unconditioned stimulus US (initial stimulus) produces Unconditioned responses UR (natural reflexive response - saliva). If paired up (many times), a neutral stimuli (conditioned stimulus), that stimuli will eventually elicit the reflexive responses (CR = conditioned response).

NOTE - the CS must be presented Before the US to elicit response.

Example:



Pavlov's original experiment involved pairing a dog's expectation of food with a tone and bell. Since the dog was shown to immediately salivate upon receiving food, Pavlov found that the dog salivated even before food was present in anticipation of it. Later on, with the bell, the dog learned that food also comes with a bell and would salivate at the tone, even if no food was present (after initial conditioning).

Many pairings can happen all the time, even at the slightest change and the athlete no longer knows what causes it. An athlete, in the example above, may now trigger her heart rate to increase when thinking about the upcoming competition which has been paired with the increase in heart rate that occurs when warming up for a competition.

The benefits of this type of unconditional training are that certain sounds, thoughts or movements can elicit an involuntary or automatic response. However, it is not as pure as the instant salivation that can occurs from consuming food. For example, a coach may use a whistle to startle a 'go' reaction which ultimately increases efficiency as the skater becomes conditioned to the tone.

This type of involuntary conditioning is difficult to purposely train in sport but it is important to understand that sometimes athlete's reactions are a learned response to stimuli that has been absorbed or connected unconsciously.

Extinction:
This is the elimination of the stimulus that produces the response. Once the stimulus no longer affects the athlete, its conditioned effect will be distinguished. In sport, changing habits need to rely on this phenomenon and can be very difficult once an athlete has learned to automatize their response. Additionally, athletes who have been injured or fear the outcome can have anxiety triggered that can ultimately be paired with other cues. Although this could have occurred by operant conditioning, physiological reactions can be conditioned by classical conditioning. A skater who was initially worried about another fall on the double loop may start to become anxious about other jumps, perhaps even while putting on skates, or traveling to the arena. Progressive steps that gradually decrease the anxiety from the least threatening stimuli (getting to the rink) to the most anxiety producing event (double loop), would help to extinguish

the fear. An athlete who has gotten to this level of anxiety usually is affected in other ways and specialized application of the progressions for extinguishing the fear typically requires a trained clinician.

Coaches can employ a strategy of gradual progressions, also known as Shaping, in learning a jump to not only aid in skill development but also as a way to build confidence and ease any possible fears associated with a jump. Smaller steps are better for fear and confidence issues however, if an athlete shows considerable distress or inability to even attempt the progressions, the coach should be aware that this signifies a greater issue and try to understand what is going on and/or elicit the help of a mental trainer or sport psychologist. Serious issues should be referred to a psychologist or psychiatrist with expertise in working with both athletes and treating psychological problems.

Classical conditioning would be the 'ideal' for athletes = automaticity (difficult process due to involuntary aspects - use of imagery, hypnosis).

Operant Conditioning - Involves increasing or decreasing voluntary behaviours by reinforcement or punishments. (Thorndike, Skinner)

Law of Effect - Any behaviour followed by a positive response will have an increase in behaviour and that a negative consequence will decrease the likelihood of the behaviour happening again in the future.

Positive Reinforcement (money, praise, positive self-talk) - Involves adding a positive stimulus which results in an increase in behaviour.

Example: Sometimes coaches/parents give money for doing a skill and eventually the athlete expects money to do it or else he/she won't do it. The skill also becomes less intrinsically and more extrinsically motivated . This is usually a poor way to motivate athletes and behaviour will likely suffer if the athlete no longer receives the reward unless they are able to transfer it intrinsically, and even then they have to ensure that they are positively reinforcing themselves.

Punishment - Involves adding a negative stimulus resulting in a decrease in behaviour.

Example: Coaches may give verbal reprimands or athletes may have self-inflicted hard falls. This is a short-lived way to decrease behaviours and therefore not a good approach to retain learning.

Response Cost - Involves removing something positive which may results in a decrease in behaviour. Example: Parents that withhold food from their athletes until they perform well so that they stop performing in ways that they consider poor. This is similar to withholding privileges for poor behaviour until appropriate behaviours are performed.

Negative Reinforcement - Involves removing a negative stimulus (such as withdrawal symptoms) which may result in an increase in behaviour (such as continuing smoking).

Example: A child refuses to perform certain skills while his/her parents are watching but will perform the skills if the parents are not present. Removing the parents is not a realistic solution but knowing why the skater is triggered will be helpful in preventing performance constraints in the future. If the coach is unable to intervene while maintaining a good relationship, he/she may want to solicit the help of an outside person to mediate issues between the parents and the child.

The best 'scheduling' or application is to apply a stimulus immediately after the behaviour with partial reinforcement. This is the most effective approach to learning and prolongs survival

Observational Learning - A vicarious learning process through imitation or modeling that is used in every sport in some capacity. Coaches' demonstrations or videos involve this type of learning.

Four steps enable this process (Bandura):

Attention ↑↑ Memory ↑↑ Behaviour ↑↑ Motivation

- **Attention** occurs on a specific model and feature about that model
- **Memory** is of what was seen
- **Behaviour reproduction** of the skill and athlete's understanding
- **Motivation** to even initiate this process or continue.

Therefore motivation is usually a precursor to behaviour occurring, although all the other steps can happen and not be motivated to continue since motivation can stop at any level.

Usually athletes with less confidence or self-doubts use modeling more and need this as a tool for performance (or doing most anything in life).

Verbal and technical cues enhance this type of learning, i.e. give instructional cues at same time. This is where a coach's communication type and skill involving an athlete's self-talk and visualization abilities are important for learning.

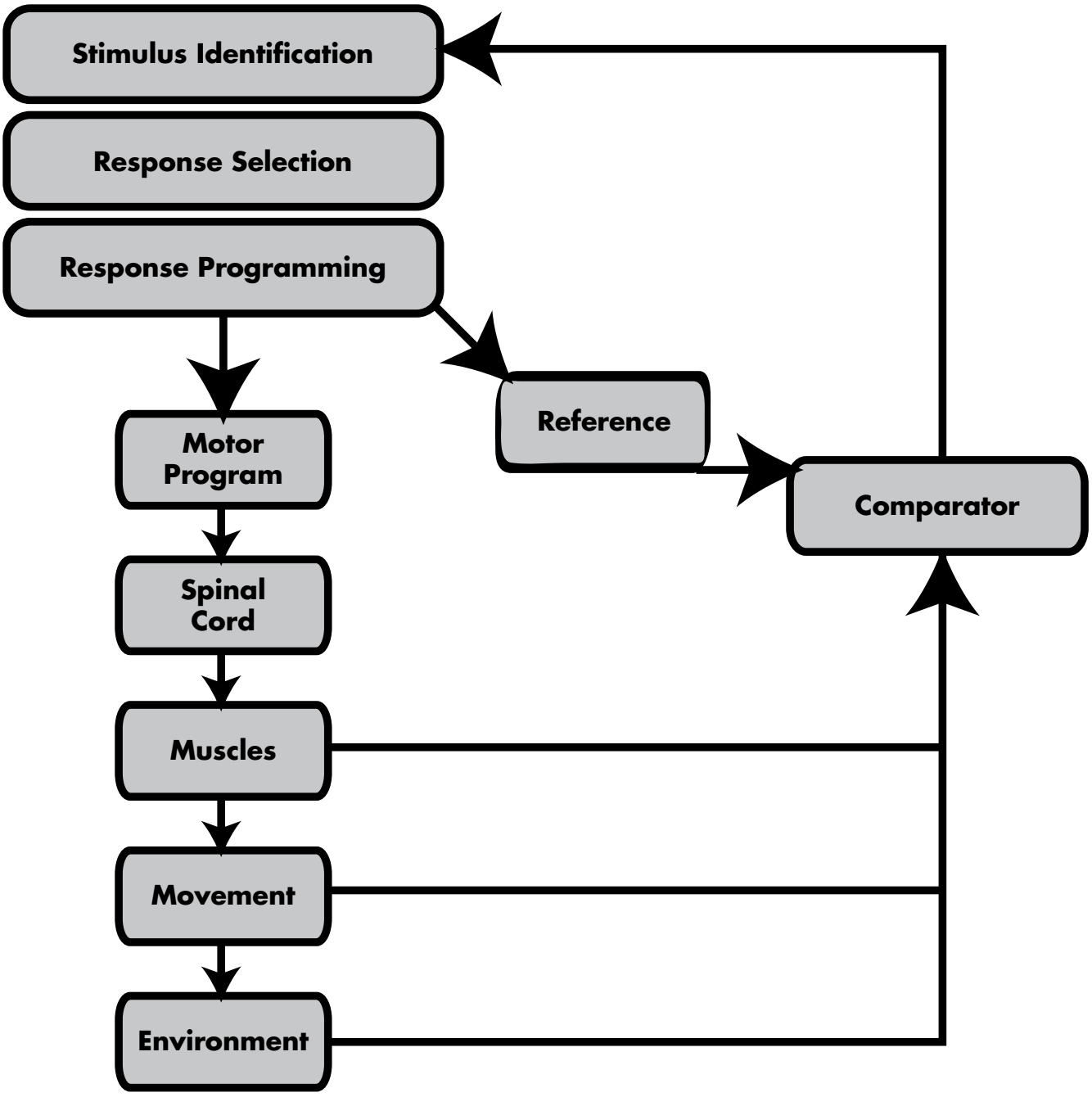
Motor Learning and Applied Behavioural Analysis:
Motor learning refers to the application of learning principles that combine together in acquiring a relatively permanent pattern of behaviour.

The steps described above: attention and information processing, absorption of information, attendance, making sense of it, responding to it, and initiating programming.

Reaction time and decision making - Occurs during the first step, includes what information to pick and how to do it quickly. It is the objective measure of the internal attention/info processing that results in the behaviour pattern, i.e. from information being attended to beginning movement.

In that time, the body needs to take in informationand understand it, which initiates the relevant motor program. This includes triggering the spinal cord/CNS then the muscles, which provide their own feedback, then movement of joints and body with its own feedback, to the environment with visual and auditory feedback. At any point, this process can start again through internal feedback and can happen in a split second but with training the athlete can identify one of these feedback areas to correct through self-coaching or external coaching to go back and initiate again. Learning can be seen through the outcome or performance.

Closed-Loop Control systems:

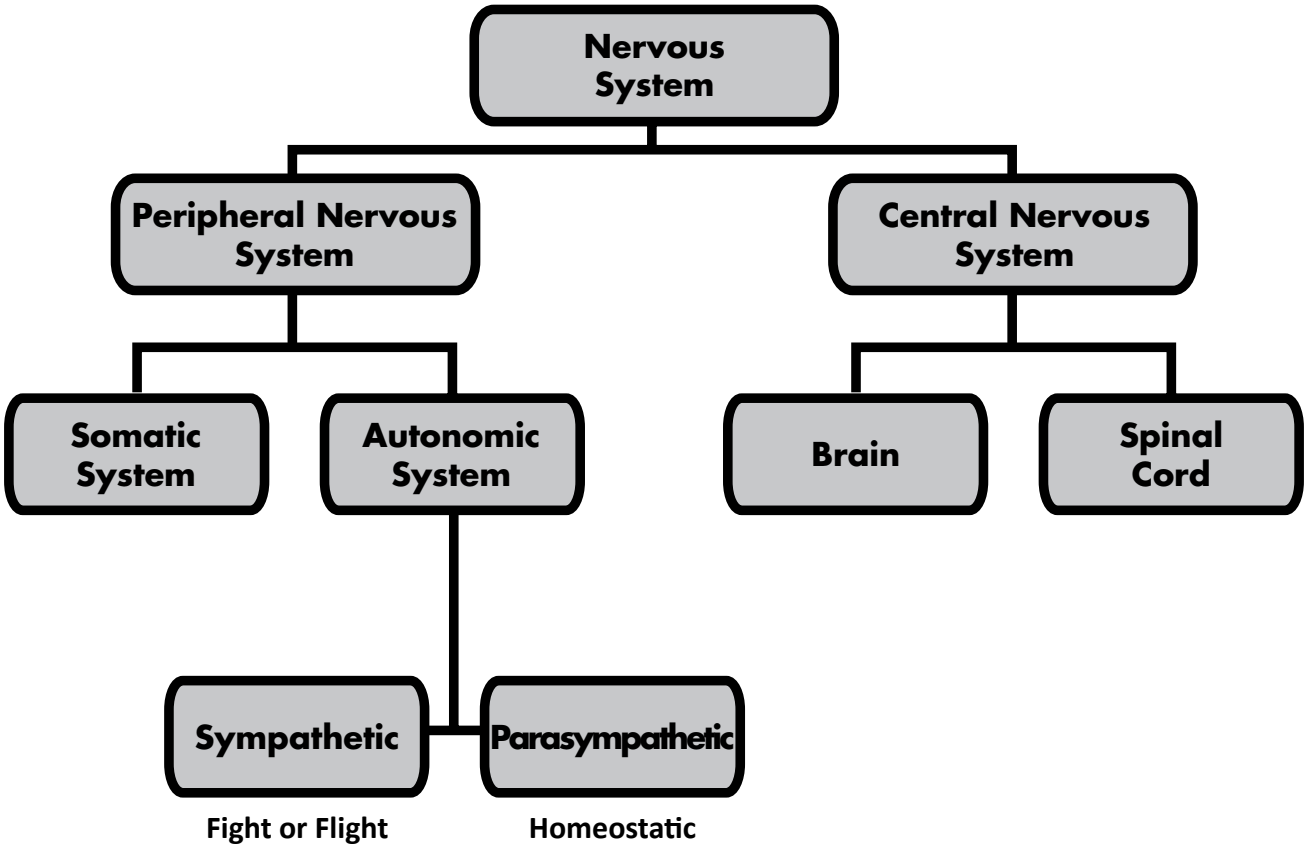


The greater the amount of information that needs to be processed, the greater time it takes to make the response. Over time, once an athlete knows which response is the correct one, they can begin to make this response quicker. Practice is essential so that the response becomes automatic. Manipulation of the possible ways of performing can enhance anticipation so at least the behaviours have occurred at some point.

Example - At first, a skater has to think through all the “cues” and positions on a double Axel but with practice the skater only has to think of one cue to trigger the same motor pattern response.

These processes are the keys behind athletic performance and skill development. If sensations change or if a skater does not understand certain information, if circumstances change, muscles are fatigued, stress/anxiety ensues, concentration diminishes, nutrition is poor, or feedback (externally or internally) is inappropriate, an athlete will not be able to perform the same previously automatic motor program and could potentially not perform it in any capacity at all. It’s easy to see how any of the holistic aspects of an individual, e.g. nutrition, education, psychology, fitness, can affect performance on a very physical level.

RELAXATION/AROUSAL



Definitions:

- **Central Nervous System** - deals with all the neurons in the brain and spinal cord.

- **Peripheral Nervous System** - consists of the nerves connecting the brain and spinal cord and to the other parts of the body. This is broken into:

  Somatic division = sensory nerves transmit information about external stimuli from the skin, muscles and joints to the central nervous system (makes us aware of pain, pressure, temperature variations). Motor nerves transmit from the central nervous system to muscles of the body to initiate action (voluntary movements and posture/balance changes).

  Autonomic Nervous System (ANS) = Nerves run to and from the internal organs, is automatic and regulates involuntary bodily functions (heart rate, blood pressure, perspiration).

- **Sympathetic division** - arousing division of the ANS and prepares the body for action (flight or fight…Canon)

- **Parasympathetic division** - calming division of the ANS restores homeostasis - the balance of physiological arousal in this case, i.e. when the sympathetic goes up the parasympathetic works to bring it back down.

Terms:

- **"Flight or fight response"** - this is referred to as the instant physiological reaction to arousing or stressful stimuli causing the body to react by:

  - **Canon's theory:** When a threat (via stress) is perceived, the body is rapidly aroused and motivated via the Sympathetic system and the endocrine system. Secretion of catecholamines (consists of epinephrine-increase heart rate, blood pressure and norepinephrine-release extra sugar) from the adrenal medulla, tensing muscles, liver releasing sugar, increasing metabolism, changing breathing rate to prepare for attack or fleeing, heart rate speeds up, blood pressure increases, circulation to muscles increases. All of these changes prepares the individual to attack (confront) or flee (withdraw) the threat.

This can be helpful preparing the body to respond quickly to the threat but harmful because it disrupts emotional and physiological functioning.

- **Seyle's theory** - General Adaptation Syndrome (GAS), focused more on adreno-cortical system and secretion of corticosteroids. Stress affects the pituitary gland, controlled by the hypothalamus. The pituitary gland stimulates the adrenal cortex, which releases corticotrophin, the releasing factor leading to the secretion of ACTH (adrenocorticotrophic hormone that signals major 'stress' hormones such as cortisol to be secreted and beta-lipotropin. These affect the immune system's response to stress.

These neurophysiological processes trigger interventions towards controlling anxiety/arousal levels and stress management.

Example: - An athlete who vomits before every race seems 'not well' when cognitively interpreted but 'well' when the athlete purges the physiological response, which restores a sense of homeostasis. The athlete suddenly feels calm and knew that after vomiting, he/she would be ready. However, the long-term physical and possible emotional results of such methods can be disruptive to optimal functioning.

STRESS

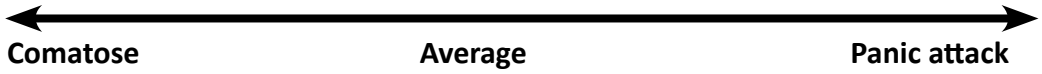
Stress - Can be defined as a "[non-emotional] bodily response to an environmental demand" (from objects to people can also be internal). It is a state that occurs due to environmental demands or stressors such as:

1) physiological stressors - temporary illness, injury, physical training
2) social stressors - rejection from and disagreements with others, job demands, finances
3) environmental stressors - pollution, congestion, climates
4) mental/emotional stressors - thoughts and perceptions.

Fact: When about half of the medical and physical problems are caused psychologically, called psychosomatic disorders, stress is often related. Do these demands result in physiological changes or changes in arousal levels? Not always, and this is due to a person's ability to cope and his/her perceptions.

Arousal - A "non-emotional, physiological state of readiness to perform physically, intellectually, or perceptually". It can be either beneficial or detrimental, i.e. can range on a continuum from comatose to panic attack.

Arousal CONTINUUM:



How does stress become good/bad?
It is the cognitive interpretation of the demand.

- **Neutres –** Neutral levels of stress do not impair functioning and can also be the optimal level of arousal.

- **Eustress –** Good levels of stress that can enhance functioning, i.e. giving enough arousal to motivate and energize.

- **Distress –** Exceeding environmental demands, too much stress and usually high levels of arousal. Similar to anxiety = fear, apprehension about a stressor/environmental demand and usually has a negative interpretation of past, present and future demands.

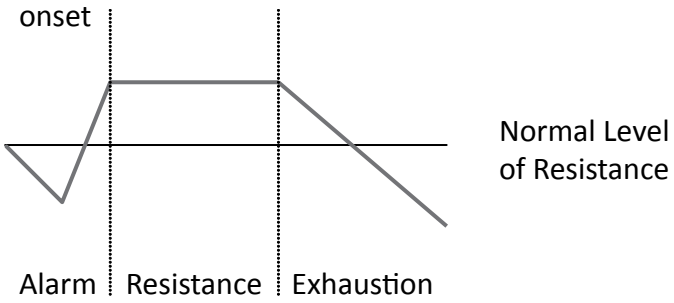
What type of stress might denote arousal? All of them. Arousal is the correct term when dealing with any type of stressor, anxiety provoking situation or alterations to one's energy level.

Theoretical Models of Responses to Stress:

There are two major stress models that cover all components of the stress responses and effects.

i) General Adaptation Syndrome (Selye) - Generally non-specific and similar reactions to any stressor and physiologically based.

Stressor



Stages	Duration	Characteristics	Reaction - body
ALARM	Onset of stressor	Fight or flight, mobilize resources, resistance decreased	Higher levels of physiological arousal, adrenaline
RESISTANCE	Coping with stressor	Appears normal externally, constant	Higher arousal levels internally
EXHAUSTION	No longer able to cope	Fatigue, illness, defenses broken	Low levels of arousal, body shuts down, headaches, ulcers, insomnia

Note - Stressors may not be entirely non-specific but individual differences, diverse settings, different degree of stress on a person, cognitive interpretation and psychological aspects influence the stress process.

ii) Cognitive 'Appraisal' Model (Lazuras) - Deals with degree of person-environment fit and appraisal of stressors, and psychological view of stress. There are two appraisal stages that affect the stress outcome:

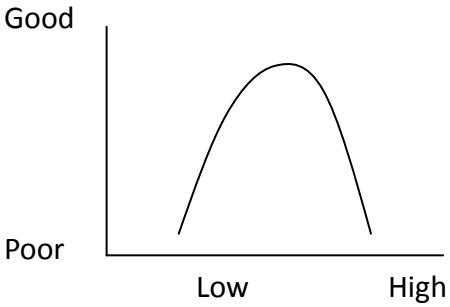
Primary appraisal - When confronted with a new or changing environment, individuals determine the meaning of that event in this first 'appraisal'.

- will interpret as positive, negative or neutral in its implications.
- if perceive as negative or potentially, view as:
  1) harmful, i.e. damage done already
  2) threat, i.e. assessing possible future damage
  3) challenging, i.e. potential to overcome and/or profit from event

Secondary appraisal - Assessment of one's coping abilities and resources and if sufficient to meet the harm, threat and/or challenge of the event.

Stress Outcome - Physiological, cognitive, emotional and behavioural responses. It is subjective (unique, individualized) to the person's balancing of primary and secondary appraisals, i.e. when harm and threat are high and coping low, lots of stress is felt. When coping is high, stress will be lessened, etc.

AROUSAL AND PERFORMANCE - Looking at the effect of physiological arousal and motor performance. Main Theory: Inverted - U theory (Yerkes-Dodson) - Primarily somatic anxiety/physiological



Arousal and performance are non-linear and the highest levels of performance occur when moderately aroused, lowest levels of performance happen with exceptionally low and high arousal.

iii) Reasons for detrimental performance:
Some reasons for why increased arousal/anxiety may negatively affect performance:

1. **Attention and arousal:** Physiological arousal reduces one's cognitive capacity. Therefore if the arousal is too high, an athlete may not pay attention to necessary cues but if arousal is minimal, he/she may be able to pay less attention to distractions. Attention narrows when arousal increases and one can only focus on certain things. These things may be incorrect cues. A more skilled/elite athlete can take in more information when aroused or with higher levels of information.

2. **Cognitive interpretation:** Can be distracting, focusing on anxiety and making errors, as well as interfering with one's health and sleep habits. Interpretation of events, if viewing them as debilitative, it will inhibit performance, if view as facilitative, it will enhance performance.

3. **Learned helplessness (Seligman):** Under chronic stress, continuous errors, ongoing anxiety, or continuing efforts to bring about some event or outcome and not succeeding. One ceases to strive for best outcome and may fail to exert control in new situations as well.

CAUSES/INFLUENCING FACTORS ON ANXIETY/STRESS:

1) **Negative/overloaded:** An accumulation of stressors or interpreting them as 'bad' increases anxiety. This can include missing a jump, being yelled at by team mates/coaches; injury, or fatigue when resources are already down.

2) **Uncontrollable/unpredictable:** Includes anticipatory anxiety, e.g. before competition or because of retirement, or meeting with manager/coach, injured, or outcome/residual, e.g. bad calls, unexpected events, and loss against a weaker skater that is unexpected.

3) **Ambiguous/conflict:** Often with outcome but also occurs during the competition. Some examples include: Current or competition anxiety, e.g. not understanding a strategy, doing different moves, two different coaches instructing that uses up extra resources/energy to figure out what is going on and creates undue stress. Also, role ambiguity/conflict (uncertain about components of role- new athlete, or entirety of role- responsibilities, intrarole conflict = conflicting expectations, aka conflict of interest in business, interrole conflict = having more than two roles to conflict, aka dual relationships in business (manager and official, coach and manager).

4) **Significance:** Involving central life tasks (sport). The importance of an event such as major final competitions increases feelings of anxiety.

INTENSITY (AROUSAL/ANXIETY) REGULATION STRATEGIES:

A lot of mental training strategies to help with arousal regulation and stress management are learned off the ice. This allows an athlete to learn different ways of using certain strategies, what they might be used for, and begin to discover what is key for him/her. However, without some application on-ice, it is difficult to know what really works best. This can be done by assigning tasks to the athlete to try out in practice sessions with a follow-up or by working directly on the ice with athletes on a mental training strategy. Due to the vast amount of items that a coach has to train, it is not always feasible for a coach to train this piece in their lessons. However, taking the time to do so, or working with someone knowledgeable in the area could prove highly beneficial in helping an athlete access his or her correct energy level at a competition.

Relaxation Response (Benson): This is the innate response of the human body to oppose the fight or flight response and protect against harm to bodies changes during stress. It results in a decrease in oxygen consumption and carbon dioxide elimination, lowering of the heart and respiratory rate, and a decrease in arterial blood lactate concentration. These effects can be elicited voluntarily through relaxation strategies.

For example:

i) **Brief Relaxation - Exercise:** Rhythmic (breath out more than in, increase number of breaths, roller coaster and become more relaxed with each breath, concentration breathing focuses on their rhythm on their breath, redirecting to that as a sort of mantra.

ii) **Deep Relaxation - PMR or Jacobsoniam:** Systemic relaxing and tensing of muscle groups relaxing each muscle group in successive intervals.

    1) focus attention on heaviness of limbs
    2) for warmth
    3) heart beat regulation
    4) breathing rate
    5) warmth in solar plexis
    6) coolness of the forehead

iii) **Meditation - Focusing on a mantra (word, phrase, candles):** Tries to eliminate all thoughts from consciousness, relaxing the body and mind, need quiet environment, mental device, passive attitude, and comfortable position. Use word 'calm' or 'warm' instead of word 'one'.

iv) **Biofeedback:** Can measure the levels of arousal with immediate feedback. Goes with perspiration aspects, heart rate, blood pressure, respiration rate, skin temperature, muscles and brain waves, e.g. EEG. Can see how thoughts lead to certain physiological states of tension and also see lowering of these autonomic processes when working on relaxation strategies and controlling anxiety.

v) **SMT (Stress management training):** A basic model of managing stress. First, individuals learn about stress, as was outlined in the relaxation/arousal section on psychological preparation. Once understood, individuals begin to identify events and situations that typically lead to anxiety. Lists are often useful for this process so that individuals can identify the most stressful and typical response. Once awareness is achieved, individuals can then identify and learn new coping strategies to handle stressors. This type of program is most effective for longer term or more chronic stress where thorough reflection of the individual stressors can be reviewed.

   The **main component** for stress management that follows similar processes, as any other psychological technique with assessment, treatment and evaluation phases, is to train you to cope with stress and anxiety in a positive manner. Using both relaxation training and cognitive restructuring, e.g. changing your beliefs about the stressor, use of self-talk strategies, are shown to be the most effective in dealing with stress. Like any other physical or mental skill coping with stress needs to be practiced.

vi) **COPE model (Anshel):** This type of stress management is used for shorter term, acute anxiety/ stress. Its objective is to deal immediately with a sudden stressor through a more directly active approach. The main component of this approach includes cognitive behavioural strategies, which means the use of brief relaxation strategies combined with selective perception of negative/ positive information, and employing an 'action plan', i.e. attention towards future behaviour. The use of the self-talk strategies to change thoughts or filter out negative thoughts help mediate the overwhelming information and just by initiating behaviour, reduction in anxiety will occur on its own. This will not be highly effective for ongoing or repeated stress as the stressors will continue to show up until adequate reflection and assessment is completed.

vii) **Behavioural:** Can be music, desensitization, exercise, hypnosis, meditation, progressive muscle relaxation (pmr) or distraction away from the source and what it is.

Psyching up Strategies: Increased breathing, verbal cues, e.g. explode, push, anger/aggression, frustration, drawing energy from external sources, music, movement, hand clapping can be used to energize athletes.

Both cognitive and somatic methods of stress/anxiety management are effective. It is essential to know which way an athlete naturally tends to deal with stress and/or feel stress levels arising. This basic assessment will be instrumental in assigning the strategy that works for the athlete. More specific measures can be done to get a more precise measurement and sport psychologists can facilitate this measurement.

Finally, stress and anxiety can be caused for a number of reasons. Depending on how, why, and what purpose it is serving the athlete; different strategies and mental skills are needed. There is not a 'one-size fits all' way to deal with such individual and unique athletes.

Strategies could range from a very basic combination of skills to more intense work at resolving the initial causes of stress and anxiety. Each strategy takes time to teach and apply correctly but this time could be instrumental in helping the athlete reach the podium.

Part A: How coaches can apply skills on-ice

There is no optimal place other than on the ice to apply mental training skills or deal directly with issues that surface. The psychological knowledge of a coach will be crucial to detecting and dealing with any performance difficulties that relate to any aspect of mental, cognitive or affect. A lot of this comes naturally to some coaches and a lot needs to be learned, much like the technical knowledge involved in skating.

Finding the time is the most difficult part of integrating another essential component into the athletic management plan.. Much like the difficulty to include fitness training classes, adjunct dance and music, or auxiliary education integrating everything into a skater's yearly plan can be daunting. However, to produce a well rounded athlete, the short and long term benefits are more than worth the time spent.

As mentioned previously, mental training can be easily integrated into off-ice programs, along with other specialty disciplines. Coaches can hire mental trainers or sport psychologists to train basic skills, or assess and adapt skaters' psychological needs. Coaches can also solicit the help of those with expertise in sport psychology applications to consult with them on alternative strategies, techniques, and performing assessments to determine how to modify an athletes' cognitive, emotional, or behavioural approach to skating performance on the ice. Coaches are generally excellent behaviourists but do not always know how and why emotional/affective or cognitive influences affect an athlete. It takes years of education, both in text and in practice; to fully understand all there is to know about the psychology of an athlete.

Coaches can use their sport science education in psychological processes to begin a process of influence that adapts an athlete to produce the desired performance results. Here are some brief approaches:

1) Direct/purposeful application: A coach can purposely use a lesson to train relaxation or arousal strategies. Although, this application seems like it may take up time, it actually is directly integrated into the technical skill component. An athlete can be told to monitor their breathing or muscle contractions and upon entering a jump, practice modifying the amount of muscle tension or slowing down breathing.

Since both techniques cause power to be decreased by having muscles already tense before achieving full contraction or increased breathing not allowing the best use of oxygen to the muscles, the jump will actually be performed with a better basis while working on correcting the technique. The goal of the lesson would simply revolve around training regulation strategies.

If more cognitive based relaxation techniques are needed a combination of self-talk strategies and relaxation will be required.

2) Independent practice: The coach can set a goal with the athlete on any given day for the athlete to practice breathing strategies learned during off ice sessions and then follow-up on how they worked. They can then begin to form a plan to use the techniques regularly. For example, a skater who constantly gets tense shoulders, causing a restriction in the movement of his/her arms before going into their triple toe, can train him/her to breathe and relax the shoulders before going into the jump until the behaviour becomes automatic.

   Application: An athlete is performing his four minute program at a competition, after completing it well in practice. Two minutes into it, he finds himself unable to 'catch his breath' and seems to be gasping for air at times. His last few jumps also appear to be well below his normal jumping ability, achieving less height and being off time. Upon speaking to the athlete it is discovered that this athlete repetitively holds his breath before each jump. Based on this information, the coach recalls the effect of improper breathing that result in oxygen decline and muscle tension. The coach is able to work with the athlete on training himself to purposely concentrate on breathing efficiently before every jump, assuming that the holding of his breath is not related to any cognitive (thinks he may not land it) or affective (worried), and/or the result of poor conditioning. The coach begins by practicing proper breathing on each jump outside of the solo and then gradually applies it to each jump in the program. Over time the athlete successfully masters the application, if there are no other issues surrounding it, and noticeably looks more relaxed with the absence of gasping for air, and attains more powerful jumps at the end of his program.

3) Off-ice training: A coach, mental trainer, or sport psychologist can spend time individually with an athlete to determine the best relaxation strategies or to apply restoration methods (deep relaxation) or work in a group for practice and/or further learning of these essential skills.

VISUALIZATION

Imagery - Definition: a process by which sensory experiences are stored in memory and internally recalled and performed in the absence of external stimuli.

Imagery requires the use of all senses and can be done prior to a task or while engaging in the task:

- **Internal imagery** involves seeing the image from one's own vantage point (part of image, inside their bodies.). Research shows the greatest effectiveness with this type, equated with the usage of all senses.
- **External imagery** involves seeing the image like a movie (seeing oneself in it).

Theories:

i) **Psychoneuromusclur Theory (Jacobson, 1932)**

This is the belief that imagery facilitates performance by producing neuromuscular activation (innervations) in muscles, known as "muscle memory". Research has shown that an individual innervates the same neurons as would be triggered through actually doing movement.

ii) **Symbolic Learning Theory (Sackett, 1934)**

This is the belief that imagery facilitates performance by providing a mental code or "blueprint" of their movements making them more familiar and automatic. This process is similar to the mechanisms involved in motor programs and behavioural learning processes.

iii) **Bio-informational Theory (Lang, 1977) ("Response Set" Theory)**

This theory states that images contain response scenarios enabling athletes to access the appropriate motor program and effectively alter athletic performance. This is based on the assumption that an image is functionally organized regarding the relationship and description of the stimulus and response characteristics.

Stimulus propositions = Content of scenario to be imagined.
Response propositions = Imager's response to the imagined scenario.
The response scenarios are individual and can be different for different stimulus (internal or external), involve kinesthetic awareness of muscular changes, and are more complex then a linear triggering of a motor pattern. Both stimuli and their responses must be activated to influence performance.

iv) **Triple-code model of imagery (Ahsen, 1984)**

This includes three parts: image, somatic response and the meaning. It requires the use of psycho/physiological processes as well as the personal meaning that the image has for an individual. An athlete must understand the image itself, somatic responses to the image, and understand the meaning of the image (most important element).

Some Supporting research:

- Suinn (1972) monitored muscle activity in legs of downhill skiers as they imaged a downhill run. He found electrical patterns in the muscles closely resembled what would be present if the athlete was actually skiing.

- Harris & Robinson (1986) obtained EMG data from karate students both while they imaged a lateral arm raise and while they stood still and found a significant increase in deltoid activity during imagery.

- Gray (1990) found that imagery rehearsal paired with a videotape modeling produces greater performance improvement than imagery rehearsal without videotape modeling.

Imagery Effectiveness & Usage

i) **Effectiveness**

- Individual differences create differences in one's ability to form vivid and controllable images, which is the most important factor in successful imagery. Vividness and controllability can be improved through practice.

- Modeling: Seeing oneself on video will greatly enhance images and imagery effects.

- Base skill: An athlete needs to have some skill at the required task to be effective; otherwise he/she may not know what the skill feels like or looks like.

The most effective images are those involving both cognitive and visual components. Aesthetic sports, such as figure skating, need the cognitive components of memorizing footwork while this is less so for gross motor movements, such as performing lifts but both are included in the image.

ii) **Uses:**

Imagery can be used in conjunction with physical training and is a useful substitute when the athlete is injured, fatigued or over-trained. Imagery can be viewed as 'extra' practice and training at a more neurological standpoint so that an athlete continues to work towards automating motor programs for each technical skill. Here are other ways that imagery can be used in sport and have been used successfully in medicine and business.

- get into flow states
- affect motivation, anxiety
- set goals
- deal with injury, e.g. blood flow, reduce stress/anxiety,
- increase self-awareness
- facilitate skill acquisition, i.e. rehearse skill strategy
- modify cognitions
- build self-confidence
- control emotions
- relieve pain
- regulate arousal
- enhance preparation strategies

- correct and detect errors
- manage stress, e.g. coping techniques, desensitize from a failing experience, decrease emotional response, imagine the loss of a coach
- perspective training, e.g. distance oneself, see it from other eyes
- decrease boredom, e.g. use images, imagine competing against another.
- solve problems
- focus attention
- practice interpersonal skills

Although some of these can be used 'in the moment', individuals need to be taught how to do them before being able to use them. It is a common error for coaches to suddenly ask the athlete to visualize the program at a competition when he/she has never done this before. This is equivalent to adding a double Axel on the day of the competition, even though the athlete has never tried it in their program before. An athlete cannot be expected to use mental training techniques 'on the spot' if they haven't learned them and certainly cannot use them effectively if they have not developed the skills that require good imagery or know how to apply it to their individual needs.

STRATEGIES
Imagery, as with other skills, can be taught. Here are some essential components in obtaining effective imagery. Off-ice sessions are best suited for teaching the basics of visualization, for trying different methods, and for helping athletes figure out what works best. However, like other skills imagery needs to be done in the athletic arena, applied during practice and in competition.

It is useful to assess how athletes normally see images to get an idea of their strengths and weaknesses. Images need to be vivid while incorporating visual, auditory, emotional and kinaesthetic dimensions, in addition to being controllable and identifying an internal or external perspective. The clearer and more real an athlete's image is the more effective. The greater the ability the athlete has to influence the content of the image, the better skilled he/she is. Athletes that have an internal perspective, i.e. they are seeing it as if they were doing it, also have greater skill and effectiveness. Athletes who see it like they are watching a movie (external) are still effective and should utilize imagery in the context that they see it, until greater skill is achieved. Sport psychologists will have more refined measures of assessment and can use imagery for more complex issues, such as fears, emotional stress, or managing losses.

Need to have **vividness** = Clarity and reality in an athlete's image.
Controllability = Athlete's ability to influence the content of the image.

Alternate with practicing imagery control, using different perspectives, using all senses, combining with relaxation, developing coping strategies, with videotapes, triggers for sensory experiences, kinesthetic imagery, real time, logs, etc.

Training:

1) **Awareness:** Athletes need to become aware of what they see, hear and feel. This can be accomplished easily by using any image. Sensory images could include: colour (vegetables), auditory (rain beating), kinesthetic (lifting weights), tactile (the feel of leather or velvet), olfactory (the smell of cigarettes, wet soap, roses, paint), taste (coffee or chocolate). Basic general images could include imagining their room, clothes, or skates for example. While visualizing, they should be instructed to become aware of all dimensions of objects, colours, smells, sounds or what items feel like, and begin to determine where any weaknesses are in their abilities. This same basic exercise can be more sport specific by imagining the rink, fellow skaters or costumes and equipment.

2) **Vividness:** Athletes should start with very basic skills and objects where they can see every part of the object with high clarity and are equivalent to real life objects. The more familiar an athlete is with an object, the more vivid it usually is. Athletes can be instructed to think of a familiar object of their choosing, or can visually look at an object, then close their eyes and image that same object,

concluding with looking at the object again to see if they were able to see it clearly in their mind. Basic, general images could include imagining a familiar place, the colour, the contours or any noises. Videos, watching others or having objects in front of them are alternative methods to help with vividness training. Eventually more difficult pictures should be added including things that they may not have seen but can figure them out from their cognitive abilities, or future dreams and ideals that have yet to be realized. Athletes may try to see jumps that they have not performed yet or their ideal performance at a major competition that they have not competed at yet.

3) **Controllability:** Athletes need to be able to alter their performances in their minds, particularly when skating in an undesired way. This skill is sometimes difficult for athletes to master particularly if there are emotional ties to the outcome and may require a trainer experienced in this field. As with other skills, beginning with basic, general images that athletes could attempt to control is a useful way to start. Athletes could imagine a conversation with a friend and then change what happens in the conversation such as having the friend get up and leave. They could imagine a skating skill that they do well and then change their arm positioning and see what the outcome might be. Athletes who are experts in certain skills will be able to accurately imagine the outcome of changing technical pieces of the jump. Coaches teaching this skill would be useful for the athlete's overall technical expertise. Athletes can also try to change a previously poor jump by seeing themselves do it again, more successfully. With good imagery development an athlete should be able to see their entire performance and have control over its outcome.

4) **Emotional control:** This skill should be used with caution and with a clinician who has advanced experience in psychology (usually sport psychologist) since athletes can have adverse reactions and difficulty dealing with the emotions surrounding a particular performance. This is often the case for athletes who may have been traumatized in some way, or deeply affected by an outcome due to the personalization of 'good and bad' performances which tends to evaluate who they are as a person.

Coaches should give perspective throughout training and performance to prevent such emotional effects. Imagery that is used to identify feelings or attempts to understand what an athlete might have been thinking during a performance can be useful information for coaches when working on specific skills during practice. Coaches can have an athlete relive a prior performance and describe what he/she was feeling and/or thinking.

Imagery is greatly enhanced when combined with relaxation training and most effective for optimal performance when positive imagery in implemented at some point during the sessions. Athletes need to feel a sense of self-efficacy as well as to practice in their mind what they need to do correctly and positively.

Gould, d., Damarjian, & Greenleaf, C. (2002). Imagery training for peak performance. In J. Van Raalte & Brew (Eds.). Exploring sport and exercise psychology (2nd ed.), 49-74. Washington, DC: APA.

Part B: How coaches can apply skills on-ice

Direct application: One of the best on-ice applications is for athletes to imagine their images immediately before and after a jump. Coaches that are working with an athlete on a particular skill progression can have the athlete imagine the jump in his/her head with the new technical cues that the coach just described. Video will help augment this process so that the athlete can visually see his/her own jump while trying to apply new techniques at the same time. This will facilitate the motor learning patterns but also is a way to check for understanding of the instructions.

An athlete having difficulty 'getting' the technique can use their images as a way of evaluating himself/herself and detect what they may not understand through watching their own performance in their mind. Coaches can use this information to revise instructions and help athletes have more vivid and controlled images when adapting to new things. An athlete that is not able to see basic images will most likely not be able to see a new skill, since this is a more advanced image and requires all the basic imagery skills. This can be modified off of the ice and then re-applied on the ice.

Another useful imagery technique is when an athlete images their entire performance in the arena where they intend to compete and the coach times it for accuracy. National team skaters can imagine their programs including the exact timing and can see it clearly in the arena where they will compete. To enhance these images, have the athlete stand by the rink and map out where they will skate on the ice, while performing images in their head at the same time and the exercise will enhance the realness of the image. Then, athletes should be instructed to close their eyes and perform their image with the visual information they just gathered by mapping it out and then use timing as a tool for accuracy. However, if an athlete has not done any of these processes before now, the competition would be a poor time to start and can actually cause a detrimental performance. Additionally, coaches may not want to communicate the time to the athlete at a competition in case it causes undue stress. Use the tool to determine if the athlete is nervous or having a lot of cognitive interruptions, which might have affected the timing in some way. This is also why practicing these skills, knowing what works for the athlete, and understanding their normal image ability, is essential before using it at competitions and/or using it as a measure of performance state, so that other strategies can be applied, if needed.

Independent: Athletes should be taught to regularly practice imagery of any isolated skill or program at any time during the day/week. For example, they could visualize their practice session on the way to the rink to assert their goals and maximize practice sessions before beginning the session. Athletes could use imagery when self-correcting during practice or watching other skaters for modeling types of visualization and subsequent learning. The ideal times for optimal imagining effects to occur is when the athlete is relaxed or just before he/she falls asleep.

GOAL SETTING

Goal setting is paramount for success in any facet of life. It is defined as the object or aim of an action. An athlete who can learn effective goal setting early on will achieve much more over their careers and are usually more motivated. Goals can direct attention, influence effort and perseverance, and are stimuli for developing new learnings and performance strategies. Goals can be outcome oriented, which include more objective types (results) to process types (steps along the way) or performance oriented, which include more subjective types (focusing directly on how one performed in relation to one's own standards). Objective goals are measurable and usually not very controllable (skater's

placement). Subjective goals are more individualized (having fun, getting fit) and are achieved based on an athlete's interpretation of success. Major barriers include a lack of time, stress, fatigue, academic or external pressures, and social relationships (in athletes).

Theoretical:

i) **Goal Setting Theory** - Locke and Latham (1985) developed a goal setting theory which specifies that goals are the process of attaining a specific standard of proficiency within a specified time period. The basic assumption is that task performance is regulated directly by the conscious goals that individuals are attempting in a task. Tasks are immediate regulators of human action. Research results showed that difficult and specific goals result in higher levels of performance and effort. There is a linear relationship between goal difficulty and performance until the athlete hits his/her limit and then levels of, known as the "ceiling effect". Therefore, it is important to keep providing challenges without them being so difficult that they are not achievable.

ii) **Effectiveness:**

- Mechanistic view (Locke et al., 1981) Effectiveness was found to be influenced by directing attention, mobilizing effort, enhancing persistence and developing new learning strategies with a feedback element that is found to be essential to continued performance.

- Cognitive View (Garland, Burton, Pierce) Psychological states, such as anxiety, confidence and satisfaction, affect one's goal setting and performance in various ways depending on the interpretation by the athlete.

- Goal orientation theory (Duda & Whitehead, 1998) Task versus ego orientations.

  Ego: Derives ability from success and failure and is "other-referenced" (defeating opponent) with the goal to outdo the opponent rather than simply improving. They found that ego oriented individuals need to be confident in their abilities to succeed in goals otherwise they choose easy or impossible tasks using low effort and/or persistence.

  Task: Derives perceptions of ability and competence from improvements in their own performance and is "self-referenced" with personal improvement and effort as central to perception of ability, i.e. tends to be more realistic. Individuals usually have a higher level of intrinsic motivation, persistence and enjoyment.

Goal Setting Strategies:
Goals are generally taught every day, in some form, both on and off the ice. A coach that prescribes certain technical cues or the expected outcome is assigning goals to an athlete. Athletes need to learn how to devise goals themselves and the effectiveness of them need to be monitored and adjusted by both coaches and athletes alike.

Coaches must understand the individual's circumstances before implementing a goal setting program, e.g. resources, support, strengths/weaknesses and personality.

Goals should be set up with the athlete so they take ownership of them and the interpretation of success is understood. This will ensure an athlete's commitment to the skating goals and enable a way to re-visit them if the athlete seems to not be progressing towards them. Coaches should make modifications as needed and combine with other strategies for optimum effectiveness towards the challenges presented. An athlete needs to experience success, as perceived by him/her, to stay motivated.

The following principles outline specific goal setting processes that have proven most successful.

Goal Setting Principles, Weinburg (2002):

1. **Set specific goals** (not 'do your best') Should be measurable and behavioural, i.e. not just the goal is to 'become stronger' but to increase muscle mass or specify weights to lift.
2. **Set realistic, but challenging goals and Attainable ones** - otherwise less effort or failure results.
3. **Set both long and short-term goals** - dream goals vs. process goals.
4. **Set goals for practice and competition** - often need extra motivation for practice.
5. **"Ink it, don't think it."** - write them down in a positive way.
6. **Develop goal achievement strategies** - how to achieve any goal and have different learning strategies.
7. **Set performance goals** - based on own performance for improvement have outcome goals but little or no focus on them.
8. **Set individual and team goals as appropriate.**
9. **Provide support for goals** - helps keep motivated and persistent, e.g. show genuine concern and interest, and provide encouragement..
10. **Provide for goal evaluation.** Set target dates and assess if goals are effective and/or need to be modified.

Problems: Some common problems with achieving goals include having too many, too soon, failing to recognize individual differences, too general and not specific. Problems can also include failing to modify unrealistic goals, failing to set performance goals, not understanding time commitment needed to implement goals, setting only technical goals (should set subjective goals too), failing to create a supportive atmosphere, and/or failing to monitor progress.

Locke and Latham (1985). The application of goal setting to sports. Journal of sport psychology, 7, 205-222.

Locke, Shaw, Saari, Latham (1981). Goal setting and task performance, psychological bulletin, 90, 125-152.

Weinburg, r. (2002). Goal setting in sport and exercise: Research to practice. In j. Van Rallte & B. Brewer (Eds.). Exploring sport and exercise psychology (2nd ed.) (pp. 25-48). Washington, DC: APA.

Part C: How coaches can apply skills on-ice

As mentioned previously, goals are applied every session and every lesson when an athlete is working on something, and tend to be a natural mental skill used by coaches. Just going to the arena is a goal, the goal to skate. Even athletes that are not having an optimal day may have the goal of trying to alleviate the negative feelings of not wanting to be there or performing poorly.

Direct: While coaches are working with athletes on a skill progression they can also teach the athlete what the progression is and use these as performance goals for the athlete. These can be as specific as learning certain positions to rotate a jump, or to progressions that map out the path, to landing a jump cleanly. Generally, the start of any lesson has a goal, which the coach should communicate with the athlete. Also, ongoing monitoring of the athlete's self-directed goals is important for a coach to check on and adjust as needed.

Plans and goals should be developed for competitions and tests, and modified through practice, along with the development of specific strategies for various situations that could arise. An athlete with a broad range of mental skills and experience will be better prepared for anything unexpected at competitions.

An athlete trying to land a double Lutz who is currently rotating and falling could work with the coach to design a 'step=ladder' of success. The bottom step would be the current performance level with steady progressions such as standing up half the time, to standing up all the time, to landing on one foot, with smaller progressions in between. Both the coach and athlete should understand the goals required for each step on the ladder, e.g. what technical skills to focus on. The athlete can then build confidence by defining what success means for him/her.

This idea can be applied to competition progressions along with outcome goals as well as to any daily plans. However, it is important to observe any existing reasons for an athlete to be stalled on a particular progression and to able to address the concern with a consultant if necessary. When an athlete does not progress in any way it is often related to what they are trying to achieve and may be an indication of underlying issues, e.g. diminished confidence, lack of motivation, and/or a misalignment with personal goals.

Independent - Athletes should set goals for each session that align with the longer term goals, e.g. tests, competitions. The coach's communication of a yearly plan will aid in the athlete's ability to set his/her own daily goals but guidance in daily training will need to be helped by the coach, especially for younger skaters. Athletes will need to learn efficient goal setting off the ice and should be applying it to everything they do.

ATTENTION

Athletes that are able to focus on the 'right' things or actively and cognitively focused on what they are trying to do will acquire refined attention processes. Paying attention to certain technical cues, e.g. position on the ice or their own self-talk, to implement strategies or perform behaviours, the information presented can be a vital enhancer or inhibiter towards sport performance. Athletes need to know what their individual attention style is, what might affect their style and how to deal with distractions or adjust whatever needs attention.

Attentional Abilities
Several theorists outline one's ability to attend. Cherry described the 'cocktail party phenomenon', which explains how individuals attend to one set of information only when there are many to choose from, like at a cocktail party. The information attended to is usually the information that is most relevant to the individual and he/she picks one ear to attend to. This is akin to Selective Awareness = paying attention to relevant stimuli and ignoring irrelevant stimuli.

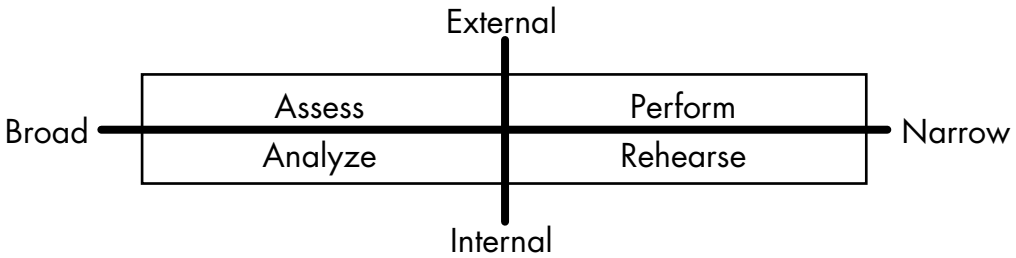
Broadbent's filter theory of attention expanded on this theory by describing how only one item of information actually gets through to be attended to while the rest is blocked out. Further research showed that all information, however, is still processed but at a more unconscious level.

Treisman's attenuation theory of attention theory noted that only one item is attended to when given at the same time but the other is not completely blocked from processing, only less strong.

Although, these theories are primarily auditory, it is also the same for other sensory information and athletes need to select the information that will benefit their performance, although much is unconscious, such as smell, touch, taste. Athletes can be taught and trained to become aware of their natural attentional tendencies and re-focus on what is relevant.

Attentional styles:
Athletes have a tendency to attend to environmental cues in a personalized manner, which remains somewhat consistent over different situations. They will always resort back to their primary/natural tendency. The type of style can be trained, adapted, and adjusted for different needs; however, during times of stress or complex cues, the athlete will go back to their natural style or tendency. This is very important to know for competitions, type of activity, and level of skill.

Dimensions of Attentional width & direction (Nideffer)
Width = broad, narrow
Direction = internal, external



Athletes in the following dimensions have certain abilities:

Broad-internal: Usually analytical of particular situations and strategies, have several different thoughts/feelings attended to and appear to be "thinking" a lot.

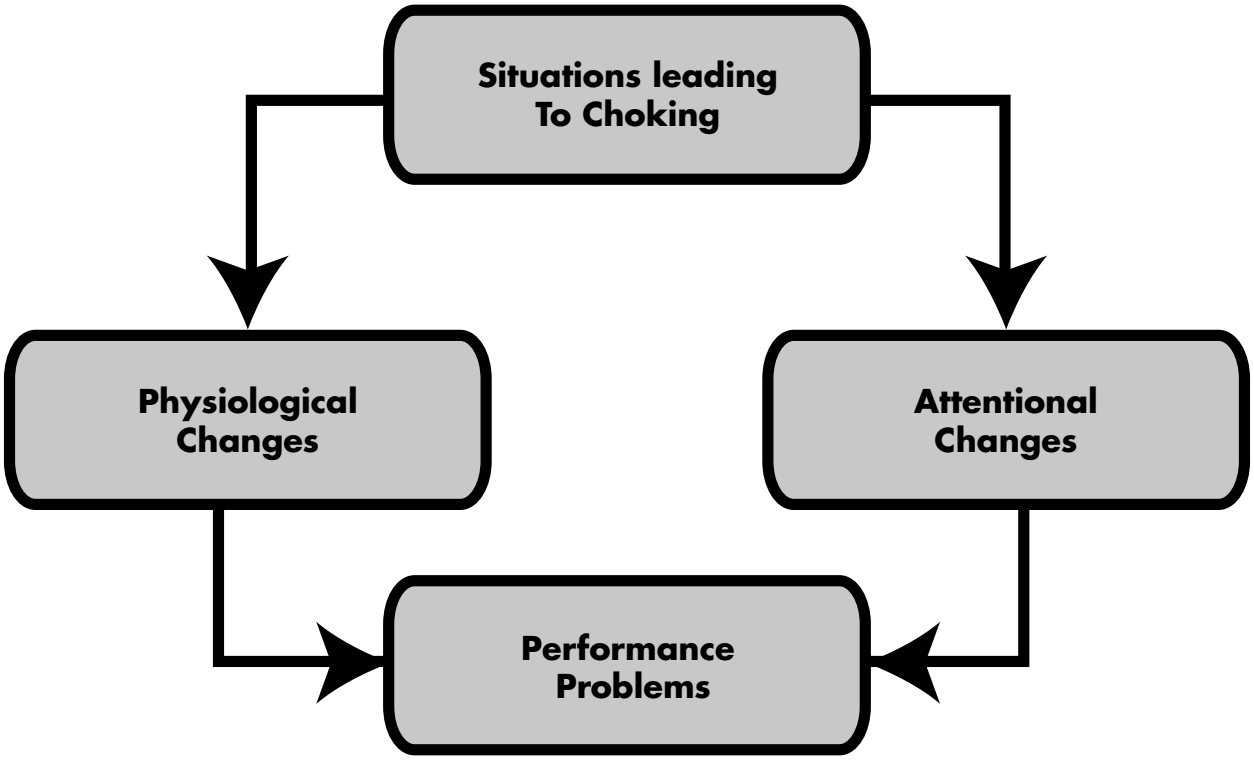
Broad-external: These athletes are usually assessors, always looking at outside information or other skaters.

Narrow-internal: Often rehearses of performance are specific/finely focused on thoughts and feelings.

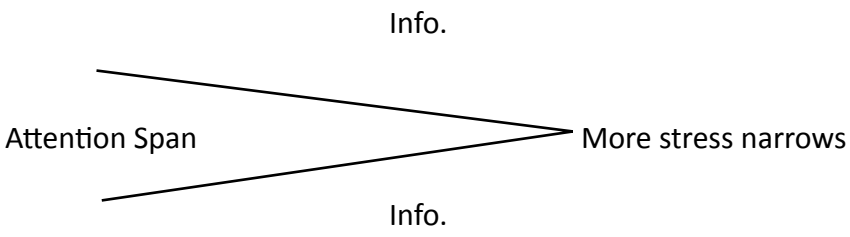
Narrow-external: Usually looks at outside cues but are very specific/direct on a certain target or piece of information (such as are position).

Athletes, who absorb information that exceeds their normal abilities both through amount or dimension will be overloaded and distracted by their own thoughts. Additionally, the athlete may become anxious due to the lack of concentration, which will further disrupt performance due to the effects of inappropriate arousal levels. An example of overload is a junior athlete who has the combined information of being in a group setting, plus learning new skills, the music, others talking, and their parents in the stand. Suddenly the skater stops and waves to her parents in the stands since they are more meaningful at that moment than what is happening on the ice. Alternatively, a competitive skater starts thinking too much about his performance and begins to over-analyze. As a result his performance becomes disrupted and he 'chokes'.

Choking is a phenomenon that includes such a narrowing of attention under heightened physiological arousal.



"Situations leading to choking", including fears or competition anxiety lead to both physiological and attentional changes. Physiological changes, as previously discussed, include the increase in heart rate or muscle tension, and attentional changes include the narrowing of attention and a more internal focus. From this, performance problems including, disturbances in fine muscle coordination and timing, inability to attend to task relevant cues, fatigue and muscle tightness. It is apparent how breathing/ relaxation techniques are useful to prevent attention narrowing and how increased concentration can occur by lessening any stresses, either externally or internally, e.g. by self-talk strategies.



Skating uses a range of attentional styles for different skills and disciplines. They could start with a broad external, e.g. taking in the dimensions of the arena, other people, music, to a broad internal, e.g. monitoring body position, to narrow-internal, e.g. focusing on one thought, and finishing with a narrow-external, e.g. focusing on how the skate touches the ice in a landing.

Therefore, it is important that an athlete learns all different styles, as well as his/her dominant style, and be able to switch between different styles during given elements or programs. Well-learned skills that have become automatic do not need focusing on all of the components unless the technique needs to be changed.

Strategies for Attention Training

Attention control training (ACT) programs follow a similar process as other skills for assessing and then training. The initial step is assessing for the attentional strengths/weaknesses, which is done best off the ice. Professionals in sport psychology would have more precise ways to analyze this in addition to further understanding the situational and interpersonal impacts that this has on performance. Coaches can get a good base by identifying any situations where they notice a lapse in attention and through observation will best understand how an athlete is affected through their performance. It may be important for this observation to begin exploring any other reasons for attentional difficulties, which may be more than simple information overload or improper attention to cues. Coaches need to help athletes determine the technical cues that work best for them and be open to a wide range of cues to individualize for the athlete to coincide with what they understand and the way they learn. Lastly, application or interventions of attentional strategies need to be applied in practice and can be integrated into daily lessons.

There are eight principles that Williams outlines for ACT training programs:

1. perform four different types of attention
2. be able to shift
3. meet demands of sport
4. individual differences
5. use of dominant attentional styles when appropriate
6. choking prevention, very narrow focus of attention
7. alterations in arousal (to affect concentration)
8. alterations in concentration (to affect arousal)

Basic skills can be done off the ice that includes focusing on specific objects, different aspects of objects and being able to shift over different parts. This also aids with visualization capabilities. Athletes can work on becoming aware of body sensations, internal thoughts, emotions, or listening to specific sounds with focused attention. There are also pen and paper exercises that can increase concentration and efficiency.

Distractions can be worked on by manipulating some of the conditions while an athlete is trying to focus. For example, disruptive music or talking can purposely be introduced into the room while athletes are focusing on an object. Sport specific exercises can be integrated easily into fitness training by practicing balancing exercises and adding distractions. The harder the skill is or the more anxiety involved the more easily an athlete will get distracted.

Alternative sport specific strategies for concentration:

1) dress rehearsals
2) simulated competition
3) mental rehearsals
4) cues/triggers
5) failure to success (self-talk)
6) electrodermal feedback (physiological)
7) focusing/refocusing on specific aspects
8) performing protocols, e.g. make competition plans, ideal performance state

Training allows athletes to concentrate better on necessary stimuli especially those which are essential to what they need to perform and refocusing when needed, during unexpected distractions. Learning the different styles and applying on and off the ice will allow athletes to be more versatile and able to deal with change. As with all the other skills a combination of mental skills might be necessary depending on the cause of attentional difficulties or for the optimal application that works best for an athlete.

Part D: How coaches can apply skills on-ice

Direct Application: The cues that coaches choose are what athletes automatically attend to, if they are clearly understood by the athlete. Teaching an athlete to focus on these cues and pay attention to various body sensations or positioning will enhance their ability to acquire given skills. Another method of distraction control revolves around the use of simulations. For example, coaches can purposely change the timing of the athlete's performance or disrupt the music,.In this way, a coach cannot only train the athlete's ability to re-focus but can see how he/she reacts under such changes. This is another excellent way of practicing and identifying ways that athletes deal with stresses and unexpected events.

Independent: Athletes should practice training with the cues that their coaches have worked on with them. Sometimes, writing them down will help with recall so that re-learning does not need to happen. Athletes should actively engage in re-focusing techniques which will help them deal with distractions such as music, spectators, other skaters who want to talk with them or dealing with emotions and thoughts that might remove their focus. As athletes strengthen their attention abilities they should become more aware of other distraction tendencies and how to deal with them, particularly at competitions.

INTERNAL COMMUNICATION/SELF-TALK

Internal communications are the things that we say to ourselves, whether it is an interpretation, a fleeting thought, rehearsal or information retention. Anything contained within oneself underlies this category. With relation to sport, the nature of what we say can greatly influence the way we behave, reaction to situations, feeling about training or competitions and about ourselves. This transcends across all working domains. By obtaining control of thoughts an athlete can facilitate learning and performance. By losing control the athlete can succumb to performance difficulties and in extreme cases, depression.

Thoughts (lead to) - feelings (leads to) - behaviour

Sometimes the feelings lead to thoughts and subsequent behaviour but particularly in sport it is certain that thoughts have great influence. Emotions also co-exist but athletes often do not recognize them until they are strong enough to influence either the thoughts or behaviours.

Attributional Dimensions:

Attributions: The estimates of the causes of our own or someone else's behaviour.

Internal Attributions (dispositional attributions): Estimates of one's own ability to create the desired performance as a result of effort or individual skill.

External Attributions (situational attributions): Originate from an outside source in the environment or setting, which are perceived to create the behaviour.

Weiner's attributional theory indicates three dimensions which factor into the interpretation of causation of one's performance. The first is locus, which refers to the way one attributes things either internally or externally. Stability is the second dimension and represents the degree of permanence. If the athlete thinks that his/her performance is based on a natural ability, it is said to be stable and if he/she thinks it is due to such variable features as mood, effort, or hormonal changes it is said to be unstable. The last dimension is controllability which refers to voluntary control such as effort or uncontrollable which is beyond the athlete such as task difficulty or luck. All of these dimensions, together, allow an athlete and coach to make predictions about the types of attributions made to succeed and fail, which will subsequently affect the way an individual thinks about himself, determines performance and verifies ability. This, in turn, affects future behaviours and performance. Modifying an athlete's attributions and self-talk is essential to both technical performance aspects and personal development. Ideally, you want athletes to gain control internally, be stable and apply focus as needed for the most successful performances. This last aspect fluctuates based on certain tasks but research shows it tends to be more internal.

Self-efficacy and Confidence:

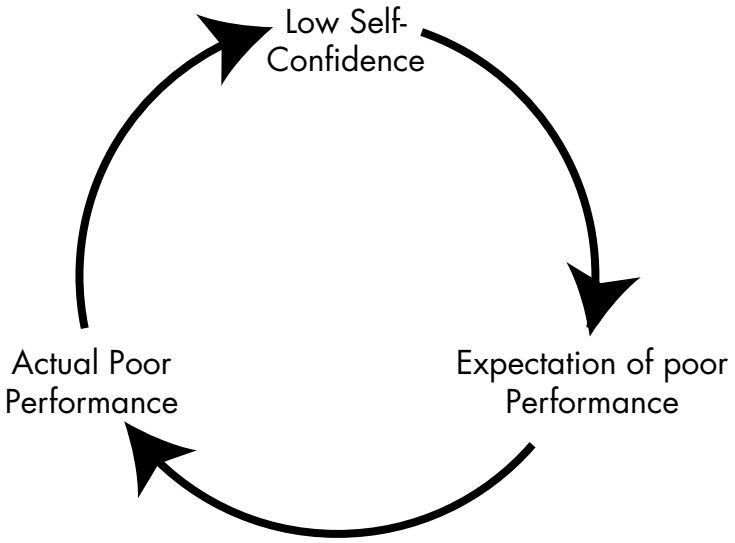
Self-efficacy refers to an individual's belief that he/she has the ability to perform at a specific level on a certain task. It is situation specific and based on four sources.

Three sources (Bandura):

1. **Performance accomplishments:** Actual physically achieved success, a belief that he/she can do it. Vicarious experiences by comparison to others, a belief that if they can do it, so can I and watching via video.
2. **Verbal persuasion:** What thecoach or other significant people say about the performance and can also be self-talk.
3. **Physiological processes:** How anxiety or arousal levels is interpreted or if he/she thinks it is due to lack of ability then he/she may not believe in ability.

All of these sources affect confidence, which is the belief that they can become more competent and skillful and further affects motivation towards performance. Diffidence or the lack of self-confidence exists when the athlete thinks he/she doesn't possess the ability to complete the task and may believe that one mistake is due to their ability.

CIRCULAR: Low self-confidence leads to expectation of poor performance to actual poor performance to lower self-confidence (circular).



Overconfidence: This is an inaccurate and over-inflated belief about one's abilities. These athletes may exert lesser efforts and/or be affected by failure. Usually they didn't meet expectations result-wise.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.

In all cases, believing in oneself and one's abilities directly relate to what one says or thinks to themselves. This is the premise of self-talk.

SELF-TALK/COGNITIVE STRATEGIES:

The most important initial step of self-talk includes becoming aware of what one thinks about any given skill, event or oneself. Many thoughts seem to be automatic but they can be identified with trained awareness. The automatic thoughts are the most difficult to identify and usually cause the most problems. Those involving effort are easier, due to the ongoing interpretation of thoughts during practices, as observed by one's work during a session. There are usually differences between the thoughts in successful performances and unsuccessful ones. Ways to identify them are through logs or journals, retrospection, e.g. thinking back, imagery or by observation.

It is difficult to change a person's thoughts to ones that are more effective or that will help to enable peak performance until one understands what he/she is thinking,. Most of this exercise will need to be done off the ice but once identified, practicing the strategies while performing, will enable the skater to control their thoughts and make them work for him/her.

USE OF SELF-TALK:

i) **Self-Talk for Skill Acquisition:** This encompasses the technical instruction that is a major role of the coach. What the coach says will become internalized by the athlete in some way and is what the athlete will use in future practices. Over time, cues should become one or two words to trigger the movement (motor program). To be effective the cue must mean something to the athlete and they need to focus on "What they want to happen, not what they don't want to happen."

ii) **Self-Talk for Re-learning:** Once a skill is learned, athletes tend to think less about it but if it was learned incorrectly or there is a need to change the technique, the coach will need to bring back self-instruction, identifying when the poor habit occurs and think about the change required to train it to occur.

iii) **Self-Talk for Attention Control"here and now":** This involves dealing with distractions, triggering motor patterns, forgetting about the past or not thinking too far in the future, e.g. thinking about the end of the program while at the beginning.

iv) **Self-Talk for Creating/Changing Affect/Mood/Effort:** Good athletes can say one thing to themselves and be in the state they need to be, e.g. relaxed, energized. They can also use certain words to get themselves going, calm themselves down or display emotion for artistic spots. Mood and affect can also be changed as needed.

v) **Self-Talk for Self-efficacy (meeting the challenge):** A belief that one can "do it". The ability to perform, to recover and make the jumps are the affirmatory type self-talk that enhances self-efficacy. Errors should be attributed to behaviours and not to oneself.

Strategies/Techniques for Controlling Self-Talk:

i) **Thought Stoppage:** This is the process of trying to get rid of negative thoughts by breaking the link with cues or triggers, e.g. verbal, physical, visual. The strategy is to briefly focus on the unwanted thought and then use a trigger to interrupt or stop the undesirable thought. Words such as "stop" or a physical action such as "snapping fingers" can be effective. For example, a skater or coach can lay out a number of pennies that are subtracted for each negative thought in order to help bring awareness to the number of these thoughts in an effort to try to stop them.

ii) **Changing Negative to Positive:** This is the process of turning negative thoughts into positive ones, which support or provide encouragement. For example, change "This move is hard, I'll never get it" to "I've learned hard moves in the past and I know I will get this one too".

iii) **Countering:** This is the process of changing or 'building a case' of the negative thoughts to a believable positive. Look for evidence that supports it and discount or refute the proposed evidence. For example, changing the statement "I can't make it that far" to "Sure I can" is not as effective as something like, "I may not be able to do it now but with practice I will get there".

iv) **Reframing:** This is the process of creating an alternative way or frame of looking at a situation. Therefore we can change a proposed weakness into strength by focusing on the possibilities or opportunities. For example, use "I'm excited and ready" rather than "I'm nervous".

v) **Affirmations:** These are statements that reflect positive attitudes or thoughts about oneself. Slogans, metaphors quotes, and personalized, positive, action-oriented statements in the present tense are most useful. Athletes can develop these off the ice and apply them at any time, before, during or after a session.

vi) **Irrational/Distorted Thinking:** This can provide faulty information about the environment, misdirect attention, create emotional distress, excessive anxiety or lowered self-esteem, to name a few. These thoughts are usually developed through childhood and become ingrained over time. They also usually influence other areas of the athlete's life and may not be managed easily without professional expertise.

Ellis (1982) identified four irrational beliefs in sport that may interfere with athlete's reaching their potential. They are:

1. "I must do well in sport, and if I don't, I am an incompetent, worthless person."
2. "I must do well to gain the love and approval of others, and if I don't it is horrible."
3. "Everyone must treat me with respect and fairness at all times." and
4. "The conditions of my life must be arranged so that I get what I want easily and quickly."

Ellis, A. (1982). Self-direction in sport and life. Rational Living, 17, 27-33.

The following is an exercise that can be done with a group of athletes. A useful application would be to have them identify some of their own thoughts and help them to become aware of when these thoughts occur during their performances. Once they have learned alternative ways of thinking, they can begin to change these thoughts as they occur during the performance.

Countering Chart:

Examples of Countering

Self-Defeating Thoughts	Change to Self-Enhancing Thoughts
I can't believe it's raining. I have to play in the rain.	No one likes the rain, but I can play as well in it as anyone else.
There's no sense in practicing I have no natural talent.	I've seen good players who had to work hard to be successful. I can get better if I practice correctly.
The coach must think I'm hopeless. He never helps me.	That's not fair. He has a whole team to coach. Tomorrow I'll ask what he thinks I need to work on the most.
I don't want to fail.	Nothing was ever gained by being afraid to take risks. As long as I give my best, I'll never be a failure.
This hurts. I don't know if it's worth it.	Of course it hurts but the rewards are worth it.
I'll take it easy today and go hard next workout.	The next workout will be easier if I go hard now.

Bunker, L., Williams, J., & Zinsser, N. (1993). Cognitive techniques for improving performance and building confidence. In Williams, J. (Ed). Applied Sport Psychology: Personal growth to peak performance (2nd ed). (p. 234). Mayfield Publishing Company: California.

Steinmetz, J., Blankenship, J., & Brown, L. (1980). Managing stress before it manages you. Bull: Palo Alto, California.

Part E: How coaches can apply this on-ice

Although, athletes can work through any thoughts off the ice and determine new ways of thinking. These need to be applied on the ice and trained. Athletes cannot move without some thought entering their minds at some point so the thoughts should be positive and productive ones.

Direct application - During a lesson, coaches can monitor and help athletes modify their thoughts. Ideally, to encourage the athlete to suggest alternatives for him/herself would be more effective but depends on the ability of the athlete to change such thoughts.

As an example, a skater may try his triple flip, step out of it and noticeably kick the ice and yell. On seeing this reaction, the coach asks the skater what it was all about and the skater indicates that he is frustrated because he keeps missing the jump. The coach reframes it for the skater by indicating that the technique looked fine and he actually landed it, with just a step out of it. The coach asks the skater what he did well so that some positive aspect is taken from the jump and directs the skater to think about what technical cues he may do on the next attempt. The coach emphasizes the process (recall focusing techniques) and asks the skater to tell himself that he can do it (affirmation). The skater voices doubt about landing it since he has not been landing it all session. The coach counters this doubt by verifying that if the correct technical cues were the focus, then he will have a much better chance of landing the jump when there is a shift in focus on these cues. The coach also reminds him of his breathing. Now that he has increased his anxiety to a level that is higher than optimal and he is not able to perform the jump as successfully. The coach asks the skater to imagine the jump while saying the cues. The skater tries the jump again with the new focus and the prospect of a better chance, and this time, only taps his toe. One more attempt with the same thoughts and determination and the skater lands it successfully.

Independent - Athletes should monitor their thoughts daily. Writing down thoughts surrounding both successful and unsuccessful performances, during practice and competition will allow an athlete to find out what needs to exist for success and how to manage (and turn around) the unsuccessful attempts. Once an athlete has learned the self-talk strategies, he/she can modify those written down and recall them during practice. Bringing the logs to practice can be useful and intentional practice on maintaining the beneficial thoughts needs to be applied so that they become automatic over time.

Some skaters may become too upset, full of anxiety and frustration and cannot seem to get out of the rut. Other than recalling some of the relaxation strategies, imagery, setting new goals with re-focusing, the skater would need to learn how to identify the progression into frustration before it occurs. There are usually signs or signals that cause this negative progression and if a skater gets stuck in the rut for many days, it might indicate a more serious issue. Coaches need to always be aware of the person in front of them and can use their technical performance as measures of their well-being at times. A coach is the “front line worker” to an athlete’s overall psychological make-up and can have an impact at any given time. Being aware of their influence, the leadership role, and having enough knowledge to help them manage immediate issues while attending to wide range issues, a coach can ensure that the athletes feel their best interests are taken care of as well as working towards winning performances.

ASSESSMENT/AWARENESS:

Athletes and coaches need to be aware of their strengths and weaknesses in all areas of their sport development. Mental training is no exception. Knowing what works for competition preparation and what may have contributed to a poor performance are essential in order to use those things again or change them in the future. The best or ideal performance should be written down so that athletes and coaches can use this information to re-create a similar performance and work on any areas that may need to become more consistent.

There are four major ways to assess an athlete's psychological skill level. Self-report or what they say about themselves and how they perform usually gives a good indication of the basic mental strengths of an athlete. Simple questionnaires or scales that can assess particular mental training or psychological areas that may affect their performance is a slightly more objective way to combine the information gathered. Observation during practice and competition will also add valuable information and is an excellent check for accuracy. Lastly, psychometric tools administered by psychologists can offer more valid information about a range of psychological aspects that will pertain to the athlete and sport.

A coach should help their athletes become aware of any skill by taking the time to observe themselves and reflect on what is happening in their performances. Some mental training awareness should include an athlete's own knowledge of what he/she is thinking, feeling, or doing at any time. It should also determine the relative strengths and weaknesses of the following:

Ability to focus	Distraction control
Sport skill level	Motivation
Ability to relax	Ability to energize
Imagery/visualization	Strategic/tactical
Self-talk (positive/technical)	Goal setting (long/short)
Level of confidence	Communication (coach/athletes/teammates/parents)
Level of support	Level of effort
Stress management	Preparation- sport skills (mentally)
Nutrition	Fitness

The main emphasis should be on the building blocks: relaxation, imagery, goal setting/competition planning and positive self-talk, since these are the foundations for any advanced psychological process and also are combined in order to manage more difficult sport related issues.

SPECIALIZED ISSUES

Specialized issues are the topics that go above and beyond basic mental skills. They relate to individual psychological processes and may incorporate a range of mental skills or alternate strategies to apply in order to achieve optimal performance. Such topics include special populations (involving culture, gender), psychological injury recovery, burn-out, transitions/career, violence, harassment/abuse, drugs/substance use, communication for athletes, confidence, stress management, motivation, and advanced mental training skills, specialized combinations, applications, and higher psychological processes. Motivation, as being one of the most prevalent complex issues, is discussed.

MOTIVATION

Athletes are motivated for a variety of reasons. Some involve the sport socialization process, genetics, socializing agents, cognitive appraisal and some biological drives. Understanding the primary motivation for an athlete will enable a coach to tap into that as a resource to re-motivate him/her during tough times, and build goals which will ultimately lead to a satisfying involvement in sport. The type of motivation can change many times during a sporting career, so ongoing re-assessment of why a skater skated will help the coach in their yearly planning and strategies for optimal performance.

Sport socialization: The process of learning to live in and understand a sport culture or subculture by internalizing its values, beliefs, attitudes, and norms. This influences the desire an athlete has to participate or not in addition to physical factors. These factors can include any of the following.

a) **Genetics:** Physiological factors that have a natural athletic ability (talent) versus specific sport body composition.
   - hereditary advantages/disadvantages
   - similarity between parent's abilities and the child's abilities (.6 correlation)
   - natural ability likely to continue and "sets the stage"
   - heavier for certain sports, thinner for others (such as running)

However, this does not mean an athlete can not participate or succeed in a given sport. It simply implies that they would be more likely to participate in certain sports that require a certain body type since they will often find success earlier.

b) **Agents:** Those that teach certain values, beliefs, attitudes.

   - **Parents:** Their encouragement, their desires, family income, jobs, babysitting, support, values, their own involvement past or present in sport. Some research indicates that the father is most influential (probably historical).

   - **Siblings:** If they participate, how they like it or not, their view of players, coaches, game, their encouragement, their successes, although less so than parents (according to research).

   - **Schools:** Physical Education classes, recess, free time, team/individual sport teams, facilities (of which sports), role models (teacher athletic - some top world age group swimmers/cyclists, triathletes) may just add onto external sports or be a marginal initiator.

- **The community:** Offering of sports, organizations, value in community (for specific sports), successes, integrated sport programs, camps (summer and weekly sport specific), often accessed via individual coach groups.

- **Peers:** Priority, particularly males for athletic ability, competence, acceptance, friends doing it, free time, bonding and the desire to fit in and be accepted.

- **Media:** Television, newspapers, magazines and what they say about sports and sports figures, the way sport is presented, heroic aspects, influencing attitudes, knowledge, commentators.

- **Self:** Independence of choice, ownership, confidence, ability, those with sole responsibility were more likely to continue.

All of these influences will differ for each gender, in different cultures, and/or socio-economic status.

c) **Involvement:** This is an athlete's consideration to continue or discontinue in sport based on weighing out the pros and cons. Athletes can have a number of any of the following:

- **Continuing:** Athletes are most likely to continue when they have more: fun (happiness), positive perception of performance, challenge, the 'feel' of it, pride, cultural, fitness benefits (e.g. get in shape, lose weight, grow stronger) well being, affiliation, belonging, achievement, success, improvement of skills, friends, social, competence, reaching goals, competitiveness, self-esteem, value of sport, eustress/euphoria/sensation seeking, energy release, role models.

- **Discontinuing** (often reversal and involve stress/anxiety): Athletes will most likely stop participating when they have more of: not having fun, hostile coaches or parents, lack of abilities, negative experiences, lots of failures, lack of playing time, too much pressure (from anyone), focus on winning, lack of support (financial, social, emotional…), over concern from parents, lack of achievement (even on skills), lack of confidence or competence, conflict from other activities, poor coaching (technically or verbally).

MOTIVATION THEORIES:
Motivation = to cause is to move. Causal factors include stimuli, hormones, chemicals and intrinsic activity of the nervous system and they cause an athlete or individual to move in a certain way. Causal factors also include external factors such as the sport socialization

Primary/Biological Level:
Endorphins - natural painkilling mechanisms which provide rewarding effects (like morphine) will create a type of motivation which causes an individual to continue doing whatever will reproduce them, even sub-consciously.

Endogenous - these include neurons which may fire spontaneously with no thought pattern and also cause behaviours to trigger, which underlie their causal motivational factor.

Secondary:
These are the most noticeable in sport and are obtained through interaction with the environment.

i) **Cognitive Evaluation Theory (Deci & Ryan):**
This theory is based on both extrinsic and intrinsic rewards.

Controlling (extrinsic) rewards involve using praise, trophies/awards, or money, as examples, to motivate athletes.

Informational Rewards (intrinsic) rewards involving motivation that comes from individual interest, enjoyment and feelings of competence about a task (the activity conveys information about 'success' in perception of athlete's eyes).

Example: Sometimes parents or coaches offer money to land something, which appears to be an additional motivator for the athlete. Research has shown that this usually turns a previously intrinsically motivating skill into an external skill and may actually create a dependency of an athlete on external rewards for motivation and performance. However, this can be offset if landing the jump actually gives a feeling of competence, which happens with difficult tasks but for simple skills and behaviours it is rarely helpful. Additionally, higher levels of intrinsic motivation were found in some studies through competition effects (due to the issue of skill comparison), in b) mastery oriented environments (e.g. task focus), and even in c) winning due to the feelings of competence associated but not due to defeating another.

ii) **Drive Reduction Theory (Hull):** "belief that human behaviour is motivated by drives designed to reduce biological needs."

Performance = Habit Strength X Drive:

Drive - internal state of tension (arousal levels, hunger) that is triggered by a need, **i.e.** biological or psychological deficiency felt by an individual. Needs can be both physiological, e.g. too much energy, need for water and psychological, e.g. need for affiliation, achievement, self-esteem.

Habit strength - the prior learning of the task

Homeostasis - The theory is based on a need to maintain homeostasis (balance) for whatever area is creating the tension. The need leads to the drive.

An athlete will achieve a goal and resulting performance based on the combination of the prior learning (habit strength) and an energized drive.

iii) **Expectancy Models of Motivation** - motivated by future goals and aspirations that pull one toward an action. This is the "carrot" phenomenon where the carrot or desired item is dangled in front of the individual pulling them towards the direction they want to goal. An athlete may desire anything from health, physique, sport mastery, or rewards that 'pull' him/her in a direction that causes the athlete to do certain things (skills/behaviours).

iv) **Achievement Motivation** (McClelland-Atkinson Model): the need for achievement incorporates one's motivation to succeed and motivations to avoid failure, and an athlete is motivated when the motivation to succeed outweighs the motivation to avoid failure. Research indicates that the highest needs for achievement will incorporate a higher internal motivation to achieve success, a higher external rewards aspect, and an equal probability of achieving success. This means that those with a high need to achieve would prefer moderately difficult tasks or mix it up with some difficult tasks, with those low in need to achieve will need easy tasks.

EXAMPLE: A skater who is primarily motivated to skate due to the feelings of competence that she gets from landing jumps and the medals that she wins when she lands them all in competition suddenly begins to stand by the boards more frequently and does not seem to be trying any. This is further noticed in her lessons where she hesitates to attempt jumps and/or goes around many times until she actually attempts one. Additionally, the skater seems to be less cheerful during practice and is getting on the ice late and off early. After several weeks of this the coach finally pulls the skater aside and asks her what's going on? After much resistance, the skater finally tells her coach that she feels like she cannot do anything right and can't jump anymore. Additionally, she indicates a desire to quit. How can the coach or trainer re-motivate the skater and restore her previous enjoyment of the sport?

Since the skater bases her feeling of competence on landing jumps, the coach needs to find a way to help her get them back since this will also affect her other primary motivation of getting medals. Any other possible causes, e.g. fitness or technical changes, nutrition, external events, should be assessed to understand why they might not be working any longer. The coach begins a progressive goal setting ladder, which focuses on some of her easier jumps and progresses to the more difficult ones. While beginning with the easier jumps, the coach develops stages of success that the skater finds meaningful so that when she achieves each step, she will develop a sense of competence and confidence. Positive self-talk with specific technical cues and imagery of them are utilized with each progression. Additionally, brief breathing techniques are incorporated before each try so that anxiety stays low and the skater can absorb more information. As this builds, the skater should be more likely to try more difficult jumps enabling her to be competitive once again. Noticeable changes in behaviours, e.g. being punctual, less standing around, happier state, should result as a more objective measure of success in restoring her motivation.

However, if the skater does not seem to progress, it would be important to re-assess if the skater is affected in any other part of her life, to determine if it is a more global problem, or just related to the jumps. Coaches can also identify if there are any skating skills that she does still perform and feels good about. If the skater seems to be physical strong in all areas, including her technique, then the more psychological pieces need to be assessed. A trainer or psychologist may help in this assessment, either through consulting to the coach or by referral. If the skater indicates that she feels she is not good enough when other skaters are watching her during practice, this may possibly indicate such issues around self-esteem or peer conflict. The more psychologically based issues will remain regardless of any attempts to try basic mental skills that address the motivation but not the cause, i.e as in treating an injury on the surface with bandages but not treating the actual cause, and dismissal of the athletes experience by indicating that it is not important in any way, will only further the difficulties. An athlete needs to be heard and validated; taking the time to work through whatever issues may be present.

These type of personal issues require the training of a psychologist and may take a brief approach to get started on the causes and effects of any problems and help the athlete use the approaches while performing so that she will not only be able to try her jumps again, but also develop in ways that affect her while skating as well as outside of the arena. The way a coach handles such situations will ultimately affect how the athlete learns to deal with issues on her own. Additionally, eliciting outside resources will prevent any potential conflicts due to dual roles or conflicts of interest when the coach also tries to become a counselor. Some athletes may find the help of their coach in basic counseling very powerful, if done in the right way, but some may want to only see their coach as a technical trainer and close themselves up even more if roles are crossed. Coaching is about relationships and more often than not, the person needs to come before the skills.

DEVELOPING MENTAL TRAINING PROGRAMS
"Key points to consider"

The most successful athletes have solid basic mental and emotional skills. Some of these are innate to athletes, but all can be learned. Athletes who can know their natural strengths and develop their weaknesses in all of the basic mental training skills will be able to use them to deal with more psychologically based issues or more complex psychological needs in sport. Without a good foundation athletes are not able to optimize their performance or use the skills effectively. Mental training, like physical training, needs to be incorporated into the yearly plan and periodized similar to technical skills.

The first major piece of any plan is to teach basic, general mental training skills, with a gradual progression towards sport specific skills, and application on the ice. These skills need to be practiced and monitored or evaluated for their effectiveness to ensure that athletes are using the correct application that is most useful to them. Generally, coaches should do this everyday and often do so unknowingly in their lessons, but structured application can be incorporated easily into off-ice classes. The application of these skills is highly individualized, takes time and often needs the help of a consultant specialized in sport specific application and evaluation, in order for athletes to best utilize the skills.

Assessment of different basic skills and more complex skills needs to occur on an ongoing basis and referrals are necessary when more serious or complex interactions of combined skills are required. Lastly, skills need to be adaptive and include lots of variety in exercises, particularly when working with individual needs versus teams or partners and for the different discipline requirements.

Periodization of mental training encompasses how to put all the strategies together for an ideal athletic program. If you think of a fitness training program you know that every ideal program has some basic requirements such as cardio, strength training and in sports - sport specific balancing exercises or emphasis on particular areas or muscle groups. Additionally, individual weaknesses are included. It is similar for psychological/mental training skills. The concept for tying it all together is in the theory behind periodization.

BASIC SKILLS: Summary
These are the basic skills that need to be learned in the preparatory phases and taught how to apply and be modified for competitions.

Goal Setting: This category is used to give the athlete direction and purpose. There are many types of goals and purpose to each type. Goals most useful to daily practice are small but challenging. For example, "Today I'm going to focus on my entry technique instead of landing every jump perfectly". Break weekly goals into daily goals but keep them achievable yet challenging since the more success you experience, the better you feel about yourself and the more willing you are to keep trying. Be flexible: if your goal is to land 5/5 difficult jumps, e.g. combinations, triples, maybe it would be realistic to land 3/5 that week and next week land 4/5. Also, set process oriented goals - those that are based on your actions, to skate a clean performance as opposed to outcome goals, to win. You cannot always control outcome goals but you can control what you do. Usually if you succeed in the process goals, the outcome takes care of itself. Lastly, long-term goals are important so you know where all of this patience and determination is going to lead. It is often difficult to cross a wide river without a bridge; each goal takes you one step further across that bridge and builds confidence with each successful step.

Relaxation: There are two types of relaxation, brief and deep. In order to utilize either type, you need to learn proper breathing techniques and be aware of how you are breathing to change its rate for relaxation or to energize yourself. Brief relaxation is used for quick lowering of arousal and anxiety. By changing your breathing and relaxing key muscles, e.g. hands, shoulders, facial muscles, you allow your mind to open its awareness so that more relevant cues can be attended to and refocused on, such as instructions. Deep relaxation is used to restore and regenerate your body so that your muscles are lengthened and therefore are more ready to be used during subsequent activity. This is best used after all physical practice sessions are done. Relaxation techniques are important to get yourself in the right state during practices and even more importantly during competitions.

Imagery: This category can be used to facilitate learning a new skill, enhance the performance of current skills, or to reduce the novelty of competition or different practice settings, just to name a few. By recreating the image of a performance or skill in your head, you can see parts that may need improvement and then go back and correct them. The more times the skill is done correctly, either in your mind or physically, the more automatic it will become. It has been shown that the imagined skills produce muscle innervations similar to that of doing the actual physical performance. This is known as 'muscle memory' or psycho neuromuscular theory. Although, it may be as beneficial to perform skills in your mind as it is to physically do them, there still needs to be some physically capability to ultimately perform the movement. The more senses, e.g. taste, smell, touch, that can be incorporated into the image, the stronger the image is and its effects on performance. Imagery can be used to visualize competition plans or to see you coping successfully in difficult situations. This will lower the anxiety of the situation since you will have already been through it. Imagery should be used as often as possible to gain optimal use in facilitating performance.

Attention: This category of techniques will help to focus on the task at hand. What is focused on will influence how you perform. If you are focused on external distractions, e.g. noise, cold or internal, e.g. body sensations, thoughts, the technical cues that trigger your jumps will be lost. It is important to focus on cues related to what you want to do. In addition, rather than thinking about what went wrong focus on what you want to do to improve. Use cue words but keep them to a minimum. The more energized or anxious you are the easier it becomes to focus on less relevant cues. Using relaxation to open your awareness with attention strategies to focus on technical cues allows you to focus more on these relevant cues. Also, process cues should be attended to rather than the outcome. Focus on those steps, which are going to take you where you want to go (see goal setting). Lastly, shifting your attention from broad (the arena, other skaters) to narrow (your jump) needs to be practised and may need the help of self-talk strategies or imagery to keep your focus on relevant cues.

Self-talk: What you say or think to yourself will affect what you do or are willing to do (your behaviour) in the future. Self-talk strategies can include thinking of your technique for skill acquisition, staying positive, or maintaining effort while playing or practising. The more positive you can be, the more likely you are to continue trying a given skill. Although keeping yourself in a positive frame of mind is beneficial, self-talk is also used to maintain effort ('come on, let's go'), or to help build technique by using cue words as you are performing a skill. Changing a negative thought to a more positive one is a useful strategy. For example, saying, 'I cannot perform this jump when a certain person is watching me'; change this to, 'I am going to show this person how much better my jump has become'. Strategies such as this or those of reframing, countering, or modifying irrational thinking are necessary to encourage optimal performance. Once you are aware of what you are saying, then you can act to change it.

Competition/Practice plans: In accordance with goal setting plans can aid in the successfulness of your performance. The more detailed the plan, the less likely it is for problems to occur. Over time, the best athletes know what they have to do before, during and after games. This could include what to eat, how much to sleep, who to talk to, how to warm-up and what to wear. In addition, back-up plans should be considered. For example, "What if my first jump doesn't go as planned or I missed the start of my music?" A 'plan B' will allow you to be successful despite any setbacks that may occur. You cannot control external factors but once exposed to them you will be able to overcome them. You can only control how you react to the unexpected and beneficial coping strategies will ensure optimal performance and subsequent success.

A combination of all these techniques is beneficial for enhancing performance. Although, mental training skills are used to help with problems and teach ways to deal with certain situations, this is only a part of it. These skills can be used to help your performance move to a higher level, such as making your performance more automatic. In conjunction with physical performance, mental training skills will facilitate your physical training. At different stages in the year, there are different emphases on these skills. However, it is best to learn the basics of the skills early in the season so that they can be used effectively later on. For example, if you become anxious at a competition and try some breathing exercises, they will not be very effective if you haven't learned how to do them before. These skills should be learned so that you know what works and you can use it to your benefit, especially at a competition.

PLANNING & PERIODIZATION

1. **Periodization** - The division of an athlete's annual plan into phases of training.

   Overview of Planning:

   Planning begins with identifying goals and important dates to peak for, either competitions/major events, tests/qualifying events, or simulations/exhibition games. Therefore, the first psychological skill tends to be goal setting/assessment of psychological needs/strength in conjunction with physical/technical aspects.

2. **Phases of Training:**

a) **Preparatory**

i) **General Prep:** This phase consists of a general training regimen in all areas to build a solid base for more advanced movements/skills and eventually for competition specific activities and exercises. It's a time for thorough assessment of weaknesses and to have a focus on aspects that will need extra attention, e.g. if low in flexibility or concentration, these will be worked on. Awareness is the most important psychological consideration, in addition to assessment.

For psychology skills: This phase provides a time to cultivate specific psychological traits such as building a base of confidence which might be affected with more advanced training. It also allows for a development of basic strategies applicable to their sport , e.g. learning game plans or watching tapes of tactical maneuvers. Awareness of an athlete's typical mindset is focused on during this time so that facilitation and discovery of the Ideal Performance State will occur. It is also a beginning for testing of strengths/weaknesses, which may be more apparent over time and can be focused on in latter phases.

Basic skills = relaxation/intensity management, self-talk/communication, imagery, planning/goal setting, focus/attention. General exercises should be done in each of these categories. These can be done by paper and pencil and with non sport exercises such as visualizing objects at home, practicing different breathing techniques or focusing on daily tasks or objects to increase concentration abilities.

Evaluation/assessment of skills can be done by monitoring behaviours or performance to identify problems and is based on assessments that emphasis weaknesses, i.e. if trouble with imagery due to kinaesthetic inabilities, exercises would work on this aspect to improve it and aid in imagery abilities.

ISSUES - Coaches will need to adjust plans and use strategies consistent with a psychologist's recommendations if the athlete is allowed to continue performing. Just as with an injury or muscle imbalance athletes work with a doctor/physiotherapist on strength exercises or technical elements that help restore the imbalance. Issues can happen at any time but if athletes have a base level, physical or mental, they can better deal with the physical or mental stressor.

Theories: These exist so that trainers can understand what techniques work and why these techniques might work, i.e. motor learning and the need for effective self-talk, attentional capacities: knowing that interfering information influences the need to select, anxiety: narrows attention, breathing is used to offset, understanding how different types of communication affects mood, behaviour and attributions to performance.

ii) Specific Prep:

This phase is where the intensity begins to increase with a fair amount of physical volume continuing. Exercises/skills are tailored more to the needs of the sport. It is the transition to the highly sport specific competitive phase. At this point basic skills begin to be combined including complex physical patterns or psychological advanced skills. They also start to be applied in the sporting arena, e.g. on-ice drills, playing drills.

Psychological - athletes build on weaknesses after the development of all basic skills and develop individual applications 'on the field', integrated/advanced skills.

Advanced skills (integrates basic skills for sport specific movements) = motivation, forms of external communication (may rely on attention, self-talk, relaxation), confidence building, performance plans, stress management, peak performance states, injury recovery, and burnout, for example. Athletes apply the skills that they learned in the general preparatory phase and use the ones which worked best for them then, to try on the ice. An athlete may combine self-talk and imagery to build confidence for trying a new jump, and try it on the ice, modifying as needed. If serious issues are involved athletes may be limited in what they can do and again may need to work with a psychologist.

b) Competitive period:

This phase includes the pre-competitive phase, main competitive and tapering phases. It is highly sport specific with less physical volume but still maintaining or increasing intensity. Activities are primarily geared toward competitions with less time for development of skills/ technique or physical fitness. If base training was inadequate difficulties in physical performing will result, subsequently resulting in effects to mental capacities, such as inducing stress or creating anxiety. Often this is the time when a mental trainer or sport psychologist is called in for last minute solutions. However, if an athlete learns the skills early on the athlete's ability to apply them effectively at this time will occur with less unexpected problems or allow an athlete to use them in a variety of ways.

Psychological - athletes tend to have elevated stress or anxiety and issues of some sort show up quite readily, which is why coaches seek support of psychologists. Band-aid solutions, coping techniques and the development of comprehensive competition plans can address any potential problems. It's important to keep it casual, to use strategies as needed and not forcing, otherwise it has a negative effect, and emphasizing what is identified as important for the individual athlete. Specifically tailored competition plans should include all the basic and advanced skills that were learned and found helpful for a particular athlete so that they may be replicated during the competition.

Trying new skills or strategies at this time may not be effective if they have not been previously learned, similar to putting in a double Axel in the program that has never been tried before. An athlete should be practicing his/her competition plan during tests and competitions so that additional skills can be included or modified, and strategies for any unexpected situations can be learned and practiced.

iii) **Tapering** - this is a phase of reduced workload in order to allow the body and mind to recover. It is usually 10 days to 3 weeks right before a competition allowing for the possibility to peak. Exercises should include those that facilitate recovery and regeneration as well as maintaining low stress levels. Imagery of ideal performances, self-talk to retain confidence and relaxation exercises for physical and mental restoration are ideal during this time.

c) **Transition**

Active Rest: This phase is slightly different from the transition phases in that there is no sport specific training as the arena is usually closed, but athletes should definitely stay active. They can rest by playing other sports, having fun, socializing and thinking about things outside of the rigors of their sport.

Psychological - athletes should try to stay positive, use their mind in different ways and be cognizant of signs of too much decrease in training, which could actually involve depressive behaviours, headaches, insomnia, exhaustion, tension, mood disturbances, or lack of appetite. Activities that are non-skating related would be ideal for mental recovery as much as physical recovery.

4) **Microcycles**

These include weekly workouts or psychological exercises.

Example of individualized psychological skills training during specific preparatory microcycle for attention control:

Day	Mon	Tue	Wed	Thur	Fri
Focus	Off-ice sport specific focus drills & distractions	On-ice distraction simulation	OFF	Imagery class of controlling distractions	Relaxation class & assessment of weekly goals

The objective is to improve concentration with some recovery/relaxation. Distraction weaknesses were identified in the General Preparatory phase with practice on various concentration exercises. In this phase, specific application on the ice with practice off-ice is included to develop this skill.

Monday is incorporated with fitness exercises, sport specific, and the on-ice is on one of the two daily practice sessions. Thursday is a class devoted to mental training and Friday's class is in lieu of a fitness session and/or in combination with flexibility/stretch class.

Example: An athlete may develop specific cue words and positive self-talk statements for practicing his/her solo. Since this athlete tends to be distracted by his/her own negative thoughts after falling on a jump, statements around focusing on one jump at a time (and its technical cues), as well as rehearsing affirmation statements around his/her ability to get the next jump and preventing criticism for missing one jump. The athlete will practice using them through imagery as well as trying them during practice on-ice, and lastly will integrate the relaxation exercises to minimize any anxiety associated with missing jumps, and enable the athlete to use the self-talk statements more effectively during practice.

Example of psychological skills training during tapering phase of main comp.

Mon	Tue	Wed	Thur	Fri	Sun
Practice breathing & muscle awareness off-ice	Practice breathing during jump session	Full relaxation class	Practice breathing during program run-throughs	Massage	Off

This weekly periodization focuses on relaxation and recovery during the transition phase and ensures the skater remains relaxed on and off the ice.

5) **Individualization**

Mental training programs need to be implemented with the usual factors of feasibility to be considered. Such factors include the amount of time available, money, sport discipline, idiosyncrasies of the athlete,and weaknesses. Programs should be combined with physical and technical components, while ensuring that weaknesses are dealt with and so forth. The reality is that there is often little time made available for specific sessions on this key component. The best way is to incorporate skills with off-ice training and work the skills into lessons and on-ice technical development. The benefits of developing strong mental skills and making the time not only help the sport but aid in an athlete's personal development, which goes well beyond the sporting environment and future careers.

In skating, athletes tend to need more visualization and self-talk. The cognitive/self-talk aspect of skill acquisition is also probably the most taxing and exhausting to the body, when emotions are included. Athletes who are also dealing with any type of stress, internal or external, due to skating and non-skating activities will need to learn ways to cope with this early on.

Coaches, as athlete managers, can optimize their programs and ability to deliver all of the necessary training components by integrating the services of those who specialize in the various areas, e.g. fitness, nutrition, psychology. The benefits of this is allowing the coach to focus more on the technical aspects while still managing the adjunct training and providing an additional voice to complement what is taught by their coach or perhaps taken in with a different and more positive perspective.

Coaches can utilize the services of mental trainers to help train the basic mental skills. These trainers should have a minimum of a Bachelors degree with training in mental skills. They should have also received some training in assessment of psychological signs and symptoms for any possible issues that may need to be referred or might cause serious difficulties if the incorrect mental skills are used with the athlete.

Mental trainers are not psychologists and do not have the advanced training in assessment and complex psychological issues. Additionally, those educated with graduate degrees in Kinesiology or physical education and may have specialized in sport psychology type applications cannot treat complex psychological problems, although should be much better versed in detecting any particular problems associated with applying mental training techniques. These types of trainers would be considered educational consultants and are limited to teaching and applying the basic mental training skills. With their specialty, they should be able to individualize to a higher degree than coach training on these skills, as well as be able to refer before things become worse.

Sport psychologists have graduate training in psychology and should have learned sport applications throughout their university education. They are highly versed in any psychological manifestations and are well trained in assessment for both an individual's psychology, as well as how they relate to others and in groups. The word 'psychology' or 'psychologist' can only be used by those with a Ph.D., as stated by law, and have spent at least five years in specialized psychology training. These practitioners can work on skills beyond the basic mental training skills and can help an athlete understand and change more personally rooted problems, such as confidence and motivation, so that long-term maintenance evolves.

Any of these resources can be useful to a coach for a variety of needs. If a coach wants help with basic skills and applications, eliciting a trainer with base knowledge would be sufficient. This is similar to utilizing the help of a fitness trainer for the basic physical components.

However, if a more specialized application is needed and help with individualizing a trainer with a graduate degree or a sport psychologist would be useful. This is similar to utilizing the help of a physiotherapist for physical rehabilitation with an individualized fitness program for this purpose. However, for thorough understanding and directing the most applicable physical program for an athlete who might have been injured or has repeated strength weaknesses, a physician is needed for this assessment and direction. This is similar to sport psychologists who can determine the personal psychological processes that may affect certain performance behaviours and be able to direct a program, as well as help design and teach it, to alleviate any of the athletes' psychological weaknesses.

Mental training basic skills are skills that all athletes need and athletes that are highly successful have been shown to have these skills. However, just training these skills without consideration of the whole athlete and their unique differences may simply be employing techniques that may not be needed for that athlete and actually, could cause damage without someone skilled in understanding the effects of utilizing various psychological techniques. It is important for a coach to understand the personal and performance characteristics of the athlete.

Section 5:

NUTRITION

NUTRITION

Good nutrition is essential for good skating. The following module includes essential information about nutrition during training as well as helpful competition strategies. Athletes with good nutrition can successfully and healthily meet the demands of a rigorous training program and enhance their skating performances. No two athletes are the same - the dietary requirements for individuals can be very different. For more individualized nutrition analysis and personal recommendations beyond what this module provides, athletes should consult a certified dietician.

Visit www.dieticians.ca to obtain reliablenutrition information and a list of certified dieticians registered in Canada.

In this module, the following topics will be discussed:

- Nutrition Fundamentals: A Balanced Diet
- Training Diet
- Pre-Event Diet
- Female Athlete Triad

NUTRITION FUNDAMENTALS

The best diet for athletes is one that meets their unique needs. Needs are dependant on age, gender, body size, training, sport and food likes and dislikes. The best diet gives a body what it needs - that is 50 plus nutrients along with numerous other helpful food substances.

Choose foods from all four groups every day:

1. **Bread and Cereals** - this group includes foods rich in carbohydrates - select whole grain breads and cereals (i.e. multi-grain breads, cereals with fiber, or brown rice) versus refined carbohydrates (i.e. white bread, white rice, or potatoes) - whole grain breads and cereals are excellent sources of energy and should make up about half of the calories you eat.

2. **Fruits and Vegetables** - also a group to emphasize – whether raw, cooked or juiced it is important to include at least three fruit and four different vegetable servings each day.

3. **Milk Products** – choose dairy products with a lower fat content, such as cheese made from skim milk - all dairy products are clearly labeled to know how much fat they contain.

4. **Meat and Alternatives** - select very lean meats to eat and avoid meats that have been cooked in fat or oil - nuts, seeds, tofu and some beans (legumes) fall into this category as meat alternatives - this group should make up the smallest portion of your daily food intake.

Balance and Variety:

Each food group provides specific nutrients – balancing intake from all groups will cover your nutritional needs. Bread, cereals, rice and pasta, fruits and vegetables provide carbohydrate to the diet. Meat, poultry, fish, dry beans, eggs, and nuts are protein, iron and zinc contributors. Dairy products will give your body protein, carbohydrates and calcium.

It is important to eat a variety of foods from each food group to get all the nutrients your body needs. Eating three servings of potatoes will not give your body as many vitamins and minerals as eating one serving each of carrots, broccoli and potatoes.

Servings - here are the defined servings of each food groups:

- Bread – one slice of bread, one small muffin, or dinner roll
- Cereal - one ounce ready-to-eat cereal or ½ cup of cooked cereal (i.e. oatmeal)
- Pasta and Rice - ½ cup
- Raw vegetables - one cup
- Other vegetables - ½ cup
- Fruit - 1 medium apple, banana or orange
- Juices - ¾ cup
- Milk - one cup
- Yogurt - one cup
- Cheese - ½ to two ounces
- Meat: 2-3 ounces cooked (equivalent substitution: one egg, ½ cup of dried cooked beans or two tbsp. of peanut butter)

Fluids - the most important part of a diet is fluids. Your body needs fluids to replace the amount you sweat off each day. Eight glasses a day may provide enough fluids for non-active bodies; however, an active athlete needs to consume much more to remain hydrated.

Water - the athlete's most important nutrient! Being smart about sufficient water intake can separate good performance from great performance.

The human body is mostly water. In fact, if you took all the water out of a 180-pound lean body there would be about 55 pounds of weight left. Muscles, brain, blood and sweat are mostly water based. Not consuming enough water will prevent your body from working like it should - you will not be able to think clearly, you will lose endurance and it will make your heart work harder.

Hydration 101!

- When the body sweats it looses water - that water must be replaced.

- Do not rely on thirst - consuming fluids only when thirsty does not guarantee that the body is hydrated - consume as much water daily as possible.

- Counting eight glasses of water a day is one way of keeping track - checking body weight before and after a training session is a much better way to ensure the body is hydrated. The weight lost during a training session is not fat, it is water loss.

- One pint of water weighs one pound - drink one pint of fluid for every pound lost during a training session to replace the water in the body as quickly as possible.

- Drink water before, during, and after a training session. Drink a glass or so of water a couple of hours before your session, this will help make sure the body is hydrated and give sufficient time to urinate (if needed) before a session.

- Drink water during a session as the body needs constant supplies of fluids when sweating.

- Drinking water after a session is extremely important - many athletes become dehydrated even when they drink water during their training session.

Once you have mastered how to remain hydrated especially when you sweat heavily, you have accomplished the singles most important performance enhancing aspect of nutrition. Remember, water is the most important nutrient!

TRAINING DIET FOR FIGURE SKATERS

What to eat?

Skaters in training require higher quantities of carbohydrates than normally found in an average food plan. Lack of sufficient carbohydrates in a skater's diet can cause a significant reduction in the amount of energy available in the muscles. Skating in a warm environment or in the summertime can cause a tangible increase in the body's need for carbohydrates.

Keep in mind the importance of eating a variety of foods. Choose foods from all four groups outlined at the beginning of this module.

What not to eat?

Try to avoid foods that are high in sugar or refined carbohydrates. Pop, candy and highly processed foods cause a release of insulin into the body. As a result, this can cause a drop in blood sugar, a "full" feeling in your stomach and eventually a decrease feeling in regards to the energy levels. High sugar intake can also result in dehydration.

- Abstain from alcohol consumption - alcohol impairs muscle coordination and causes dehydration - it is considered an empty calorie drink.

- Coffee, tea and most soft drinks contain caffeine and also should be avoided. Although caffeine can stimulate the workouts for some skaters, most will suffer insomnia, restlessness, ringing, of the ears (called tinnitus) and sometime negative stimulation in the case of nervousness or stress management.

- Greasy, fried foods that are highly spiced are not recommended. Gas-producing foods may not be a good choice for some individuals - know your own tolerances!

- Unfamiliar foods are not recommended before practice or competition - stick with what you are used to eating.

- Foods high in protein (such as meat) should be kept to a minimum before practice or competition and consumed within moderation in the training diet.

When to eat?

It is important to eat at least three meals a day - athletes should eat after practice if possible or a minimum of two hours before they skate. If the schedule requires an athlete to eat right before

practice, snack size items such as bagel or toast are best to consume. Keep fluids consumption small within the hour before practice. A small serving of a carbohydrate and juice or milk is advisable to consume for those early morning practices.

- Breakfast is a daily essential - do not skip breakfast.

- Ideally lunch should be the largest meal of the day. Although it is often difficult to have a large lunch because of busy daytime schedules, if you practice during lunch hour, eat a medium sized meal two hours before practice.
- Meals less than two hours before a practice must be small. Meals following a practice should include a liberal quantity of foods from the breads and cereals group. The best time to consume carbohydrates is after physical exertion.

How much to eat?

Skaters have different caloric demands than a non-athletes. An athlete in training will need to consume more food to meet the body's demands for energy. If you take in more calories than you burn off - you will gain weight. If you do not provide your body with enough food energy, you will lose weight. In addition, if your body's nutrition requirements are not being met, it is likely that your energy level, skating and personality will suffer.

- Age and body size in the following tables are geared towards the adolescent/young adult skater.
- If you need to adjust the quantities recommended for each group, preserve the ratios and adjust the serving sizes
- The Canada Food Guide is an excellent resource for this information

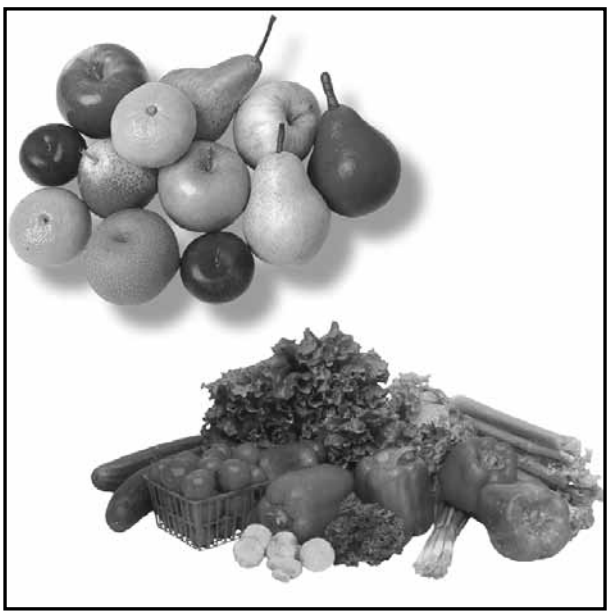
FOOD GROUP	SUGGESTED SERVINGS	EXAMPLE OF ONE SERVINGS
Bread and cereals	At least 8 - minimum 5	One slice of bread, one cup of cooked cereal, one bagel, half cup of noodles
Fruits & Vegetables	At least 8 - minimum 5	One cup cooked veggies, one cup of juice, one potato-carrot-apple
Milk Products	At least 6 - minimum 3 (adults 4 and 2)	One cup of milk, 45g cheese, one cup of yogurt, one cup of cottage cheese
Meat & Alternatives	About 2	60-90g cooked meat, 2 tbsp of peanut butter, 1 egg, ½ cup of nuts or seeds

- Figure skaters should be in the habit of weighing themselves regularly. Weekly is a recommended time frame. Estimating body composition in terms of percentage body fat will help identify if weight gain is a result of increase in body fat, muscle development, or natural growth.

- Aerobic training helps to control weight gain. An increase in aerobic workouts will reduce the amount of food energy stored in the body as fat. It is necessary to exercise at your target heart rate (220-age x 75%) for a minimum of twenty minutes, and break a good sweat before the exercise will begin to deplete fat stores and develop your aerobic capacity.

- Substituting low-calorie for high-calorie foods will assist in weight loss. For example, choose low-fat dairy products. Be certain to maintain a balanced diet and continue to consume adequate carbohydrates. Avoid fad diets that eliminate or drastically reduce the intake of certain foods and avoid nutrition programs that change the overall balance of the major food groups, such as high-protein diets

- Fatigue and weight loss suggest better rest and better nutrition are needed. If the athlete is getting enough sleep and is eating properly and these symptoms persist, he/she must consult a doctor.



PRE-EVENT DIET FOR FIGURE SKATERS

The timing and substance of meals before important events can significantly affect the skater's performance - skipping even one meal will seriously hurt the performance.

Different foods take different lengths of time to be digested; therefore, the time that you plan to eat depends upon what you plan to eat. For example, fats require up to nine hours to digest - obviously not a good choice. Proteins take three to four hours and do not enhance performance when consumed in excess of the recommended servings. Complex carbohydrates require two to three hours and simple carbohydrates one hour or less. Carbohydrates provide the muscles with energy and play a large role in the aerobic energy system.

You don't want your stomach and muscles competing for blood supply during any skate; therefore, a light meal three to four hours before a competition will help to prevent nausea, cramps and feeling full or heavy. A substantial meal that included many carbohydrates following a skate is a good idea - especially if your skater competes again the next day.

The meal prior to your skate should include minimal protein, no fat and liberal amounts of carbohydrates. Two to three cups of fluid should be consumed at this meal. It is important to reduce the quantity of food intake if meal time is close to a skate time. For example, a meal two hours before an event should be much smaller than a meal four hours before. Restrict servings to three if you eat two hours before and one serving if you eat one hour before.

Follow the food guidelines in the Training Diet when you choose specifics for a pre-event meal. Remember what foods to avoid and plan to intake fluids. Avoid large quantities of liquid in the hour before you skate - if thirsty, it is better to simply "wet the whistle" with a small sip of water. Remember that most juices are high in sugar content - so water is much better to consume. Many sport drinks (i.e. Gatorade) are high in sugar and salt - they are electrolytes intended to replace your body's fluids quickly under conditions of extreme sweating. For most figure skaters, water is a much better choice.

Pre-Event Meal Examples:

Four hours before	Small potato, 60g broiled chicken, one cup of carrots, once sliced peach, one cup of skim milk
Three hours before	½ cup of rice, 60g of baked fish, one banana with one cup of yogurt and a glass of water
Two hours before	One cup of cereal with strawberries and skim milk OR one glass of juice, one slice of toast and one fruit (no skin or seeds)
One hour before	One glass or juice and a plain bagel OR ½ cup of yogurt and a few grapes

Pre-Event Diet - Protein Packing:

Protein in the diet improves performance by building three essential types of protein (enzymatic, contractile and structural) at the cellular level. Protein supplements above the recommended intakes in a regular training diet do nothing to enhance performance. Skaters require about 40-60 gm of protein each day. More than this will not help the performance or make the skater stronger; however, it may even results in dehydration. Protein packing in any form is not a good idea.

Pre-Event Diet - Carbohydrate Loading:

Also known as glycogen super compensation, carbohydrate loading can sometimes be used to a figure skater's advantage. It is especially helpful if a competition lasts more than one day or if an athlete skates more than one event. Be very careful when undertaking a carbohydrate loading program and do it under the supervision of a nutritionist. Incorrect dietary manipulation can result in adverse effects, such as fatigue, irritability, and a drop in the quality of training. There are various carbohydrate loading programs suited to different needs. Be aware of them all and choose the one that suits your needs the best. In addition, check to make sure that carbohydrate loading is legal for competition.
Note: some research suggests that carbohydrate loading is relatively ineffective for females.

Pre-Event Diet - Supplements:

Extra doses of the following water-soluble vitamins will not enhance a performance but may help in someway: Vitamin B12, Vitamin B complex, Vitamin C.

Extra doses of the following fat-soluble vitamins will not enhance a performance and are considered hazardous - do not use these supplements: Vitamin A, Vitamin D, Vitamin E or Vitamin K.

Many Canadians (both male and female) have a deficiency in iron. Skaters have an increased need for iron; therefore, it is essential that it be included in a diet. Iron can be found in such sources as red meat, whole grains, and dark green vegetables. Iron is better absorbed from vegetables when they are eaten in combination with meat. Females tend to be more prone to having an iron deficiency than males and may require supplement intakes. Iron is critical for the formation of red blood cells that carry oxygen and for the development of new tissue.

Those who follow any form of a vegetarian regime are particularly susceptible to deficiencies in Vitamins B12 (and Iron) and should be taking a B complex supplement. Deficiencies of Vitamin B12 can lead to extremely serious health conditions.

Figure skaters have no need for salt additives or solutions, or for glucose solutions. These dietary additives can be harmful to a figure skater. Glucose, sodium, potassium, chloride and magnesium are normally replaced in the body by fruits and whole grains.

SUBSTANCE USE

Substance use in sport includes any form of illegal drugs, medications, or supplements where there are physical effects based on ingestion of some substances and usually psychological and psycho-physiological effects.

- Most uses of substances are illegal in sport, although the correct use of supplements is used as a nutritional aid rather than a performance enhancer. Recreational drugs, which are also illegal in everyday life, affect personal safety, involve cognitive and perceptual changes, and are often associated with violence and personality changes. They are also unethical and can create extensive medical problems.

- When combined with exercise, the consequences of any excessive use of a substance are often heightened. Physical consequences could include any of; dehydration, heat stroke, heart attacks, or liver problems to name a few. Psychological consequences can include; increased anxiety, suicidal tendencies, short attention span, depression, aggression, potential for addiction and sometimes schizophrenia.

  The categories that are banned by the Canadian Centre for Ethics in Sport (CCES) in most sports include:
  i) Stimulants
  ii) Narcotics & illegal substances
  iii) Anabolic agents (steroids & other types)
  iv) Diuretics
  v) Peptides
  vi) Alcohol, nicotine (banned in some sports)

Some effects of these substances include:

a) **Stimulants** - these substances increase heart rate, blood pressure, alertness, can hide mental and physical fatigue, cause strokes, heart attack and dehydration. Example of stimulants include: amphetamine, ecstasy, cocaine, some diet suppressants).

b) **Narcotics** - these substances usually have anti-inflammatory and pain-killing properties, they slow swelling, reduce fever, cause loss of balance, sleepiness and may have the psychological effects of well-being feelings, invincibility, false sense of security and lead to athletes ignoring injuries. Example of narcotics include: Morhpine, heroin, Tylenol 3's, some pain-killing medications that are banned)

c) **Anabolic agents** - these include muscle-building steroids that create androgenic (masculizing) effects that allow for muscular bulk and strength and interferes with the reproductive system. It can cause cancer of the liver and lymph system, prevent estrogen development, and cause psychological based outcomes such as aggression and addiction. (Ex. Danazol, androstenediol, DHEA, testosterone.)

d) **Diuretics** - these substances excrete excess water and flushes out other substance or drugs. Physical effects include dizziness, dehydration, muscle weakening and cramping, electrolyte imbalance and the inability to regulate heat. Continued usage can sometimes indicate psychologically rooted problems, such as eating disorders. (Ex. Frusmide)

e) **Peptide hormones, mimetics and analogues** - stimulate body growth, sex drive, sexual behaviour and sensitivity to pain. Different types have additional effects such as the stimulation of red blood cells or inducing a euphoric effect. (Ex. HCG, ACTH, EPO, HGH).

Visit www.cces.ca for further information on use of these substances in sport.

EATING DISORDERS

i) **Anorexia Nervosa** (restricted or binge-purging type)
What = irregular eating patterns involving a denial of appetite and self-starvation.

DSM-IV (Diagnostic Manual of Mental Disorders) classification [this specifies what comprises an individual being diagnosed with this eating disorder]:

- refusal to maintain body weight over a healthy minimum weight for their age and height (at least 15% below expected)
- intense fear of gaining weight or becoming fat, even though underweight
- disturbance in the way in which one's body weight, size, or shape is experienced
- absence of at least three consecutive menstrual cycles

Signs and symptoms (early warning signs):

- dieting becomes a focus, preoccupations with food
- abnormal self perception and eating habits, body distortion statements
- range of food choice narrow, safe vs. unsafe foods
- denial of hunger, refusal to eat out
- irritable and hostile, wide fluctuations in mood
- withdrawal from family and friends
- school performance declines
- sleep disturbances
- depression as stress increases
- eating alone or after everyone else has finished although are part of cooking
- self-worth issues
- intense desire to be thin
- dissatisfaction with one's body
- feelings of ineffectiveness
- interpersonal distrust
- maturity fears
- perfectionism

Health effects: body temperature decreases, lanugo, decrease in Basic Metabolic Rate (BMR), decrease in heart rate, low iron-anemia, rough skin, bruises, decrease in white blood cells (WBC), decrease in potassium (affects heart), amenorrhea- loss of menstrual cycle (bone loss, osteoporosis)

ii) **Bulimia Nervosa** (purging or non-purging type)
What = irregular eating patterns involving binge eating

DSM-IV classification:

- recurrent episodes of binge eating (rapid amount in short time)
- a feeling of lack of control over eating behaviour during binge
- person regularly engages in either self-induced vomiting, vigorous exercises to prevent weight gain (via vomiting, diuretics, laxatives, edemas, hypergymnasis)
- minimum average of two binge eating episodes (often 15 000-20 0000 calories) a week for a at least three months
- persistent concern over with body shape and weight

Signs and Symptoms:

- use food for emotions
- depression
- eating alone
- preoccupations with food
- mood changes
- fluctuations in weight
- frequent trips to the bathroom (returning with bloodshot eyes due to vomiting)
- constant talk and preoccupation with the caloric content and composition of a meal
- self-worth issues
- feelings of ineffectiveness
- interpersonal distrust
- perfectionism

Health effects: teeth enamel eroded, decrease in potassium, swollen glands, ipecac syrup, death-suicide, heart attack, infection, anemia, leukopenia, ostepenia, renal and liver problems, peripheral edema (chipmunk-like), electrolyte imbalance, cardiac problems, and gastrointestinal problems, outlook of fatigue or increased susceptibility to infection. This is often exacerbated by substance abuse issues.

Causes/predisposing factors of either disorder:

- pressures (via coach suggesting they should be smaller, team weigh-ins, or via peers who do similar things together and model drastic weight loss) to perform or meet others expectations
- weight restrictions (in boxing, wrestling, weightlifting, judo, tae kwon do)
- judging criteria (in diving, figure skating, gymnastics (artistic & rhythmic), synchronized swimming (final factor for scores depend on physical attractiveness) performance demands (low percent body fat and high levels of performance correlation) in swimming, speed skating, distance running

b) **Common methods** (dehydration through sauna, heat restricted clothing), laxatives, diuretics, use of diet pills, fasting, crash dieting, purging, and fluid restriction.

c) **Preventive measures** - de-emphasize body weight- no ideal body weight and fluctuates over time, range of healthy weight can be assessed via sport professionals, provide nutritional education- discussing carbohydrate loading, pre-competition meals, water and electrolyte replacement as well as general nutrition factors., promoted sensitivity to weight issues- meaning avoiding statements around weight, punishment for not making weight, group weigh-ins, minimizing detrimental and unhealthy effects of rapid weight gain or loss, facilitate healthy weight management- providing support for eating problems, models to deal with issues, changing attitudes of unhealthy practices.

Note - These are serious problems and must be treated with the help of both a nutritionist and a therapist trained in this area in addition to medical supervision.

NUTRITION AND PSYCHOLOGY

- Certain foods have a capacity to increase or decrease energy levels. They can also be used as a coping mechanism for stress or dealing with particular emotions. When food is used differently than for basic nutritional intake, there are often psychological or cognitive roots to this use.

- Changes in nutritional intake can influence one's perception and emotional state. An athlete may become increasing fatigued due to the types of foods eaten (often heavier foods, high fat or carbohydrate intake) or exhibit depressive symptoms as a result of this fatigue. Additionally, an athlete who is experiencing emotional difficulties may use food as a type of medication, using some stimulant properties of certain foods and may exacerbate physical symptoms.

- Whether the food intake foods occurred first, or the psychological manifestations arose subsequently, both feed off of one another, sometimes creating a cycle of trying to feel better with food, after consumption, feeling poorly, using food once again to deal with emotions.

- Good nutritional routines with adequate vitamin and mineral content allow for optimal physical development and lessen possible changes in emotional well-being.

NUTRITION FOR COACHES

- It is just as important for coaches to eat as well as their athletes. All basic nutritional guidance, the physical and psychological effects are also applicable to coaches. With the exception of the amount of food intake and special modifications for extensive exercise, coaches should also monitor their own intake to optimize well-being. Coaches are role models for their athletes and responsible for the effects of any nutritional based physical and psychological outcomes.

- When coaches are under a great amount of stress, eating patterns are often a common sign. Coaches can monitor food intake as a possible awareness to stress that is beyond regular coping abilities. Additionally, using substances such as alcohol or caffeine, can greatly affect a coach's level of fatigue at both practices and competitions.

- At competitions that require traveling, packing nutritional meals, or selecting foods with a good nutritional value and balance will allow the coach to be at their optimum state (physically and emotionally) when working with their athletes. Although, a lot of coffee may seem like a good way to maintain alertness through an entire day of competition, the withdrawal effects often increase fatigue during the second day of competition. Likewise, eating differently or indulging in restaurant specialties or alcohol, will alter a coach's normal state of functioning.

- As with athletes who have a regular eating routine before and at competitions, a coach should know what is ideal for him/her and understand what variations to a normal routine can affect; alertness, energy, communication, ability to concentrate or focus clearly and controlling emotions are all potential results of radically altered diets.

FEMALE ATHLETE TRIAD:
A COMPREHENSIVE MANAGEMENT APPROACH

Trevor L. Hall and Julia M.K. Alleyne, Women's College Hospital, Toronto, Canada

Terry is a 16 year old competitive figure skater. She enjoys her sport both on a recreational and competitive level. One day, during her training, her knee began to give her pain and consequently swelling had occurred. It became persistent and unless she stopped skating her condition would not improve. Despite physiotherapy, medication and modification of skating, there was no improvement and she was advised to stop skating for six weeks. Her physician recommended water training and cycling as a way to cross train. Terry began to eliminate foods from her diet because she feared that she would gain weight and lose her competitive advantage. In four weeks, she was only eating veggies and drinking water. When she weighed herself 2 months later, she noticed that she had lost 7 pounds. In addition, she missed two menstrual periods and now was experiencing fatigue, decreased endurance and more aches and pains.

Many athletes today don't realize the importance of a healthy food menu as their greatest source of performance power. During times of transition in our training and routine, we often lose our "food routine" and sacrifice healthy nutrition under the misconception that we might gain weight.

Females are particularly affected by poor diet as they may reduce or stop producing estrogen which causes less frequent menstrual cycles and lead to reduced bone density and stress fracture. This syndrome is called FEMALE ATHLETE TRIAD and affects females whose body mass index is under 20 and who are training 12- 20 hours per week. Female athlete triad is comprised of three inter-related factors; disordered eating, amenorrhea and osteoporosis.

Disordered eating is exactly what happened to Terry. She was not intending to change her body or even lose weight, she was trying to stay in top performance shape and unknowingly began to reduce her food intake and limit her food choices. These type of food myths can be dangerous to our metabolism as we start to break down muscle for energy and our metabolism may actually slow down with decreased food intake. Our food energy input should be fulfilling our physical energy output so that we are not in deficit. Even though our activity level may be reduced at times, we still require significant food energy to grow, to heal and to complete our daily activities. Disordered eating means that we don't eat enough, or not the correct portions or balance of food groups.

In young women, this disordered eating pattern can cause a reduction or actual cessation of menstrual cycles. This means that your body does not have enough energy to produce estrogen which is vital for bone health, mood control and energy levels. In some cases, the bones can become so weak that they fracture with little stress and can be compared to a 70 year old women's bones.

The best way of avoiding Female Athlete Triad and eating disorders is to gain knowledge about healthy lifestyle and nutrition through education, a visit to a dietician or sport medicine physician and asking many questions about perceptions and myths that may be guiding your eating behaviour. Remember that the models that you see in magazines and music videos are not necessarily healthy nor are their images true to fact. A healthy athletic body has muscles, shape and form which are all part of good eating habits.

Terry's road to recovery included: a nutritional meal plan, counseling regarding body image and performance goals as well as a gradual training program that progressed her level of activity according to her nutritional intake. In the long run, her aches and pains only recovered when she was well nourished and not over-exercising. She learned a lot about herself, her body and her sport!

Introduction:
Over the past decade, the Female Athlete Triad has become an important issue in sport medicine. The Triad consists of three conditions - disordered eating, amenorrhea and osteoporosis - occurring in women athletes. The deleterious effects of the Triad have become apparent, as prolonged amenorrhea in athletes has been shown to cause decreased bone density and to be associated with stress fractures. The long-term effects are not yet known. Although the medical management of the Triad can be challenging, a multidisciplinary approach, which incorporates the particular needs of the athlete, often leads to a beneficial outcome.

Understanding the Triad:
Disordered eating: The severity of disordered eating patterns ranges from simply poor nutritional habits to frank anorexia and bulimia nervosa. Poor dietary habits commonly involve unbalanced food restrictions such as avoidance of any fat, protein or dairy products. Calorie restrictions can be surprisingly quite marked, especially considering the amount of athletic activity in which the woman engages. Disordered eating may thus lead to abnormally low body weight and body energy deficits, and has emerged as what may be the most important factor in the onset and perpetuation of the Triad. Studies have shown that amenorrhea is difficult to induce with exercise alone and that weight loss in combination with intense exercise produced a greater degree of menstrual delay.4 When disordered eating is combined with the physical growth that accompanies the pre-pubertal and pubertal years, there may be a compounding of impact and severity of the disorder.

Amenorrhea: Exercise-associated amenorrhea is defined as a lack of menstruation over a six month period, or two or fewer menstrual periods per year, in a woman athlete who previously had a normal menstruation. In young athletes, the amenorrhea may be primary in nature. Although definite amenorrhea is a hallmark of the Triad, less obvious menstrual dysfunction such as oligomenorrhea and short luteal phase are very common.2 Menstrual history must review the previous year and not just the past few months in order to detect warning signs or trends of oligomenorrhea.

Exercise-associated menstrual dysfunction is classified as hypothalamic in nature and involves alterations in gonadotropin and sex steroid production. The actual etiology is thought to be multifactorial, involving intense exercise, weight-loss, disordered eating patterns, and psychological stress.3, 7, 17 Besides osteoporosis (described below), effects of long-term amenorrhea may theoretically include altered reproductive function in child-bearing.

Osteoporosis: Since the mid-1980s, the association between women athletes with amenorrhea and low bone density has been observed.5, 8, 11 This link is thought to be related to alterations in estrogen and progesterone which play an important role in preserving bone.18 This bone mineral loss appears to be greatest in the first one to two years, and only partially reversible once normal menstruation resumes.6, 9 The vast majority of bone mineral mass is laid down during adolescence, therefore bone loss during this stage of growth can be extremely detrimental. [Hergenroeder] Short-term complications include stress fractures19 which may lead to long layoffs from athletics. Long-term sequelae, such as hip and vertebral fractures, have not been investigated, but may be postulated on the basis of studies conducted with osteoporotic post-menopausal women.

Understanding the athlete and the sport:
Athletes have a strong motivation to train for their sport or activity. This drive to excel may lead to inappropriate beliefs with respect to body image, nutritional habits and training regimens. Sports which are at high-risk for the development of the Female Athlete Triad include activities which place a strong emphasis on body aesthetics and artistic performance (e.g. gymnastics, ballet, figure skating), endurance sports (e.g. long-distance running, triathlons), and sports with weight classifications (e.g. martial arts, rowing). Depending upon the athletic activity, the woman athlete may face pressure to achieve a particular body weight or physique which she believes is linked to a higher level of achievement. These pressures may arise from the athlete's peers, coaching and training staff, family members, judges, general public and from the athlete herself. Although competitive athletes are often cited as those suffering from the Triad, recreational athletes have similar internal drives and motivations and are at risk of developing the Triad as well. High school athletes appear to be the most vulnerable to peer pressure, media images and poor understanding of healthy lifestyles. Sport and physical activity which undergo a sudden and rapid increase in training over a short period of time can also set the stage for calorie deficit and consequent weight loss. These factors introduce challenges to the management of the Female Athlete Triad. Treatment options may be viewed by the athlete as being unacceptable due to conflicts with her belief system and training goals.

Incorporating a team approach:
Management of the Triad must be centered on the athlete, with the involvement of a multidisciplinary team of professionals providing support as required. The family physician and sport medicine physician are ideally positioned to provide preventive education, as well as continuing and comprehensive medical care which encompasses the athlete as a whole person. Involvement of other health care professionals such as a nutritionist, a psychiatrist or psychologist and a gynecologist may be required in individual cases. The physical and/or athletic therapist is a key member of the team since athletic training cannot be eliminated in competitive athletes as a first measure. The ongoing relationship and confidence that an athlete has in her therapist creates a trusting and guiding relationship. If agreeable to the athlete, mobilization of her social and family supports may also be helpful. Depending upon the age of the athlete, parental involvement may be essential. The involvement of the coaching and training staff in increasing awareness of the Triad and promoting healthy participation in sport is essential.

Talking and listening to the athlete:
Educating the athlete about the causes, complications and treatment options of the Female Athlete Triad is essential. Depending upon the athlete's age, explanation of basic menstrual function may also be necessary. The athlete's concerns must always be addressed. She may have certain belief systems (e.g. belief that amenorrhea is good for performance and that excessive training schedules and restriction of particular foods is required for optimal performance) that run contrary to what, from the physician's perspective, seems like a sensible treatment plan. The physician must provide education about the ingredients of peak performance (proper nutrition, appropriate training, etc.) and must dispel the myth that "lighter is faster". The testing of percentage of body fat as a measure of performance indication has been strongly discouraged unless accompanied by comprehensive nutritional counselling and accurate predictors of performance. Written information, such as pamphlets produced through the Canadian Academy of Sport Medicine and the American College of Sports Medicine, may provide direction.

Counselling the athlete about nutrition:
An athlete who has poor nutritional habits should be counseled about ways to improve her dietary regimen to maximize health and athletic performance. Although three-day dietary logs may be inaccurate for research purposes, they do provide useful information in clinical practice. Commonly encountered dietary restrictions, such as calories, dairy products, protein sources and fat sources may be readily identified and addressed. Adherence to particular dietary fads should also be determined. The athlete should be counselled with respect to a balanced nutritional approach to eating which includes regular meals and adequate intake of fruits and vegetables, cereals and grains, protein sources, dairy products, and fluids. An increase in overall caloric intake may be required. Reframing these changes to the athlete as maximizing the energy availability for health and athletic performance is often helpful. Calcium requirements vary according to age (e.g. adolescents need 1200 mg to 1500 mg (or 4-5 servings) per day (CMAJ). An amenorrheic athlete requires 1500 mg of calcium per day. A serving represents a glass of milk (8 oz.), cheese (one inch cube) or 175 g container of yogurt. If dietary intake is inadequate, then calcium supplements (calcium carbonate or citrate) may be used. Supplementation should also include Vitamin D (400 to 800 IU per day). [CMAJ] Adequate fluid replacement is essential for peak performance. According to the American College of Sports Medicine guidelines1, 150-250 mL of fluid should be replaced with every 15-20 min. of exercise. If exercise extends beyond 60 minutes, then a sport drink containing 4-8% carbohydrate (e.g. Gatorade, Allsport) should be consumed, otherwise plain water is adequate. Information concerning general nutritional requirements can be obtained in Canada's Food Guide and dietary concerns more particular to the athlete are addressed in information produced by the American Dietetic Association. Referral to a nutritionist for more advanced counselling may be necessary, particularly in cases where frank eating disorders are present. Tobacco smoking and alcohol consumption are both associated with decreased bone density. [AMJ]

Counselling the athlete about body image and weight:
The athlete's views with respect to her body image should be ascertained in an empathic manner. Some athletes may have a very practical approach to their sport and its unfortunate requirement for particular body physique required for success; while other athletes may be oblivious to and unwilling to accept the deleterious nature of their body image beliefs. Body mass index (body mass (kg) divided by height (m) squared normal is considered between 20-25)) may provide a basis for comparison to the general population, but may lack specificity for athletes in particular sports. Body Mass Index values are based on a population of adult women who are 18 years of age or older. The younger group must use other methods of evaluation including the Tanner charts for growth and a combination of anthropometric measurements. Body composition testing methods have many inaccuracies and should be used with extreme caution if used at all in this group of athletes. A simple suggestion of "gaining weight" may be quickly rejected by the athlete; however, reframing the problem as an "energy drain" on their system may provide a more useful approach when attempting to have the athlete make nutritional changes. Body image distortion must be examined in combination with exploring self esteem, stress management strategies, coping skills, family function, academic performance and psychosocial history. Athletes with anorexia or bulimia nervosa should receive appropriate counseling or psychotherapy from a family physician with expertise in this area, from a psychiatrist, or a centre specializing in the treatment of eating disorders. The physician must be aware of the medical complications of eating disorders such as anemia, dehydration, muscle weakness and life-threatening complications such as cardiac arrhythmias.

Modifying the training regimen:
A woman with the Female Athlete Triad should be counseled with respect to modifying her training regimen. Some athletes may be very reticent to decrease the amount or intensity of the physical exercise for fear of decreased athletic performance and other related concerns. Nonetheless, adding a day of rest into the training schedule or reducing the amount of exercise may be necessary. Incorporating breaks in the training schedule for nutrition and fluid replenishment is a key modification. A sport nutritionist can easily formulate a training program which specifies pre-competition, competition and post-competition nutrition and fluid intake guidelines.

Incorporating hormone supplementation into the treatment plan:
Hormone supplementation may take various forms. Most commonly, estrogen and progesterone in the form of oral contraceptives are prescribed. Progesterone-only medication and regimens similar to the hormone replacement therapy used in post-menopausal women have also been attempted. The use of hormone supplementation in amenorrheic athletes has been advised on the basis of studies that have shown estrogen to be protective against osteoporosis in post-menopausal women. Studies conducted with athletes have not been abundant. However, in a randomized prospective trial, Prior et. al. reported a significant increase in spinal bone density in athletes treated with progesterone therapy, while athletes treated with calcium alone gained no such benefit. In a retrospective analysis, Myburgh et. al. showed that, in athletes with similar training habits, those with a history of stress fractures were less likely to have used oral contraceptives in the past. Other studies in young non-athletic populations have shown some conflicting results. In two prospective studies of young women experiencing hypothalamic amenorrhea, estrogen replacement therapy in doseseffective in post-menopausal women did not increase bone density significantly.10, 20 Randomized prospective trials using higher doses of estrogen (such as in oral contraceptives) have not been performed. Nonetheless, two studies, the first an observational prospective study of healthy college women and the second a retrospective study of women with anorexia nervosa, showed the use of oral contraceptives to be associated with increased bone density.

Many athletes may have many preconceptions and possibly misunderstandings about hormone supplementation. These should be addressed as well as including concerns about weight gain while on the oral contraceptive. Concerns of athletes commonly involve possible effects on training and body weight. Hormone supplementation is not a permanent answer, as normal menstruation still provides the best results in bone density. Medical screening prior to hormone supplementation is advised and includes; gynecological exam, blood work (estradiol, progesterone, follicle stimulating hormone, prolactin, testosterone, thyroid stimulating hormone) bone density and if necessary a pelvic ultrasound. Therefore, hormone supplementation should be instituted while behaviour changes are made in nutrition and training intensity.

Assessing adequacy of treatment:

A woman with the Female Athlete Triad should be followed closely by her multidisciplinary team of professionals, led by her family or sport physician. Monitoring techniques must be individually assigned. For example, a weight monitoring regime should be agreed upon according to the level of weight loss balanced by the degree of weight preoccupation. An office visit for weight monitoring is advised on a bi-weekly basis. As previously described, body composition testing should most likely be avoided since measurement methods are often inaccurate. The physician should explain to the patient that scale weight is a measure of direction not a target or goal. The physician should also monitor energy level, cold intolerance, clothes fitting and muscle girth in sport-specific muscles. The ultimate goal of therapy is resumption of normal menstruation and preservation of bone density and complications of the Triad. Bone mineral density can be measured by DEXA scan and will provide a basis for comparison over time. Careful follow-up of the athlete's psychological status and beliefs with respect nutrition and body image is also advised.

Preventing the Triad:

Educating women athletes about the causes and complications of the Female Athlete Triad will be important in its prevention. Increasing awareness of the Triad among coaches, training staff and family members will also be useful in changing perceptions and hopefully alter pressures placed on women athletes. On a wider perspective, changing the attitudes of what constitutes a successful athletic performance from that which emphasizes particular body physiques may be necessary for effective prevention. At Women's College Hospital, Sport C.A.R.E., the Athletes at Risk program is designed to provide athletes with a interactive preventive education course and provide strategies for change and management. Information on this course is available through a national toll free number 1-800-363-9353.

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The Female Athlete Triad - Common Sense for Complex Cases

Dr. Julia Alleyne, Medical Director, SPORT C.A.R.E. 1-800-363-9353

1. Inter-relation of Factors:
   - Eating Disorders - Anorexia, Bulimia, Combines Cycles
   - Amenorrhea - primary or Secondary
   - Osteoporosis - bone loss, Osteoblastic Failure, Combination

2. Who is at risk?
   - Appearance sports
   - Endurance sports
   - Weight limit sports
   - Internal factors - personality predisposition, anxiety, digestive disorders
   - External factors - coaches, families, media, society

3. Health Consequences
   - Eating Disorders- reproductive function, bone loss, psychological, G.I., thermo-regulatory, cardiovascular
   - Amenorrhea - bone mass, infertility, reproductive cancers, cardio
   - Osteoporosis - premature bone loss, stress fractures, pathologic fractures

4. Screening
   - Preparticipation physical - education, counseling, weight, diet analysis, menstrual history,
   - Weight - Growth Charts, Body Mass Index, Puberty Stage
   - Vital Signs - HR<50, Orthostatic Hypotension
   - Observation - Lanuago, Mouth Ulcerations,
   - Psychological Evaluation - Stress and Coping, Self-esteem, Anxiety
   - Injury History - fractures, fatigue, overuse-abuse
   - Trainers, Therapist, Coaches, Team-Mates, Parents, Teachers

5. Investigations
   - EKG if HR<50
   - Electrolyte Screen (hyponkalemia, elevated BUN, elevated urine PH)
   - Hormone Profile - FSH, LH, Testosterone, GnRH
   - Bone Evaluation - XR if painful, hormone profile, Bone density

6. Recommendations
   - Education - Optimal Weight, Lean Body Mass, Dispel Myths
   - Early Recognition - remove athletes “at risk” from competition
   - Research - inter-related factors / administration responsibilities

NUTRITION - SPECIFIC RESOURCES & PRODUCTS

Nancy Clark's Sports Nutrition Guidebook - Third Edition* This book covers every nutritional topic for active people and information is presented in a logical and easy-to-understand format. It includes a section on eating disorders. The topic is dealt with practically and sensitively. Check out the yummy recipe section at the end of the book	Amazon.ca
Canada's Food Guide The quintessential guide to proper nutrition!	Canada's Food Guide
www.dietitians.ca Web site provides good basic nutritional information and also provides excellent information on finding a good dietician. Site also provides some good resources and links. It can be difficult to navigate, but worth the time & effort.	Dieticians.ca
Nutrition for Children: Play Hard, Eat Right The American Dietetic Association's Play Hard, Eat Right gives insight into your active 6 – 12 year old's changing nutrition needs and provides the tools you need to help your child get a head start, including the latest dietary guidelines for child athlete, tips on selecting nutritious fast food, important information on nutrition and your child's growth, body weight, and development. Also includes tips to help you provide adequate nutrients - carbohydrates, protein, fat, vitamins, and minerals - for a child athlete.	Amazon.ca
Nutrition for Serious Athletes As a competitive athlete, you know that what you eat and drink can significantly affect performance. And when you compete at a high level, the types, amounts, and timing of foods, fluids, and supplements is especially critical. Nutrition for Serious Athletes combines the latest research and the training experiences of top athletes to provide detailed eating plans for strength, power, and endurance sports.	Amazon.ca
Whitehall-Robbins A National Sponsor, Whitehall-Robbins provides many excellent vitamins and supplements for athletes.	Centrum Vitamins

This section includes resources and various products related to nutrition for athletes.

The resources included have been recommended by certified professionals, however the provision of this listing and its contents does not constitute endorsement by Skate Canada of the linked web sites, or the information, products or services contained therein. Unless otherwise specified, Skate Canada does not exercise any editorial control over the information you may find at these locations. All information is provided with the intent of meeting the vision of Skate Canada – to assist the attainment of personal excellence.

Section 6:

SKILL ANALYSIS

SKILL ANALYSIS

Analyzing skills is an important and challenging task for you as a coach. The first step in analyzing a skill is to observe it and the second step is understanding how a skill should be performed.

In this module coaches will:

- review key concepts discussed at the Primary STARSkate training
- discuss the seven biomechanical principles
- relate each principle to figure skating
- detecting and correcting errors in jumps
- detecting and correcting errors in spins

Review of Key Concepts

The preliminary information needed to analyze a skill can be observed from a global or a general view. From the global view the coach can make decisions regarding the performance of the skill and note any basic errors.

Once the general nature of the problem has been determined observe additional attempts specifically focusing on a part of the skill or the body (or body segment) that is causing the error.

An understanding of the biomechanical principles as they relate to figure skating skills is a valuable tool for skill analysis.

THE SEVEN BIO-MECHANICAL PRINCIPLES

Principle #1 - Stability

Principle #1: The lower the centre of gravity, the larger the base of support, the closer the line of gravity to the centre of the base of support and the greater the mass, the more stability increases.

Stability increases when:

- centre of gravity is lower
- base of support is larger
- line of gravity falls closer to the centre of the base of support
- mass is greater

The stability of a skater is dependent on the following:

1. A skater with a lower centre of gravity is more stable.

2. The size of the base of support, i.e. consider a skater's stability when gliding on two feet/one foot while on flats.

3. Where the line of gravity falls in relation to the skater's base of support, i.e. consider the stability of a skater who is gliding in a straight line on one foot and one who is gliding on a curve on one foot. Lean can create instability.

4. The mass of the skater, i.e. heavier skaters are more stable.

This principle has many applications in figure skating. Consider the following:

- Keeping the trunk strong and the body aligned over the blade helps keep the centre of gravity over the base of support which in figure skating is usually only one edge of a skate blade.

- Bending at the hips, knees and ankles when initiating the take-off phase lowers the centre of gravity.

- Bending at the ankles, knees and hips when landing lowers the centre of gravity.

Principles #2 and #3 - Maximum Effort

Principle #2: The production of maximum force requires the use of all the joints that can be used.

Principle #3: The production of maximum impulse requires the use of joints in order from largest to smallest.

Principles #2 and #3 are both associated with maximum effort. Some skills call mainly for maximum force while others for maximum impulse. However, many skills require both force and impulse.

Maximum Force

The more joints that a skater uses in a movement and the more muscles he/she contracts, the more force he/she can exert. Consider Isabelle Brasseur and Lloyd Eisler doing a pressure lift. To do so, Lloyd must use his hips, knees and ankles, shoulders, elbows and wrists. Leaving out even one joint would reduce the effectiveness of his lifting force.

Maximum Impulse

Skills calling mainly for maximum impulse are timed sequentially. Larger slower joints start the movement, the smaller, faster joints contribute once the preceding joints reach peak speed.

Consider a double loop take-off

The skater must use the full range of motion from flexion to extension, from biggest to smallest and from slowest to fastest in order to create the necessary impulse. The hip, knee and ankle joints flex and then extend on the take-off.

Principles #4 and #5 - Linear Motion

Principle #4: The greater the applied impulse, the greater the increase in velocity (speed).

Principle #5: Movement usually occurs in the direction opposite to that of the applied force.

Principles of Impulse

The principle of impulse applies whenever joint range of motion is an issue. In general, if a skill calls for maximal application of force, the joint should be moved through a larger range of motion - force is applied for longer and the power is greater.

Consider the stroking of John Curry and Scott Hamilton. John Curry is the taller of the two and has longer legs, so in theory, he is able to move his blade through a larger range of motion. Because his blade is in contact with the ice for a longer period of time during the thrusting action, force is applied longer and the result is greater power.

Principle of the Direction of the Application of Force

The principle of direction is related to Newton's Third Law of Motion - "EVERY ACTION HAS AN EQUAL AND OPPOSITE REACTION."

When skaters perform thrusting skills like stroking, jump take-offs and push-offs in figures they push against the ice and the ice pushes back. The Direction Principle is applied in the following example:

> When skaters stroke in a forward direction they want to skate as fast as possible. In theory, they should direct forces straight backward during the thrusting action. This action produces power. However, the structure of the leg joints, the need for balance and the angle of the blade against the ice, make a proper recovery impossible. (The inside edge is used to thrust.) The skaters must compromise the angle of thrust. We use approximately a 30o angle of thrust to the direction of travel. The technical requirement of thrusting with the blade rather than the toe pick means that the skaters produce less power than they could potentially produce by pushing straight backward.

Principle #6 and #7 - Angular Motion

Principle #6: Angular motion is produced by the application of a force acting at some distance from the axis that is a torque.

Principle #7: Angular momentum is constant when an athlete or object is free in the air.

Production of Angular Momentum

Changes in angular motion are produced by the application of a torque (a force applied away from the axis of rotation).

Free limbs can assist in the production of rotation and increase the magnitude of forces against the ground. Free limbs must complete their swings while the skater is still in contact with the ice, otherwise no reaction forces will be produced on a jump take-off. A skater must utilize his/her arms and free leg to produce the correct amount of force necessary for his/her body type and skill level in order to produce the amount of height necessary to complete the jump.

Conservation of Angular Momentum

Angular momentum is constant when a skater is free in the air. The amount of angular momentum is constant after the take-off. Therefore angular momentum for rotation must be created during the take-off phase.

A skater can change his/her angular motion during a jump by changing the two quantities that make up momentum: moment of inertia and angular velocity. If a skater decreases his/her moment of inertia, i.e. pulls his/her limbs into a tight air position, angular velocity must increase and if the moment of inertia increases, angular velocity must decrease. Kurt Browning must assume a tighter air position for a quad than for a double or triple jump. He must reduce his moment of inertia in order to increase his angular velocity (speed of rotation).

Similarly, a figure skater can alter his/her velocity in a spin by pulling his/her arms in close to the body, decreasing the moment of inertia and spinning faster. This principle can also be used effectively to slow down a spin - the skater extends the arms out to the sides, thus increasing the moment of inertia.

WHAT MAKES A JUMP GO UP:

1. Gaining speed on the ice and on take-off of the jump, results in a conversion of linear momentum to a combination of vertical, linear, and angular momentum;

2. In dealing with the conversion from along to going up the skater must create a resistance to which he/she can apply force in a jumping mode to project upwards. In a toe jump when the toe pick is planted you can no longer go along the ice the energy is either absorbed in the body bringing you to a stop or re-routed sideways or vertically. Since there is a jumping action, there is a conversion to vertical direction. This is a vault type concept similar to a pole-vaulter. In an edge jump, the blade ends up sideways to the original direction of motion and in relation to this original direction it is at a standstill giving a resistance for the vaulting action.

3. To get maximum lift you utilize all possible joints in order from large to small, however there is a lot of simultaneous action with variations depending on the athlete's body structure, muscle type and natural rhythms.

4. The greater the impulse on the take-off, the greater the lift. However the use of a greater impulse brings about problems of keeping balanced on a running edge. In addition, sharp impulses require exceedingly accurate timing and placement of body parts in relation to that impulse.

5. There is an ideal trajectory for each jump. If there is too much conversion of linear to vertical and angular momentum there is insufficient velocity coming out of a jump and subsequent lack of balance. Different trajectories are used if you are doing jumps in sequence or individually.

WHAT MAKES A JUMP ROTATE:

Convert linear momentum to angular by the application of an off centre force.

1. Toe jumps: Toe pick is placed slightly to the side of the path of the jump plus the spiraling edge.

2. Edge jump: The spiraling action of the take-off edge is the off centre force as one side of the body actually slows down in relation to the other plus the impulse that occurs when the blade is sideways to the original travel path (and hitting a pick). Note: the spiraling edge converts linear to angular plus additional off centre impulse when it comes to a pick.

3. Some people use a lot of off centre force, skidding to an abrupt momentary stop while others just skate the jump into a spin. This will depend on gender and how the body adapts to force, strength, body structure and muscle type.

4. Control the angular velocity (speed of rotation) by the placement of body parts around the line of rotation.

5. Inertia is reduced if body parts are close to centre of rotation. Less energy required to alter the rate of rotation.

6. On landing use the principle of stability, e.g. side low to balance, the low knee bend etc. give the illusion that the jump was higher than it really was.

7. All landings are backwards - hinge on foot is at the back and the foot/body is more stable backwards than forwards.

DETECTING AND CORRECTING ERRORS IN JUMPS

A good jump has height, length, correct flight position, ,required number of rotations, controlled take-off and landing, sufficient flow and nice presentation. If a jump is weak in any of these areas the coach needs to determine the cause of the error and to inform the skater how to correct the error.

I. Height

If a jump lacks height the coach should look for:

1. The optimum use of the arms and free leg on the take-off: The arms and free leg should be used over the fullest range of motion in the correct direction in order to contribute to vertical lift.

2. The complete utilization of the power of the take-off leg: The hip, knee and ankle should extend (plantar flex in the case of the ankle) at the take-off. The joints extend in order from largest to smallest. This extension applies a force to the ice so that, as a result of action-reaction, the skater is propelled into the air in a controlled manner.

3. The correct placement of the toe on toe jump take-offs: It is imperative that the toe be placed in a natural line from the hip, by placing the picking leg directly behind the hip. The picking foot should be far enough behind to allow a controlled transfer of weight and energy to occur.

4. The curvature of the take-off edge: In order to prevent swinging and to avoid "spinny" looking jumps, toe jumps require a shallower entry edge than edge jumps. The entry edge should not be too curved.

5. The amount of speed: The preparation should allow the skater to build up adequate speed so that the jump will have sufficient height.

6. The angle of take-off: The optimal take-off angle for height and distance is 45^{o}. The skater should be in a controlled and balanced position over the blade.

7. The correct balance point on the blade on the take-off: On edge jumps the skater should roll over the toe pick on the take-off to convert horizontal speed to vertical lift.

8. Correct position of the head on the take-off: The head should be up and balanced over the spine.

II. Distance

If a jump has insufficient length the coach should look for:

1. The speed on the preparation and take-off phases.

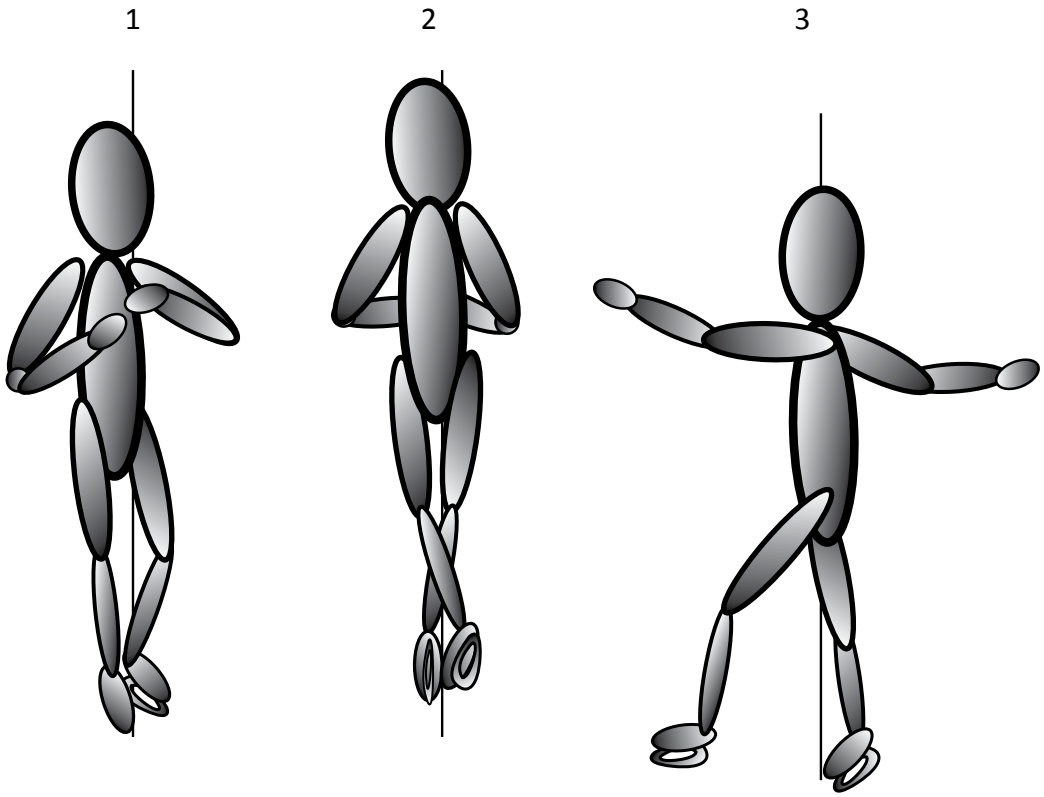
2. The optimum use of the arms and free leg on the take-off.

3. The angle of the take-off (review Level 1 manual).

4. The optimum use of the picking leg on the take-off.

5. The curvature of the take-off edge. The entry edge should not be too curved to prevent swinging and to avoid "spinny" looking jumps. Toe jumps require a shallower entry edge than do edge jumps.

III. Rotation



Flight position for counterclockwise rotation.

If there are problems with the rotation in the air, the coach should look at:

1. The coordination and timing of the whole body as a unit.

2. The timing of the arms and free leg towards and away from the axis of rotation. The positioning of the arms and free leg in relation to the axis of rotation affects the speed of the rotation.

3. The alignment of the body parts at the moment of take-off. The body parts should be correctly aligned in relation to the axis of rotation to permit controlled rotation to occur.

4. The head position: The head should be in a balanced upright position accommodating the direction of rotation.

IV. Landing

If there is a loss of balance or control on the landing the coach should check:

1. The take-off angle: Errors in the take-off angle will also cause problems on the landing.

2. The control of the transfer of weight to the landing leg, where applicable.

3. The body angle on the landing: The body should be positioned to permit follow through of the landing leg. The upper body should not collapse on impact.

4. The landing position of the upper body: Lurching or buckling forward on the landing is a result of incomplete neutralization of the body on take-off.

DETECTING AND CORRECTING ERRORS IN SPINS

A good spin has a well controlled entry, a solid spinning position, fast rotation, numerous rotations and a neat exit. However errors can occur in a spin for a variety of reasons. Some of the common errors are discussed in order to help the coach correct them.

I. If there are problems with the balance of a spin, the coach should check:

- the support line of the body in the entry phase
- the off-centre forces
- the transfer of momentum

2. If a spin has insufficient speed, the coach should check:

- the curvature of the spiralling entry edge
- the contact point of the blade with the ice as it should be properly maintained throughout the spin
- the size of the circles
- the use of the arms and free leg when decreasing the moment of inertia. Their action must be controlled.
- that the skater absorbs the energy into the body rather than utilizing toe pick friction or edge skidding or scraping to control the energy. Heavy scratching will result in friction which prevents rapid rotation and decreases the life of the spin.

Application of Principles as They Relate to Your Coaching

PARTS OF A JUMP		BIOMECHANICAL REFERENCE
Preparation		
1. Balance	Principle #1	Stability
2. Speed	Principle #5	Applied force
3. Direction	Principle #3	This is the principle covering “straight and strong”, i.e. check direction for correction. Use all of the joints in order from largest to smallest.

Take-off		
1. Height 2. Direction 3. Beginning of rotation	Principle #2 Principle #3 Principle #5 Principle #6	Summation of joint forces: use all of the joints than can be used. Straight and strong Applied force Application of an off centre force.
Flight		
1. Rotation Landing	Principle #7	Angular momentum (moment of inertia)
Landing		
1. End of Rotation	Principle #7 Principle #3 Principle #2	Angular momentum Straight and strong Summation of joint forces
Balance		
	Principle #1	Stability

PARTS OF A SPIN		BIOMECHANICAL REFERENCE
Preparation		
1. Balance 2. Direction 3. Speed	Principle #1 Principle #3 Principle #5	Stability Straight and strong Applied force
Entry		
1. Beginning of rotation	Principle #6	Application of an off centre force
Spin Position		
1. Rotation	Principle #7	Angular momentum
Exit		
1. Reverse of Above	Principle #7 Principle #5 Principle #3 Principle #1	Angular momentum Applied force Straight and strong Stability

PARTS OF A FLYING SPIN		BIOMECHANICAL REFERENCE
Preparation		
1. Balance	Principle #1	Stability
Take-off		
	Principle #4 Principle #5 Principle #6	Applied impulse Applied force Application of an off centre force

Landing		
	Principle #1	Stability
Spin Position		
	Principle #7	Angular momentum
Exit		
1. Reverse of Above	Principle #7 Principle #5 Principle #1	Angular momentum Applied force Stability

Note: Maximum force and effort is not always necessary in order for your skater to perform a skill. Usually the better skater needs less effort and force to produce a quality skill.

Section 7:

MUSIC

MUSIC

Music is an integral part of figure skating. The more a skating coach knows and understands about music, the easier it will be for him or her to select appropriate music for skating and choreographing programs.

This module will outline music fundamentals and the major music periods and forms of music during the last 400 years from which a figure skating coach can select suitable music for skating programs. Some basic knowledge of the music and the characteristics of each particular period will help you to select and combine music that is suitable for a particular skater.

After completing this module, you should be able to:

- identify the fundamentals of music
- describe the five basic periods of music during the last 400 years
- describe the forms (ballet, concerto, opera, etc.) of music for the last 400 years
- select music suitable for figure skating
- combine various compositions to produce a suitable skating program

The following topics will be discussed to give the coach a brief overview of the history of music for the last 400 years.

- Music Fundamentals
- The Periods of Music
  – Baroque
  – Classical
  – Romantic
  – Impressionist
  – Modern
- Some Forms of Music
  – The Ballet
  – The Concerto
  – The Opera
  – The Overture
  – The Suite
  – The Symphony
  – The Tone Poem
- Maintaining An Inventory of Skating Music
- Selecting Music For Skating Programs
- Appendices

MUSIC FUNDAMENTALS
(From Choreography and Style For Ice Skaters by Ricky Harris)

A simple understanding of the basics of written music will be you to understand rhythmic changes in program music and open your mind to the subtleties of movement that can best interpret music. When listening to music, you will be able to determine the various dynamics and qualities that can be transferred to your skating. Being aware of rhythmic qualities and fulfilling musical values in your choreography will help you to achieve an artistic awareness that will help you to make your skaters exciting musical performers.

For many years music was merely used as a background for a skater's program. There was a time when skaters who tried to be original and perform creative programs were criticized and even marked down for their attempts when judged competitively. As skaters learned more of ballet, modern dance and jazz, they became unsatisfied with a purely athletic type of program. Some began to skate beautiful programs expressing their music.

Unfortunately, not everyone is born with a sense of timing and rhythm. There are excellent skaters who have difficulty keeping time to music and do not seem able to hear downbeats and phrases. These people have to be taught and with persistence they can learn.

Musical training is an important aspect in the training of coaches. Knowing basic note values, how to count music, how music is phrased and being able to coordinate it with movement phrases, make a great difference in a program and have a dramatic effect on the composition and style of the performing skater.

It is not mandatory for the coach to learn how to play a musical instrument, although it could be advantageous. Understanding written music can help in your music appreciation, making it easier to select music for programs.

Note Values

All music is written on a staff which consists of five horizontal lines. The staff is broken up into vertical lines called bar lines, which separate the music into sections called measures (see Figure 1). Sometimes measures are referred to as bars.

Figure 1

	1st measure	2nd measure	3rd measure	4th measure

Musical notes show how long to hold a sound (see Figures 2 and 3).

Figure 2

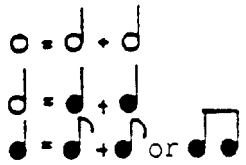
is a whole note

is a half note

is a quarter note

is an eighth note

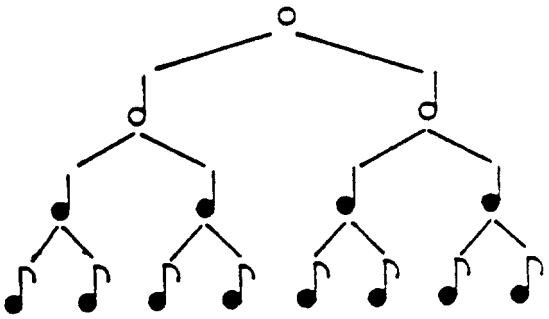
is two eighth notes, beamed



One whole note equals two half notes.

One half note equals two quarter notes.

One quarter note equals two eighth notes.



Music has a basic beat (count). In most music this basic beat is represented by the quarter note. When the quarter note gets one count it affects other note values (see Figure 3).

Figure 3

= 1 quarter note, gets 1 count

= half note, gets 2 counts

= whole note, gets 4 counts

= eighth note, get 1/2 count

= 2 eighth notes, gets 1 count

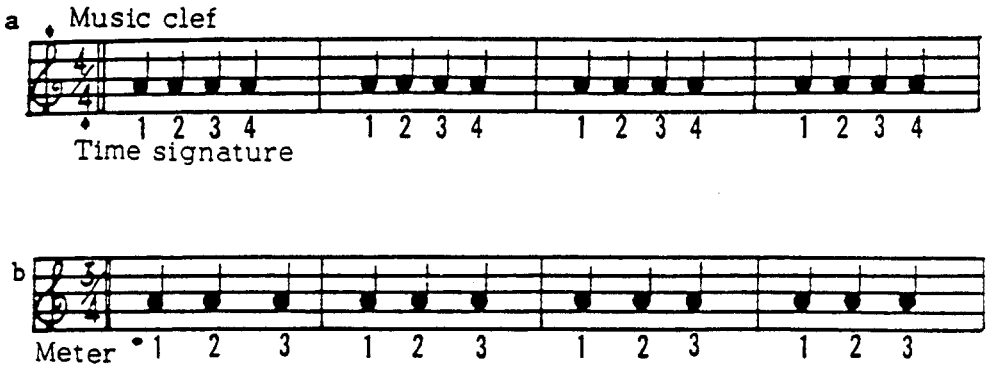
Before music is written, the time signature must be determined. For our purposes, only two time signatures will be discussed:

4 means four counts to each measure (meter) (See Figure 4a)
/
4 means quarter note gets one count

3 means three counts to each measure (meter) (See Figure 4b)
/
4 means quarter note gets one count

The time signature is always written next to the music clef at the beginning of the staff (see Figure 4). There are two numbers involved in the time signature. The top number signifies the meter. The bottom number signifies what note gets one count: if the bottom note is four, then the quarter note gets one count. If the bottom note is two, then the half note gets one count. If the bottom note is eight, then the eighth note gets one count. Since the quarter note value of one count is the most common, this is the only one that will be used in the exercises.

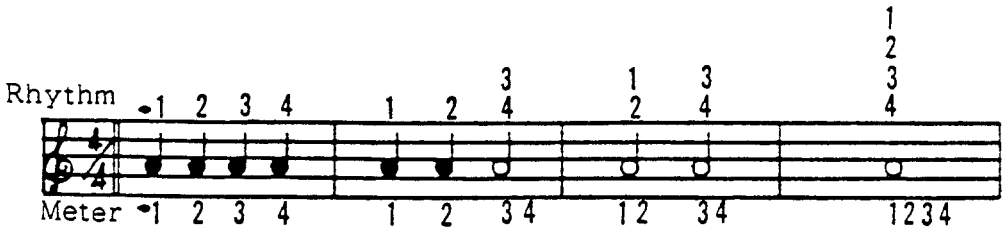
Figure 4



Division of Meter is Rhythm

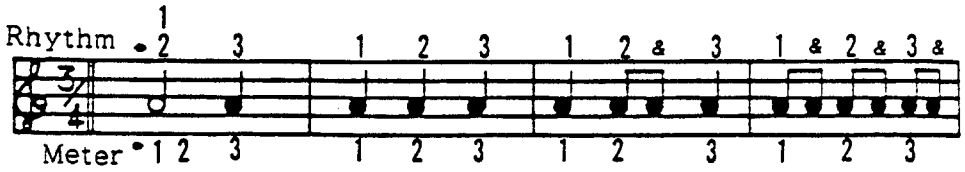
Within each measure, the meter can be broken up with different note values according to the desire of the composer, as long as they add up to the stated meter. This is called rhythm. The skater will be translating rhythm into physical actions, so it is important to know counts in order to know on which count an action must come.

Figure 5



SKATECANADA

Each single count is numbered according to where it is in the measure. In Figure 5, looking at the numbers on the top of the staff signifying the rhythm, you will find that the first measure contains four quarter notes and that they are numbered consecutively 1,2,3,4. In the second measure, the first note is called 1; the second is called 2; and the third note (half note) is called 3,4. Each note must be held in accordance with its given time value. When the quarter note is divided in half, the first eighth note is called 1, and the second eighth note is called and, as in measures 3 and 4 of Figure 6.

Figure 6

In Figure 5 there are four counts in the last measure although there is only one note. That is because it is a whole note and is worth four counts. In the third measure there are only two notes, but the measure is still worth four counts. In the third measure there are only two notes, but the measure is still worth four counts as each half note is worth two counts. In 3/4 time you cannot use whole notes, as that would give you four counts in one measure.

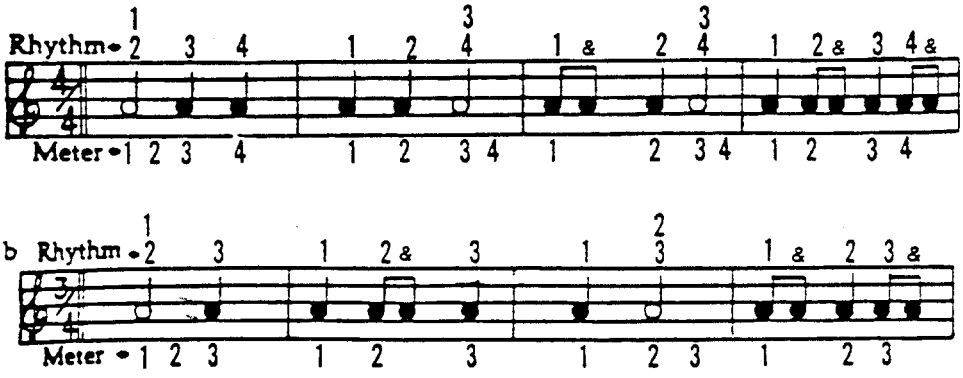
Look at Figure 6. Count out the notes in each measure. If you clap your hands to the rhythm of the first measure, you would clap once and hold it for two counts; then clap one more time, holding it for one count. You have three even claps in the second measure. In the third measure, you would clap four times, but the two middle eighth notes would have claps twice as fast as the first and last quarter note claps.

In the last measure of Figure 6 you would clap six times. Each note in the measure gets a clap, but the claps are held half as long as the quarter note claps.

A good way to practice until you understand the rhythm is to work with a partner. Have your partner clap the meter of the Figure 5 staff. This means your partner will be clapping four counts for each measure, with no time break between measures. At the same time, you will clap the rhythm. Notice in the last measure that you begin at the same time with 1, but you keep silent for 2,3,4, while your partner claps 2,3,4.

When you are satisfied that your rhythm is correct for Figure 5, work on Figure 6 and Figure 7 in the same manner.

Figure 7

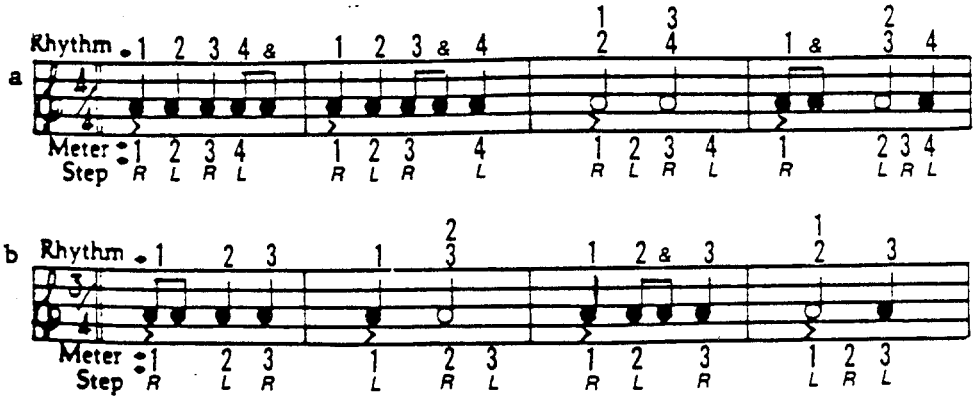


Finding Program Meter

To determine the meter of a skating program music, first listen carefully to the record or tape and try to tap out the beat or pulse of the music with your foot. Work with a very small section at a time and play it over and over until you can hear the beat.

Now listen for any accents in the music. An accent is one note that is longer than the others, or perhaps higher than the others. Tap the accents longer than the other beats and pay attention to how often they occur. If they are on every second note, the music would be in 2/2, 2/4 or 2/8 time (two counts to a measure). There are other, more complicated time signatures that, for the purpose of this level, need not be discussed. In Figure 8 the strong accents are marked by (>).

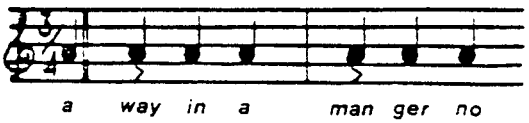
Figure 8



Downbeats and Upbeats

The first beat of the measure is called the downbeat. The last beat of the measure is called the upbeat. In musical circles the upbeat is sometimes referred to as a pickup. Upbeats and downbeats relate to the way a conductor moves his/her baton in space. The first beat of the measure is indicated by his/her downward gesture, and the last by an upward gesture. You should be able to recognize the downbeat as the skater might have to start moving on the first beat of the music, or perform a strong movement on the downbeat of a measure.

The purpose of the upbeat is to prepare for the downbeat. Some music starts on an upbeat. When this happens the upbeat is written before the first bar line and is not counted with the first measure. An example of this is the Christmas song “Away in the Manger” (see Figure 9).

Figure 9

Many ice programs are difficult to count musically. With the knowledge gained in this chapter and the counting expertise you will acquire from practicing the exercises, you should be able to get an approximate count of your music. Remember that the skater will be moving in relationship with the music, rather than always moving to the music itself.

If you have difficulty understanding the exercises immediately, do not be discouraged. It takes time and repeated explanations to comprehend music theory. Do not hesitate to go back to the beginning of the chapter and move at your own speed. Read each explanation over and do the exercises only after thoroughly understanding them.

THE PERIODS OF MUSIC

There are five basic periods of music from which to choose selections for skating. In chronological order these are: Baroque, Classical, Romantic, Impressionist and Modern. Music written before the Baroque period was mainly for the Church and, therefore, vocal and as such is unsuitable for skating purposes.

The Baroque (1600-1700)

The music is strongly influenced by the architecture of the period which was very ornate. Baroque composers often wrote church music, and since they were normally in the employ of the aristocracy, their music was generally commissioned by their patrons. Outstanding masters of this period include: from Germany, Johann Sebastian Bach, Telemam and Handel (who wrote most of his great music in England); from France, Lully and Couperin; and from Italy, Vivaldi.

Most of the music of this period was written for small ensembles of 10 to 14 players. The music is clear in texture and is not overly sensuous. This is a good choice of music for the fragile or delicate-looking skater. Worthy of special considerations are the melodic slow movements from the concerti of the period.

Music of the Baroque Period is a good choice for the fragile or delicate-looking skater.

The Classical (1750-1800)

During that period, Wolfgang Amadeus Mozart, probably the greatest composer of all time, produced 620 works. Josef Haydn, the father of the symphony, wrote 104 pieces in that form. At the same time, Luigi Boccherini was very active in Italy.

The orchestra's size grew to a complement of about 30 - 40 performers, and the characteristics of the music changed considerably from the small sound of the Baroque to a longer-lined flowing style, with much more variation between loud and soft and fast and slow. The music made some additional demands on the listeners but was still comparatively clean and clear in sound. The music is quite suitable for the long-lined, flowing performer.

Music of the Classical Period is suitable for the long-lined performer.

The Romantic (1800-1895)

The greatest titan of music was Beethoven who wrote nine great symphonies and many superb overtures. Weber wrote overtures as did Tchaikovsky, Brahms, Mendelssohn, Schubert and Berlioz, to name a few. The romantic ballet was developed at this time. The French composer Adam with his "Giselle", Tchaikovsky with his trilogy of the ballets, "Swan Lake", "Sleeping Beauty", and "Nutcracker", and Delibes with "Coppelia" and "Sylvia" all contributed to this form of music.

The "excessive" nature of the Romantic period is obvious in its massive orchestras of up to 120 pieces, gigantic choruses of 500 voices and earth-shaking compositions that even

contained military cannons! This music contained great variation in rhythms, dynamics (loud to soft and vice versa), and beautiful, long melodic themes.

Contrary to what has been generally thought, romantic composers did write many lighter compositions. Some examples of interest are Brahms' Hungarian Dances", Beethoven's "The creatures of Promethius", Dvorák's "Slavonic Dances, and Smetanas's dances from the opera, "The Bartered Bride".

While some of these romantic compositions have been overused for skating, there are many which have never been tried and are certainly worth investigating.

Music of the Romantic Period suits everyone.

The Impressionist (1895 - 1920)

After nearly 100 years of Romantic composers stretching musical sounds and the orchestra to the limits of the human ability to comprehend, the inevitable happened. In France, a reaction to this excessive music took place; the movement was led by composers Claude Debussy "Bolero", and Erik Satie "Gymnopedies". Musical compositions paralleled the Impressionist movement in painting.

The music of the Impressionist is music in nature, pastel in sound, very clear and uncluttered and extremely lovely within a restricted, hasty framework. An excellent choice of music for the advanced balletic type of skater.

The Modern Period (1920 to the present)

Included in this period is the Jazz Era in America with American George Gershwin in the forefront; the Swing Era in which the American orchestras became large, played very loudly and where The Beat was the thing; and the Rock Era which began around 1950.

The classical music of this period was rhythmic, angular in sound and changed character constantly. From Russia representative composers were: Dimitri Shostakovich who wrote 15 symphonies along with much "skateable ballet" music and film scores; and Prokofiev who wrote three great ballets and seven symphonies.

The selection of music from this period is mind-boggling; it is sufficient to say that a large part of the 20th century's storehouse of music cam from America.

Some examples are:

Leonard Bernstein:	"Westside Story"
Samuel Barber:	"Adagio for Strings"
Aaron Copland:	"Rodeo" (ballet)
Richard Rodgers:	"Sound of Music" (among many others)
John Williams:	"Star Wars"

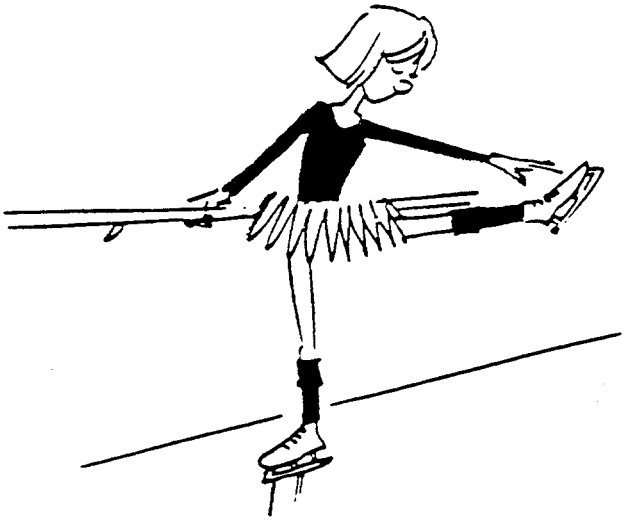
and the film scores for "Chariots of Fire", "On Golden Pond" and "Gone With the Wind".

The characteristics of the music of this era were essentially those of harshness, dissonance, sometimes very loud music, with much use of complex rhythmic patterns. Indeed, music reflected the times.

Modern Music has so much variety that there is something for everyone.

FORMS OF MUSIC

Having covered the periods of music and their styles and sounds, it is important to know some characteristics of the different forms in which music is written. Some of these forms are: the ballet, the concerto, the opera, the overture, the suite, the symphony and the tone poem.



The Ballet

Ballets which were written for dance are suited for skating programming purposes. Romantic ballets contain rhythm, melody, and appeal to the emotions and have the variation of loudness, softness, fast and slow and theatricality that is the essence of figure skating.

Ballet is essentially a music drama for dancers and orchestra, with only gestures and body movement to convey the story, emotion or idea.

Some popular ballets which have been used successfully for skating are:

Adam:	“Diable à Quatre”, “Giselle”
Mendelssohn:	“Midsummer Night’s Dream” (really a suite)
Tchaikovsky:	“Swan Lake”, “Sleeping Beauty”, “Nutcracker”
Gounod:	“Faust” ballet music
Stravinsky:	“Firebird”, “Rite of Spring”, Petrouchka”
Prokofiev:	“Cinderella”, “Stone Flower”, “Romeo and Juliet”
Copland:	“Rodeo”, “Appalachian Spring”, “Billy the Kid”
Bernstein:	“Fancy Free”
Messager:	“Deux Pigeons”

The Concerto

The concerto is an old music form which was strongly developed by Vivaldi in Italy and Johann Sebastian Bach in Germany during the Baroque era. It is an orchestral composition featuring a soloist such as a violinist, pianist, clarinetist or cellist. The concerto is normally in three movements, with the first one in sonata form just as in the symphony, the second a slow melodic movement and the finale frequently very rhythmic and usually meant to be played at a fast pace.

From the immense selection, the figure skating coach could pursue the following concerti:

Tchaikovsky:	Piano Concerti No. 1,2,3; Violin Concerto
Brahms:	Violin Concerto
Beethoven:	Piano Concerti No. 3,4,5; Triple Concerto for Violin, Cello and Piano; Violin Concerto
Rachmaninoff:	Piano Concerti No. 1,2,3
Greig:	Piano Concerto
Schumann:	Piano Concerto
Bruch:	Violin Concerto No. 1
Mendelssohn:	Piano Concerti No. 1,2; Violin Concerto
Dvorák:	Cello Concerto
Paganini:	Violin Concert No. 1,2,3

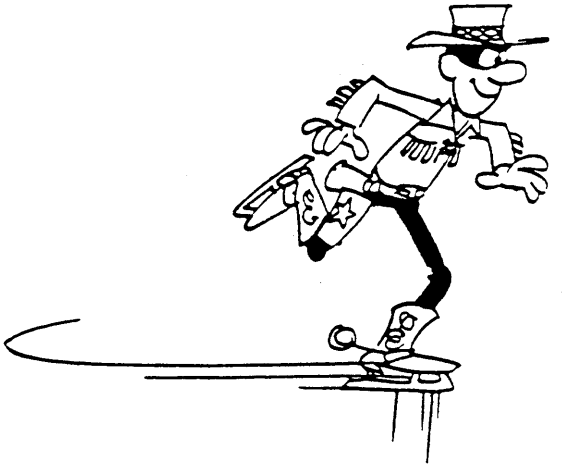
The Opera

An opera is a story in music and song which frequently tells a tragic story. They cannot be used in the original form except for artistic skating, as operas are sung, but there are many beautiful overtures to these operas, ballets within the operas, preludes to the different acts and arias for orchestra only which are excellent for skating.

Some suggestions for the skating coach are:

Verdi:	Overtures to “Sicilian Vespers”, “Nabucco”
Bizet:	Overtures and excerpts from “Carmen”
Donizetti:	Overtures to his operas especially “Daughter of the Regiment” and “Don Pasquale”
Beethoven:	Overtures to “Fidelio”, “The Creatures of Prometheus”, “Egmont” and “Leonore No. 1-3”
Wagner:	Overtures to “Flying Dutchman”, “Rienzi”, “Meistersinger” and “Tannhauser”
Mozart:	Overtures to “Marriage of Figaro”, “Don Giovanni” and “The Impressario”
Rossini:	Overtures to “Thieving Magpie”, “Semiramide” “Barber of Seville”, “Tancredi”, “William Tell”
von Suppe:	Overtures to “Morning, Noon and Night in Vienna”, “Poet and Peasant” and many others

The Overture



Most of the overtures which could be used for skating come from operas and were mentioned previously under the heading "Opera" but there is also a large, rarely used body of works: the overtures to the musicals of the 20th century and the operettas of the 19th and 20th centuries. The overture comes from the French "overture" which means opening. The piece is normally written last by composers as it contains a pot-pourri of selections from the musical or opera which are included in the succeeding score. The overture is intended to stimulate interest by presenting short bits of the themes or songs which will follow.

Some additional overtures not previously mentioned are:

Tchaikovsky:	"Romeo and Juliet", "Hamlet", "The Storm"
Berlioz:	"Romeo and Juliet", "Roman Carnival", "Rob Roy", "Corsaire", "King Lear"
Bernstein:	"Candide"
Williams:	"The Cowboys"
Richard Rodgers:	"South Pacific", "Sound of Music", "Carousel", "Oklahoma", " "Pal Joey", "Flower Drum Song"
Gershwin:	"Let 'Em Eat Cake", "Evergreen for President"
Mendelssohn:	"Fingal's Cave", "Midsummer Night's Dream"

The Suite

"Suite" is a much misunderstood term. Very simply, it is a compilation of gems from a larger composition. An example is the "Nutcracker Suite" which is a collection of seven compositions from the "Nutcracker Ballet" which actually contains over 20 selections.

Composers of our era write suites for movies and musicals to enable us to hear the highlights from longer compositions; an example could be John William's suites to "Star Wars" and "Superman" which were very popular in the 1980s.

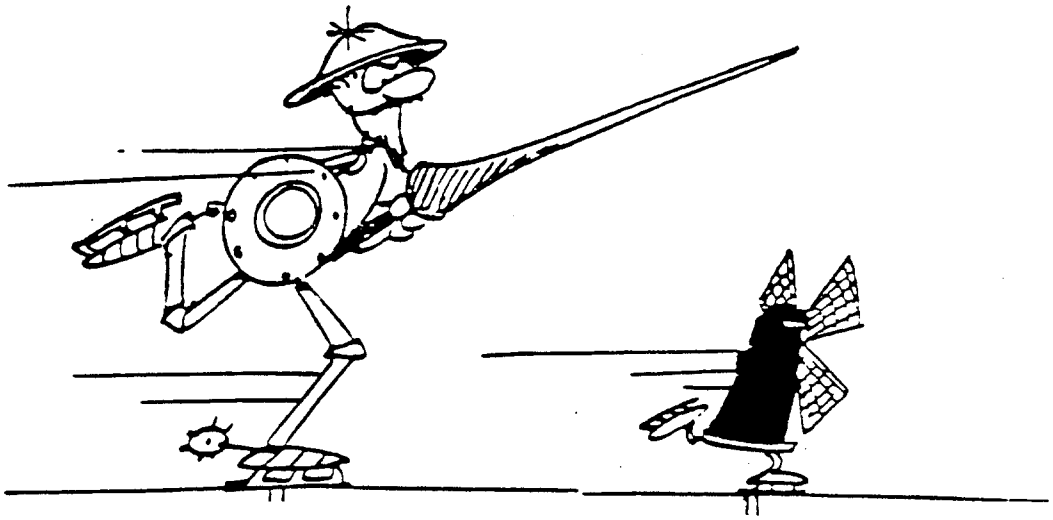
The Symphony

The symphony is a form generally thought to be "heavy" by many. This is not necessarily so. The symphony is a composition which was developed during the Classical period by Josef Haydn. It is in four movements, with the first in sonata form, which simply means that the composer provides us with two themes called the "exposition", followed by variations on these themes by changing key, speed, and rhythm in a section known as the "development" and then returns to the original themes which is known as the "recapitulation".

The second movement is the slow movement which is normally an extended, song-like, slow portion which is also very lyrical. This is usually followed by a waltz-like rhythmic piece known as a minuet, a scherzo or waltz, and the last movement or fourth is normally a fast-paced, exciting selection which ends in rousing fashion and frequently in sonata form like the first movement, only shorter. A typical symphony of the Classical era runs 25 minutes, while in the Romantic period it is more often around 30 to 45 minutes for the four movements.

There is a lot of very skateable music in these works, some of which is listed in the appendix to this section. A few gems for skating are:

Bizet:	Symphony in C
Mendelssohn:	Symphonies 3 and 4 (Scots and Italian)
Beethoven:	Symphonies 3,5,6 "Pastorale", 8 and 7
Dvorák:	Symphony No. 9 "New World"
Schumann:	Symphony No. 1 "Spring"
Mahler:	Symphony No. 4
Tchaikovsky:	Symphonies No. 1, No. 4, No. 5 and No. 6
Berlioz:	"Symphony Fantastique"



The Tone Poem

The tone poem is a type of extended programmatic work for symphony orchestra based on a pictorial or literary subject and freer in form than the symphony. It's a story in music. This type of composition was originated by Richard Strauss and Franz Liszt. Both Strauss, who was German, and Liszt, who was Hungarian, wrote many tone poems. Strauss' include "Don Juan", "Ein Heldenleben" (A Hero's Life) which is a tone poem about his own life, and also "Sprach Zarathustra" which provided the theme for "2001: A Space Odyssey". He also wrote "Don Quixote", and "Alpine Symphony" (a tone poem about a day on the Matterhorn), and the "Domestic Symphony" (about everyday life at home.) Liszt wrote "Les Preludes", "Tasso" and 24 "Hungarian Rhapsodies." A final example is Vincent D'Indy, who wrote a semi-tone poem called "The Symphony on a French Mountain Air", which is really beautiful in its depiction of the alpine country.

In Closing

The foregoing sketch of major musical periods and forms can do no more than indicate the great diversity of music available for figure skating programming. It is intended to encourage skating coaches to investigate the actual music and the wealth of material written about the music and musical forms. By exploring examples of these forms, you will have a better understanding of this key element of superior figure skating programs - the music.

MUSIC INVENTORY

Selecting music for skating programs can be one of the most time consuming tasks that a skating coach has to deal with. The best ides is to listen to music whenever you can and make note of any pieces of music which might be suitable. You can listen to music in your car as you drive to and from the rink and whenever you have free time.

As described in Level 1, it is a good idea to record any music that you hear in a filing system noting as much information as possible on the card. It is best if the album can be obtained but if not, the composer, period, and piece will be most helpful for future use. Remarks should be written as to the style of music parts that you feel are skateable and what type of skater it would be best used for. Record the information on file cards. For additional guidelines, refer to pages 12-11 and 12-12 of the Revised Level 1 Technical Manual.

MARY BROWN - DEC 16

Le Corsaire - Berlioz
Berlin Philharmonic Orchestra - H. Von Karajan
Deutsche Gramophon 2707-090 (Start of Piece)

Spartacus (Ballet) - Khachaturian
Bolshoi Theatre Orchestra - Algis Zhuraitis
Columbia D4M - 33493 (slow side 5 - fast side 2)

Roberto Devereux - Donizetti
London Symphony Orchestra - R. Bonynge
London S6486 (end of piece)

When music is cut for a particular skater's program, keep a record of the pieces, composers, conductor and record number. This will help you if you need to re-record the music or wish to use a piece for another skater at another time.

SELECTING MUSIC FOR FIGURE SKATING PROGRAMS

Of all compositions, music written for the ballet is the most readily adaptable for skating. Ballet music has often been tailored for solo variations of a short duration, not unlike those required by figure skaters. Unfortunately, most composers did not tailor their overtures, suites, concerti or tone poems to the requirements of a skating program, therefore the coach must edit the music accordingly.

Guidelines for effective recording and editing were covered in depth at Level 1. The following are some guidelines to follow when selecting music for a figure skating program so that the integrity of the composition is maintained.

- When possible, edit a program from one single composition. If this is not possible, then try to use other works by the same composer that are executed in a similar style.

  e.g. Although there are many possibilities for various complete programs to be edited from Aaron Copland's "Rodeo", additional music needs could be satisfied by turning to the same composer's score from the movie "The Red Pony" or more logically, to another of his ballet scores, "Billy the Kid".

- If it is not possible to select the program's music from within the range of a particular composer's repertoire, then consider supplementing one work with that of another composer from the same period, who has a similar writing style.

  e.g. Janet Lynn skated to a union of scores by the two best known impressionist composers, Debussy and Ravel.

- Consider the style and period of music when combining selections, as this will help to produce a harmonious piece that sounds like a single composition. It is advisable to edit the skating program from the same record pressing. If this is not possible, then another recording, done by the same conductor and orchestra and/or the same soloist is recommended. In addition, the quality of engineering from one recorded label to the next can vary and it is important to attempt to edit selections from the same record label.

- Consider the structure of the music being edited. Be aware of the rhythm, phrasing and key of a composition. Many coaches rely on their musical intuition, a quality that some people have naturally, but that can also be learned through elementary music training. As a general rule, never sever the musical phrase and never divide the bar.

USEFUL MUSICAL TERMS

Atonality:

- the absence of tonality

Bar:

- a vertical line through a music staff marking the division into measures

Cadence:

- The melodic and /or harmonic formula that marks the end of a musical phrase, section or composition (for example, the “amen” at the end of a hymn)

Chord

- a simultaneous combination of three or more notes of different pitch forming an entity

Chromaticism:

- the use of tones not in the regular diatonic scale of the passage of music, or a quality of harmonic style marked by the frequent use of such tones

Colour:

- the quality of a musical sound (for example of a particular instrument such as the violin), or the quality of sounds in combination (for example, a combination of instruments in an orchestral piece), or the quality of the sound of a piece of music due to its harmony and a combination of other musical factors

Consonance:

- an interval or chord which produces an agreeable or satisfactory effect, or an effect of rest of repose

Counterpoint:

- a musical texture consisting predominantly of two or more simultaneous melodic lines

Diatonic:

- pertaining to a major scale of eight notes to the octave, or the quality of music marked by infrequent use of chromatic tones

Dissonance:

- an interval or chord which produces a disagreeable, discordant or unsatisfactory effect, or an effect which requires resolution or completion, which has a feeling of unrest

Fugue:

- a type of style of contrapuntal composition based on the development of a theme or "subject" in imitation

Harmonic:

- a musical texture consisting predominantly of chords or of a melody accompanied by chords

Harmonic rhythm:

- the movement of music as marked by the succession of changing harmonies

Harmony:

- a simultaneous combination of sounds, or a chord, or the chordal or vertical aspect of a musical piece as contrasted with other aspects such as melodic, contrapuntal, rhythmic, etc.

Imitation:

- the closely following restatement of a melody or phrase by another voice in a contrapuntal texture

Interval:

- the distance in pitch between two tones, measured by scale degrees or steps

Key or keynote:

- a tone to which the other tones of the octave stand in subordinate relation

Line:

- a melody (or part of a melody) constituting part of a polyphonic texture

Measure:

- a unit of time, or the space between two bar lines

Melody:

- a succession of tones perceived as an entity

Modulation:

- harmonic movement from one key to a different key in the course of a composition

Monophony:

- a musical texture consisting of a single line of melody without accompaniment

Ornament:

- decorative note (s) added to a melodic line

Phrase:

- a musical unit made up of one or more motives, corresponding to a sentence in speech

Polyphony:

- "many-voiced" - musical texture consisting of two or more lines of melody, or melody and accompaniment, or chords (note: the term is often used in contrast to MONOPHONY, as a general description of contrapuntal and harmonic textures)

Resolution:

- the movement of a dissonant interval or chord to a more consonant one, producing an effect of completion or comparative repose.

Rubato:

- a slight modification of the regularity of the beat, introduced by the performer for the purpose of musical expression

Syncopation:

- displacement of the normal accent by transferring it from a strong to a weak beat

Texture:

- the character of a musical composition in terms of its density, tone colours, and relative levels of activity in the different voice parts

Theme:

- a characteristic musical idea which serves as the basis for development of a composition or section of a composition

Timbre:

- the characteristic colour or quality of a musical sound as produced by various instruments (e.g. oboe, violin, etc)

Time signature:

- a sign placed at the beginning of a composition to indicate the number of beats in the measure and the kind of note representing that beat (e.g. 3/4 indicates three beats to the measure with quarter note representing a beat)

Tonality:

- the quality of virtue of which a musical composition, or a part of a composition is organized harmonically around a constant central tone, or the central tone or key of a composition

Tone:

- a musical tone of definite pitch

(list adapted from D.J. Grout: A History of Western Music)

Section 8:

CHOREOGRAPHY

CHOREOGRAPHY

Free skating, pair skating, ice dancing and synchronized skating are not collections of isolated skills, but displays combining these skills into harmonious works related to music. They each call for some one to devise movement compositions; a choreographer.

This module is designed to provide a foundation of basic principles to help the skating choreographer/ coach.

To create a skating program, a coach needs to know:

- how to select music for an individual skater or group
- how to relate movement to music
- how to design and create moves for a program
- how to place movements on the ice surface
- how to emphasize the strengths of each individual skater or group
- how to develop artistic expression

The following topics will be covered to help you to create programs for your skaters:

- What is choreography?
- Theories of choreography and studies of human movement
- Why is choreography important?
- Should every coach attempt choreography?
- The Laban System of Movement
- How can choreography be taught?
- Components of a program
- Program objectives

CHOREOGRAPHY

Choreography, by definition, is the art of composing movement. It is the unfolding of an idea in movement or the unfolding of a movement idea. It all belongs together and specifically in that order.

Choreography is more than a series of unedited improvisations. Careful editing and structuring of the materials available is required to achieve a unified result. As mentioned in the Level 1 course, there must be form, content and style.

Theories of choreography and studies of human movement

Few choreographers have recorded their theories and few researchers have extensively analyzed and categorized human movement. Doris Humphrey, an American pioneer in the field of modern dance, has left a valuable document, "The Art of Making Dances."

Rudolph Laban, the great German, and later English researcher and teacher has provided numerous works on human movement analysis. Laban explores the range of possibilities for movement and categorizes it. Doris Humphrey shows us how movement may be shaped into meaningful works of art. These works will be studied in greater detail at NCCP Level 3.

Why is choreography important?

Choreography is important to succeed in figure skating because a program that has interesting choreography shows off a skater to his/her best advantage both technically and artistically. In competition, choreography can be the deciding factor between two skaters who are equal in other respects.

Choreography is important for another reason, movement. Movement has a great deal of meaning for us. When music is combined with movement, it adds further meaning. The communication that is achieved through artistry need not detract from the overall sporting and athletic merits of competitive skating but in fact, enhance it.

Should every coach attempt choreography?

A coach, trained in the craft of choreography and with some ability, should be able to do a skillful job of choreography for his/her students' ordinary needs. It can be said that a coach trained in choreography is better prepared to successfully train and direct his/her student in the work of the expert choreographer. So, to answer the question posed, yes, every coach should attempt choreography. Some will be more successful than others but each will gain insights to help him/her grow in the understanding of movement.

How can choreography be taught?

As with any craft, there are fundamental principles which form the basis for creation. In devising a course on choreography, it would not be helpful to simply provide a catalogue of the "most effective" or the "latest" in choreography tricks.

The Laban System of Movement

It is important to realize that the Laban movement analysis is a useful tool for the choreographer and director; it is also a common language for the coach and student. It is not, in itself, a creative process. It does not provide the choreographer with the ideas behind a composition, as derived from his philosophy of life and his/her "sense of life" or the process by which to abstract those ideas and emotions and give concrete form to them in terms of movement. It does offer the range of concretes, that is, movement possibilities, to use in bringing a composition into existence. But Laban is not a creative process any more than Roget's organized collection of words is a novel.

Art could be said to be, to quote Ayn Rand, "a selective re-creation of reality according to an artist's metaphysical value judgments." For a choreographer, this process of re-creation requires:

- The ideas (motivation for movement deriving from his/her philosophies and "sense of life").
- A knowledge of compositional form.
- A broad movement vocabulary.
- The ability to choose movement content to illustrate a theme effectively.
- The ability to create or to use an appropriate movement style.

Additionally, all must be considered in the context of the music chosen. The choreographer will borrow on the emotion that the composer has brought to the music and he/she will use it to intensify the significance of his/her movements. Although less common, the music can be treated as another separate voice, but, nevertheless, music and choreography must relate to each other in a significant way.

The Laban principles included in this module will:

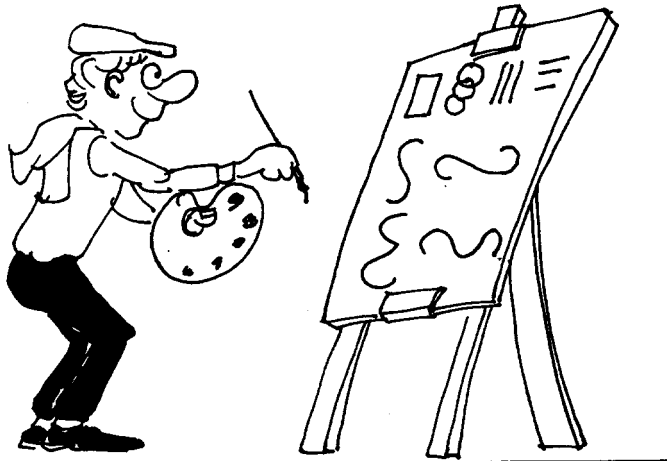
1. Make the coach aware that researchers such as Laban have studied human movement and that information is available to them.
2. Provide coaches with an opportunity to create and perform skating movement by interpreting action words.
3. Provide coaches with an opportunity to create and perform skating movements in each of the three levels of space that Laban has identified.
4. Provide coaches with an opportunity to create and perform skating movements that employ both postural and gestural movement.
5. Provide coaches with an opportunity to create and perform individual and partner focuses.
6. Enable coaches to begin to learn a language of communication to teach to his/her students.
7. Enable coaches to teach and direct skaters using some Laban terms for both technical and artistic purposes.
8. Provide coach/choreographers to draw upon a larger vocabulary of movement.

COMPONENTS OF A PROGRAM

As discussed in the NCCP Level 1 course, a skating program, like any artistic composition, has form, content and style. Because skating is a performing art, interpretation is an additional component.

Form

The structure of the composition which includes:



- Length
- Divisions of the work (slow, fast, etc.)
- People composed for (number, male or female)
- Size of the ice required
- Overall pattern on the ice
- Type of program
- Pattern to be skated in the “round” or to one or more sides
- How movement motifs are developed

Factors which influence form

- The Skate Canada/ISU rules affect the length of the program, the size of the ice surface, and the number of people involved in the program.

- The skating facility affects the size of the ice surface, audience seating and location of the judges/evaluator. The program should be related to the sides upon which an audience is seated and especially to the location where the judges will be seated.

- The music choice affects the major musical divisions or basic scheme of music. For example, a simple ABA form where one theme is followed by another theme and then returned to the first theme would be reflected in the movement.

  Music also affects the ice pattern. The pattern on the ice is as much a comment on the music or an interpretation of the music as are the individual moves which rest upon these larger overall patterns. For example, an inward turning joy expressed by the music could perhaps be shown by the use of patterns circling back on themselves while an outward going joy could be demonstrated by larger more open patterns.

Development of form

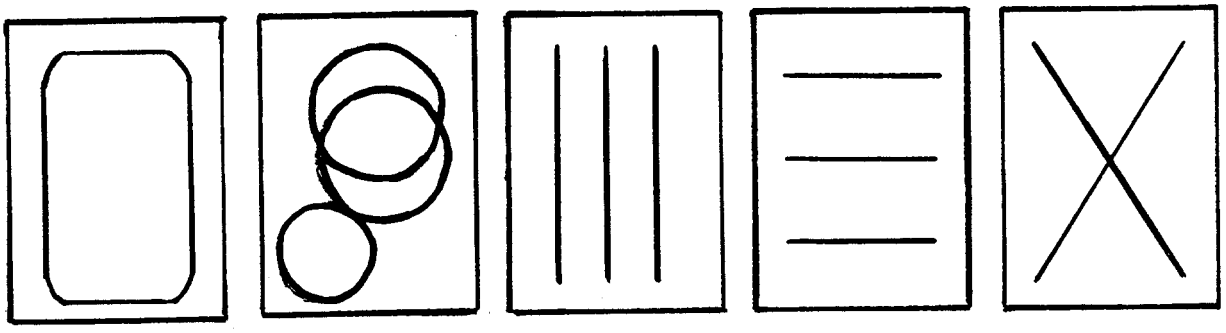
Since factors affecting form such as length, number of people and type of program are predetermined by the rules, discussion will involve ice pattern only.

ICE PATTERN

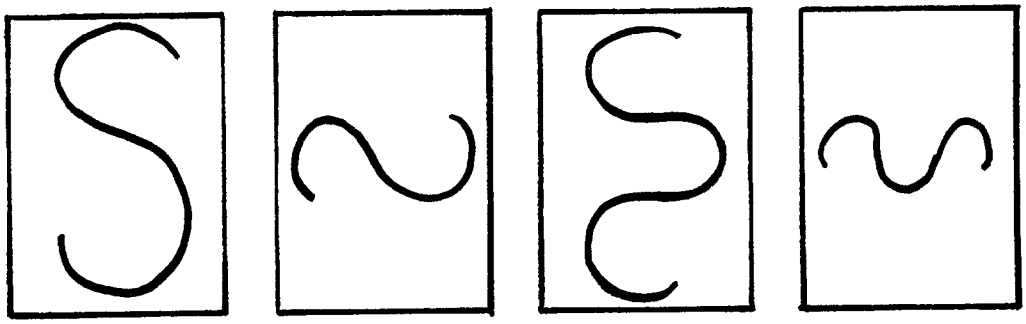
- The continuously laid down pattern must be kept in mind at all times. Repetition of the same pattern is usually boring, but there are exceptions where repetition could create emphasis.

- Balancing the directions of travel, pattern shapes and technical content over the ice surface are important considerations.

Some simple geometric patterns used in ice patterns

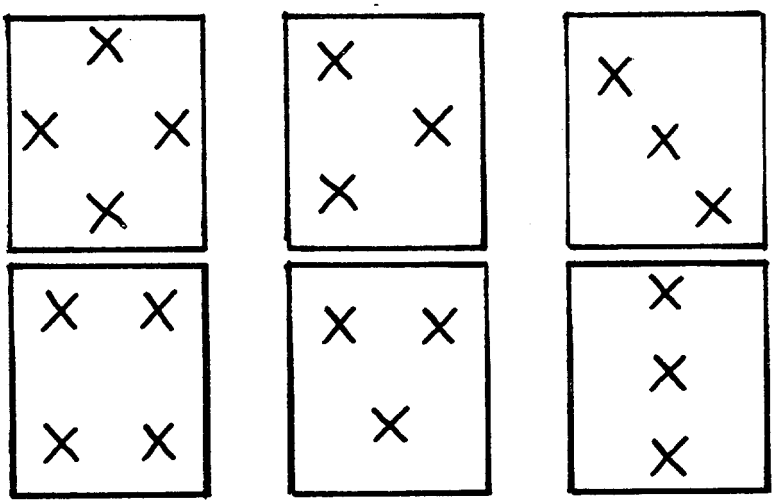


BORDER **CIRCLES** **STRAIGHT LINES** **CROSS LINES** **DIAGONALS**



CURVE "S" **CROSS "S"** **DOUBLE CROSS "S"** **DOUBLE "S"**

Some simple schemes for laying out content



X=highlights

SKATECANADA

Common errors in pattern

- Putting highlights too close to the rink barrier to be seen or be appreciated.
- Putting a straight line step too close to the rink barrier for the feet to be seen by the audience or judges on that side.
- Constantly turning in one direction (both the pattern and the individual steps within the pattern).
- Predictability and lack of variety make a program boring.
- Too many highlights placed in the same location.
- Placing all of the jumps or spins in one area instead of balancing them around the ice surface.
- Failing to create a balanced pattern within the ice barrier picture frame.
- Failing to find the natural pattern in a movement to allow a smooth flow of forces or to permit proper thrusting.

Content

The material within the structure or details of the structure includes:

- Motivation for movement (idea or concept)
- Technical moves (jumps, spins, footwork, lifts, attitudes)
- The intellectual or emotional content of the piece

Factors which influence content

- The rules affect the technical skills required and outline any forbidden movements.
- The coach affects the content through his/her background experience in movement principles and his/her abilities or limitations to create movement.
- The skater affects the content through his/her capabilities and movement preferences which influence the technical and artistic content of the program.
- The choice of the motivation for movement affects content, since content serves to illustrate the chosen theme.

- The music has several effects on content. Music has the ability to call forth feelings in the listener that range over a wide spectrum and these feelings may be translated into movement. The beat, rhythm, phrasing and orchestration of the music will also affect the music.

  The music's dynamics, that is its pattern and degree of energy flow and including its sense of space, time and weight will, if not dictate a mirroring of these qualities in movement, will at least demand a relationship.

- The choice of style affects content since style is the consistent selection of elements.

- The need to be creative and original affects content, because the viewer's interest must be gained.

Development of content

Content development can be approached in many ways. Here is a workable method:

1. Begin with any reference point (motivation for movement)

   Examples:

   a. A direct sensuous response to the music
   b. A simple narrative
   c. The desire to win a competition
      (this can become boring if it is all a skater has to offer)

2. Improvise movement to illustrate the concept. The exploration of movement possibilities is aided by knowledge of movement theory. In this module, the following topics will be dealt with:

   a. The use of action words
   b. Levels in space
   c. Postural and gestural movement
   d. Focus

3. Select from the improvised movement material for use in the composition. Consider:
   - Appropriateness
   - Effectiveness
   - Originality
   - Unity of style

MOTIVATION FOR MOVEMENT: CHOOSING A THEME

1. A reference point

It is just as well to articulate the motivation for movement so that it may be made clear to yourself, the choreographer, then to the performer and finally, it is hoped, to the audience. If this is done, it is likely that the choreographer will remain "on target" and not wander away from the original concept or illustrate it with too little emphasis to create impact.

Possible themes for test and/or competitive skating

Singles

- The joy of youth (mood).
- The boldness of youth, or moving from shyness to boldness (moods).

Specific example:

a. Your best friend arrives for a visit;
b. Departs;
c. Returns again (simple plot).

Pairs

- Enjoying each other's company (mood or plot).

Specific example:

a. It's fun being with you;

b. I've never thought of you this way before;

c. It really is fun being with you (plot).

Dance

- It's a pleasure to dance with you (mood).
- I'll dazzle you with my footwork (mood or plot).

Specific Example

a. (Lady) - Show me how charming you can be and perhaps I'll dance with you (plot);
b. (Lady) - I'm not sure I'm ready for this romance (plot);
c. (Man) - I'll sweep you off your feet and we'll have a wonderful time together (plot).

Exercise: Play short music selections. Determine the moods of the pieces.

2. Improvisation to Develop Content

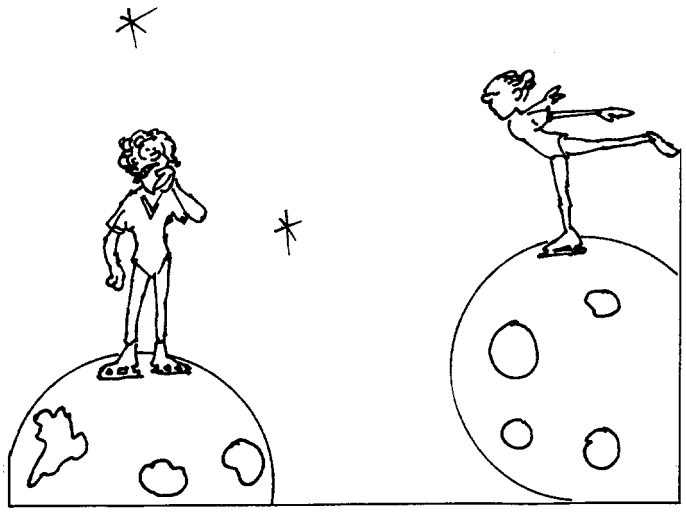
a. The use of action words and words to indicate qualities of stillness:

A useful tool in developing content is the exploration of action words and words which describe stillness. These are verbs such as run, jump, slide, rise, freeze and in their meanings they carry with them a fairly specific set of movement qualities.

Action words may be taken in their most literal sense or to expand their use in a creative way, they may be used in a poetic or abstract manner. Thus, one may walk with the feet in the customary fashion or as the advertisement has it, you may "let your fingers do the walking". Similarly, the whole body may rise or one part, for example the arm, may rise. Through the movement, experience gained from using action words can extend and improve our movement vocabulary.

Words to indicate qualities of stillness are as various as the many adjectives describing human character. One may indicate a "relaxed" stillness or a "tense" one. Poses and facial expressions may indicate in stillness, any other character appropriate to the piece being composed. Stillness is more obvious when a skater is stopped and no body parts are moving, but it should also be understood that, though a skater may be gliding, if none of his/her body parts are moving, this too is stillness. Emotions such as happy, expectant, frightened, arrogant, saucy or any other may be employed effectively.

b) Levels in space



Space may be considered as being divided into three basic levels:

- Deep (low)
- Middle
- High

The deep level encompasses all the space which extends below an imaginary line, like a net over the ice at the performer's hip level. The middle level extends between the imaginary net and one that extends over the ice at the performer's shoulder level. The high level is the space above this net from the shoulders it includes all of the space that the performer can extend his/her body into, including that when he/she jumps.

A performer is said to be in the deep level when his/her body moves in the space below the lower net. They are in the middle level when as much of his/her body as possible is between the two nets. When as much of his/her body as possible is above the upper net, the performer is considered to be in the high level. These levels are in relation to the performer's own body, not according to fixed measurements.

As with other aspects of movement people have preferences regarding levels. A perceptive coach will make use of the skater's preferences by emphasizing them. It is not to say that one level alone should be used - levels are one of the sources of variety to maintain the audience's interest. However, emphasis on one level is possible and may be desirable in certain instances.

Competitive skating has its own demands regarding levels of movement. Free skaters and pair skaters are required to execute many jumps and lifts in the high level. Skaters who prefer to move in the middle level are more often attracted to ice dancing which emphasizes this level. However, all categories of figure skating can explore all levels of movement.

Exercises: Levels in space

1. Standing stationary, indicate net at hip level. Sink below the net into the deep level.
2. Indicate nets at hip and shoulder levels. Try to get as much of the body as possible into the middle level.
3. Re-indicate shoulder level net. Try to get as much of the body into the high level as possible.
4. Repeat the indication of the hip level net. Move across the ice forward in the deep level.
5. Repeat the indication of the hip and shoulder level nets. Move across the ice backward in the middle level.
6. Repeat the indication of the shoulder level net. Move sideways across the ice in the high level.
7. Skate successively in deep, middle and high levels.

c) Postural and gestural movement

Gestural movement involves the body extremities alone, and does not involve the torso. Postural movement involves the torso as well as the body extremities. Gestural movement, unlike postural movement, appears not so much to involve the heart and mind of the performer who may seem like a machine. Gestural movement may appear to lack conviction, to be mindless or to be lacking in passion. We are familiar with the "my teacher told me to hold my arm here" look which is usually the result of little or no torso or head involvement in the movement.

It is not to be inferred that there is always a great deal of torso involvement in all styles, with a possible distortion of line (especially in "classical" styles): it may in fact be subtle. Degrees of torso involvement, that is, the use of greater or lesser postural movement is desirable as one of a number of the choreographer's work tools. To show the degrees of use of gestural and postural movement, an example may be taken from ice dancing: a greater degree of postural movement is desirable in any of the waltzes than it is in the Fourteenstep, Kilian or Quickstep. These dances derive from a military or pseudo-military source. The military demands an impersonal conformity in its members which is reflected in the rigid movement of the parade ground. In contrast, the waltz has a degree of romantic abandon which can be illustrated by postural movement.

Exercises: Postural and Gestural Movement

1. Stationary, make gestural movements with the arms.
2. Stationary, make gestural movements with the legs.
3. Stationary, make gestural movements with both arms and legs.
4. Stationary, make postural gestures with the arms and torso only.
5. Stationary, make postural gestures with the legs and torso only.
6. Stationary, make postural gestures with both the arms and legs involving the torso.
7. Repeat gestural movements with the arms, moving in the high level (minimize leg motions).
8. Do postural movement using same movements as in (7).
9. Repeat gestural movements with the legs, moving in the middle level.
10. Do postural movement using same movements as in (9).
11. Repeat gestural movement with the arms and legs moving in all levels.
12. Do postural movement using same movements as in (11).

d) Focus

Focus of the eyes together with body parts to a particular point in space establishes a point of concentration for both the performer and the onlooker. This creates the appearance that movement (or equally, stillness) has purpose. Without it, the performer appears to be aimless, lacking in motivation, unthinking, possibly unintelligent, lacking in energy (or at least channeled energy) subject to the whims of unknown outside forces. An unfocussed performer may appear to have elements of a machine. When there is more than one performer, focus is extremely important in indicating the relationship or relationships.

Focus, creating a sense of purpose, can give the performer life whether the energy used be on a mammoth or miniature scale. It draws the attention of the onlooker and holds his/her interest as long as focus is continuous. Even one moment's loss of focus on the part of the performer appears to be a loss of concentration. This casts doubt on his/her convictions about what he/she has to say and results in a loss of credibility and of authority. Therefore, every movement of a performance must have a focus. Naturally, this requires a background of training in focus and for a given piece of choreography, many conscious or subconscious choices regarding focus must be made.

The following types of focus will be discussed:

- Near or far focus
- Intensification of focus
- Focusing on body parts
- Focus in relation to another person

Exercises for focus - standing stationary

Near and Far:

Exercise: On cue from the coach, skaters focus only their eyes on points near to or far from them. Change to another point at each cue.

Intensifying the Focus:

Exercise 1: Alternate a near focus with a far focus on cues from the coach and move the head as well as the eyes.

Exercise 2: Repeat as in exercise 1, but add one body part to create a more intense or clear focus by aiming it in the same direction or line of focus as the eyes. On cues from the coach, use a different body part and then another.

Exercise 3: Repeat as in exercise 2, but use more than one body part simultaneously to intensify or clarify focus.

Repeat the exercises above while moving across the ice.

Focusing on body parts:

Focusing on parts of one's own body:

Exercise 1: Move across the ice in any manner while maintaining a focus on a specific body part. Repeat, moving in some other manner choosing other body parts.

Exercise 2: Repeat exercise 1, but alternate focusing on a body part while focusing on far points.

Exercise 3: Repeat exercise 2, but choose other manners of moving with focus alternately on more than one body part and at far points.

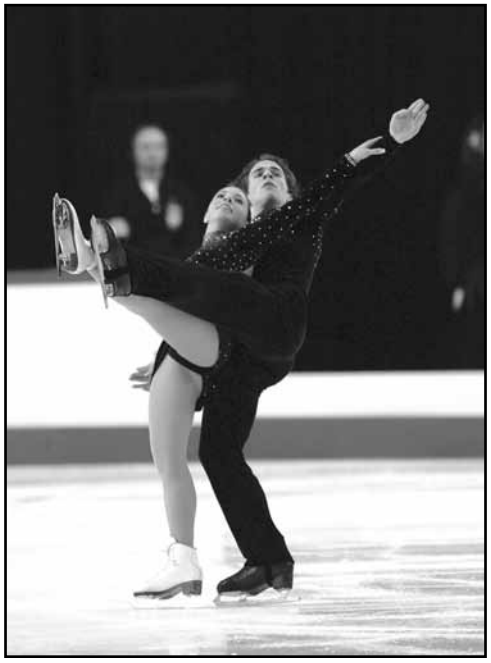


Photo: Skate Canada

Reinforced Focus:

A type of focus created when partners are looking in the same direction as each other. This type of focus is commonly used in the ice dances skated in the Kilian position, but is also used in pair skating.

Exercise 1: One partner skates and stops, creating a focus. The other partner then skates and stops while looking in the same direction. Repeat with the other partner moving first.

Exercise 2: Skate the Fiesta Tango largely using reinforced focus.

Photo: Brian Dole

This is a type of focus created when partners are looking into each other's eyes. It is frequently used in ice dancing and pair skating.

Exercise 1: One partner skates and stops, creating a focus. The other partner then skates and stops, looking into the first partner's eyes. Repeat with other partner moving first.

Exercise 2: Skate the Willow Waltz using Convergent focus.

Photo: Brett Barden

Divergent Focus:

A type of focus created when partners are looking in different directions, yet are close enough to imply that a relationship exists.

Exercise 1: One partner skates and stops, creating a focus. The other partner then skates and stops looking in another direction. Repeat with the other partner moving first.

Exercise 2: Skate the Fiesta Tango finding where divergent focus may be used.

Exercise using all three types of partner focus:

Skate the Ten Fox. Reinforced focus, convergent focus and divergent focus can all be incorporated into this dance.

Common errors in content

1. A lack of variety in:

    - Technical content
    - Rhythm
    - Tempo
    - Dynamics (effort qualities)
    - Levels of movement

3. The emotional or dramatic content of the music is unsuitable to the age and degree of maturity of the skater.

4. The music is too fast for the skater's technical ability.

5. The music is generally unsuitable to the display of virtuosity which competitive and test skating demand.

Style

Style is classification which defines the content according to its typical presentation. In skating, style refers to the consistent selection of elements of movement. For example, to consistently extend the free leg and point the toe or to end phrases of music with a jump are choices which may be made and will create a particular style.

Factors Which Influence Style

In general, the rules, as found in the Skate Canada Official Rulebook, student capabilities and the background of the coach place limits on style, because style is primarily a consistent selection of content. Music influences style.

Any music has a style. Its references may be, for example, the historical period from which it is derived, the personal style of the composer, or the seriousness of the composition. Styles derive from custom, social attitudes and social forms. This may include the ideal image of a male or female in a given culture.

Styles represent attitudes which can, if desired, be expressed other than in conventional ways. This sometimes results in a changed emphasis on the qualities that a specific musical composition possesses. Thus, music which is derived from the ballet stage could be used on the ice without employing a "ballet" style but at the same time preserve the essential qualities of music within a new style of movement. This requires integrity on the part of the choreographer.

To take a dance style such as ballet, and to transport it intact to the ice, seldom works. Aspects of the technique bound up with ballet do not suit the skating medium. Similarly, the same point could be made about any other dance styles. A more successful approach is to:

a. Determine what points of view shaped the original style and be true to those concepts;

b. Use technical aspects that work and eliminate those which do not;

c. Add technique related to the skating medium which conforms to the style concept or extends it within recognizable limits.

The style should be appropriate to the music, but very few clear lines can be drawn. The various aspects of the particular musical style can be emphasized or minimized and they may be expressed in many different ways - conventional or unconventional. There must, however, be some reference framework within which a unity is to be achieved, so some elements must remain consistent.

The general tendency in skating is to fall back on the use of open curved movement, on "filling" space, and to do it in a lyrical style with emphasis on shape in space and rhythmic-dynamic mode. There are many ways of moving, and moving other than in the "natural" ways may often be more effective in relation to the music's demands.

The importance of style cannot be underestimated because it ultimately defines the statement being made - this being the visible expression of every artistic decision.

Exercise:

Play short music selections. Determine general styles which may be appropriate to the music. Be careful not to be too narrowly bound by the music.

Common errors in style

1. Unity of style is not maintained, resulting in an inconsistent style.

2. Movement does not relate stylistically to the music.

3. Movement lacks detail appropriate with the music's demand for detail.

PROGRAM OBJECTIVES

Up until this point, this module has discussed the skating program in general. The components of the program, factors which influence how each component can be developed and common errors.

In order to arrive at a final version, the coach must assess the level of the skater and determine realistic expectations for the program. Keep in mind that the program objectives of an accomplished skater with physical and emotional maturity will be different than for the younger, less skilful skater who is skating a program for the first time.

Therefore, before actually beginning to create a program for a skater, determine realistic short term goals.

Assess the skater according to:

- Age
- Gender
- Physical maturity, both in body build and fitness parameters
- Emotional and intellectual maturity
- Technical skills

Determine the purpose and requirements (both technical and artistic) of the program:

- Test
- Competition
- Show
- Recreational

Based on this information and in consultation with the skater, reasonable objectives can be set in accordance with the two aspects judged in a program; namely technical merit and artistic impression.

For the skater at the Senior Bronze or Junior Silver Free Skating STARSkate level we can expect:

- Performance and an understanding of intermediate level skating skills
- Required elements performed in a well-controlled manner
- Sureness of skating skills
- Good ice coverage and utilization
- Balance of elements within the program pattern
- An indication of expression through movement in relation to the music, rhythmically and dynamically

In choreographing for a skater, the difficulty of the work must be considered. It cannot be so difficult that a goal it is not attainable within the training time available and it should not be so simple that it is without challenge.

The coach should avoid indulging him/herself in his/her personal efforts to grow as a choreographer at the expense of the skater. This is not to say that there is no room for creativity - there most assuredly is, but the program must be technically, musically and stylistically within the reach of the performer.

SUMMARY

The ability to create a well-balanced program for an individual skater is an important aspect of coaching. The coach needs to understand what components make up a composition, their development and influencing factors and common errors.

The program must suit the music selected and the ability of the skater to perform it. Before the music is chosen and the program is laid out, the coach must set program objectives based on an assessment of the skater involved and the standards and requirements of the given test or competition.

By working together with the skater to develop technical and creative skills and by incorporating these into a program; the result will be a composition which is suitable and unique to the skater performing it.

In creating interesting choreography it is not enough to merely measure movement on a scale of inches or degrees: how much, how far, how high or how many. Rather, choreography must be infused with life and the immeasurable qualities which mirror the inner attitude of the skater. Skating being the beautiful movement of art that it is, deserves nothing less in creativity and performance from its coach, choreographers and skaters.

ACKNOWLEDGMENTS

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Section 9:

STARSkate

WHAT STARSKATE AT THE INTERMEDIATE LEVEL IS ALL ABOUT!

Getting into the more technical aspects of our sport, STARSkate at this level is about progressing from the introductory tests to the intermediate tests of figure skating. While elements are more complex and the terminology of skating increases, correct technique becomes a more important factor in the athlete's development at this level.

An average skater at this level will practice six hours weekly for approximately 40 weeks per year, which provides 240 hours of total practice time. Considering this amount of time with the addition of approximately an hour of competition and test days per year. As a coach it is critical for our sport that you are able to keep practices motivating and fun

Skating at this level also allows the skater to see and consider many options available to them. Talented skaters may try the Competitive Skate Program that offers free skating, dance, pairs and synchronized skating opportunities; however, coaches will continue to use the STARSkate system as a training tool to further develop athletes in the discipline of choice.

STARSkate offers opportunities for skaters of all ages to develop fundamental figure skating skills in the following areas:

Skating Skills - a great tool to develop agility, increase the skaters' knowledge of turns, build control and body awareness which is helpful when choreographing programs, building footwork sequences and teaching jumping techniques.

Interpretive Skating - allows the athlete to concentrate on the second mark of their free skating including body movement, edges, music interpretation and musicality - a great training tool for all skaters!

Dance - develops rhythm and timing as well as posture, bodyline and good stroking technique - vital ingredients for all areas of skating.

Free Skate - skaters are able to show off their power and balance when executing jumps and spins. Free skate is a great tool to develop coordination and challenges the skaters to expand their comfort zone.

THE BENEFITS OF COACHING ALL AREAS OF STARSKATE - FREE SKATE, DANCE, SKATING SKILLS, INTERPRETIVE SKATING

As a coach, you are providing services to clubs, athletes and their parents. Having more services to offer makes you more marketable. When clubs are looking to hire coaches, the majority of clubs want a coach who can fill many voids in the club. Why hire one coach for free skate, one for dance and another for skills when they can hire one coach who does it all?

This is especially true if the club cannot offer enough work in any one discipline to fill a coach's need. A club can offer you more hours of work if you are available to teach more disciplines - the opportunities are endless!

Aside from a marketability perspective, the benefit for you as a coach to teach all areas of STARSkate is tremendous when it comes to skater development. Quite often, coaches will apply the theories taught in one discipline to benefit another. For example the spiraling edge on a loop can be directly related to the spiraling edge on a flying camel.

CLUB AND COACHES: PROGRAM SET-UP AND DELIVERY TIPS TO SERVICE SKATERS AT THE INTERMEDIATE/SENIOR STARSKATE LEVEL

1) Parent Education/Information/Skater Development:

- Parent education continues to be very important at this level. Schedule information sessions throughout the year where parents can openly ask questions. Educate parents on the different areas of the sport and benefits associated with each discipline.

- Schedule goal planning sessions with your skaters. It is important to set goals and determine a path (create a plan!) that athletes must follow to achieve them.

- When scheduling particular session evaluate if any other sessions can be combined. Theses skaters will benefit participating on a higher session so they can be motivated to achieve more, however they will also benefit from being on a lower session as they will become role models and be used as examples.

- To increase participation as Program Assistants, try to schedule these skaters' sessions close to your CanSkate and introductory level STARSkate programs.

2) Motivation/Incentives for the skaters:

- Providing incentives and motivation to skaters at this level is absolutely essential. Here are some ideas:
    - Create a focus every month/week and reward growth (i.e. Super Spinner Month)
    - Have an area in the arena to display achievements by these skaters (i.e. Congratulations to Susie for landing her first double toe loop!)
- Have skaters maintain a journal or record progress on the ice. This can also be used as a training tool to keep practices on track and focused
- To add variety and fun into the program, hold an evening Friday night where skaters challenge each other to have the highest spiral, hold the longest sit spin, or jump the longest axel - rewards can be as simple as stickers or recognition of the winners on the club bulletin board
- Create a section in the club's newsletter to highlight achievements, results or personal gains. If possible, put an article in the local paper. You can access a wide range of templates from the Skate Canada Marketing Toolkit. This toolkit is available on the Skate Canada website.
- Other ideas:
    - Axel Club, high five awards (cut out hands to go on the wall), thumbs up, STARSkate stars (put names on stars with achievement to go on the wall)
    - Dynamic Dancers, Super Spinners, Combo Kings and Queens (reward new jump combinations landed), Awards for a clean run-through (for skaters who skated a clean solo) and many more - be creative!

3) Ice/Session scheduling tips to meet the needs of skaters at the intermediate/senior STARSkate levels:

Program scheduling is key to skater development at this level. When setting up a program to service the needs of Senior Bronze and Junior Silver skaters, a coach must look at the development of both on- and off-ice components. As stated earlier, much of a figure skater's life is spent practicing; therefore fun, motivation and variety must be built into the schedule to keep the skater interested and to create a positive and encouraging atmosphere.

The following chart will give you ideas for both on and off the ice sessions:

ON-ICE	OFF-ICE
Free Skate: • Include Challenge Days, where skaters must push their limits (who can do the longest axel, most loop/loop/loops, most rotations on a flying camel, longest spread eagle, etc.). • Stations can also be used at this level. Placing one coach at each station will give the skaters a fully instructed session - again this is great for variety. Ideas for stations: jump station, spin station, harness station, video station, field move station or challenge station. • Mini seminars, guest coaches or inviting guest skaters can also spice up the atmosphere and rekindle motivation. **Dance:** • Sessions should be fun and non-stop. Encourage skaters to pair up and partner each other on the dances they already know or with lower level skaters. • Mix up the music and bring out different versions (ISU or the older Skate Canada series). • Encourage creativity by challenging the skaters to develop a Creative Dance for their level - for this they can even use modern music (see Creative Dance manual). • Invite a nearby dance team to skate during dance session, or invite them in for a seminar. Bringing in a judge/evaluator or guest coach for a mini seminar is also an option.	**Warm up:** • To include as part of a regular training regime, skaters need to be taught how to do an effective off-ice warm up and learn how it will improve their overall on-ice performance as well. • Put a poster on the wall outlining all the exercises. An example of an off-ice warm up could be: - 5 minutes: running, skipping or other cardio - 5 minutes: active stretching (i.e. leg swings, arm circles) - 5 minutes: activation exercises (off-ice jumping exercises, walkthroughs, mental pictures) • The greatest benefit of an off-ice warm up is the mental state the skater is put in before hitting the ice. **Fitness:** • An important part of all sports. The better fitness level of your skaters, the better performance you can expect, whether it is for competition or general practice. • Many coaches will use a certified fitness instructor to work with athletes at the club and set up programs effective for skaters to train on their own. Cardiovascular, strength training, plyometrics and flexibility are essential components to a well-balanced fitness program.

ON-ICE	OFF-ICE

Skating Skills:
 	
• Allowing "patch" time where skaters can work on or learn the turns on figure eights - this is considered beneficial and highly recommended.
 	
• Other sessions could be set up in lanes, where groups of skaters can concentrate on one section of skills (side patterns) really focusing on technique and edge quality. Sessions where skaters can perform the skill patterns are essential as well.
 	
• Set up sessions where skaters will work on all clockwise patterns one day and counter clockwise patterns the next.
 	
• Stations work well as you can set up one for stopping, one for turning and one for edging and/or a pattern.
	Balance Classes:
	
	• Offer the coaches a vehicle to develop the balance needed on the ice without the cost of ice time. Without "figures" to train on the ice, our skaters spend very little time just standing on one foot for long periods of time. The benefit of this time spent on one foot came not only in the balance category, but also added to the skater's strength and body awareness. Balance classes can be offered in many formats. Here are some ideas:
	
	  • Work with bean bags on the skater's head, walking on toes forwards, backwards, going through jump positions, spirals etc.
	
	  • With skates and guards on, have the skater go through all the turns, feeling the rocker of the blade and the action of each turn.
	
	  • Add challenge to the class by introducing wobble boards or fit-discs. Have skaters hold positions for a length of time. Add more challenge by having them close their eyes.

ON-ICE	OFF-ICE
Spins: • Allows a skater to focus solely on their spins and emphasize how important spins are to our sport. • Sessions don't have to bevery long - 10 to 15 minutes a couple times a week will make considerable improvements to the skater's development. • Teaching in a group format during this type of session will allow you to direct the skaters' efforts, expand knowledge, challenge skill and motivate development and interest. **Stroking:** • A MUST at every level. The true essence of skating is taught in these sessions. • Proper pushing technique, power, edge quality, speed, posture/body line and cardio training are components of a well-organized stroking session. • Spice it up a bit by offering edge/turn classes one week, power or speed stroking the next and cardio the next week. • Keep the atmosphere fun and motivating to encourage 100% participation and effort - the results are amazing!	**Off-Ice Spinner:** • Provides another avenue for skaters to train positions and balance off the ice. Skaters must have "spinners" for this class that can be purchased from specialty skating stores. Working on the ball of the foot, skaters can train body awareness, balance and positions for all spins. **Off-Ice Jump Classes:** • Without the expense of ice time, coaches can go through each position of the jump to ensure the skater has a full understanding of their expectations. Working basic jump technique is very useful as well, giving the skaters exercises to increase the power of pushing out from their hips, knees, ankles and toes. **Off-Ice Dance or Creative Movement:** • Works the artistic side of the skater. Coaches can bring in a dance instructor or can teach this class themselves. Developing body awareness, fluidity, musicality and grace is essential for a well-rounded skater. Creative class time allows the skater to start developing their own style and allows them to explore their own interpretation skills.

ON-ICE	OFF-ICE
Music Interpretation: • A great way to introduce the Interpretive Skating tests. • Skaters can explore creativity, develop new movement and discover ways to use their blades to carry them when is integral in the development of quality skating. • Offer these sessions in a variety of formats - some ideas: choose a piece of music and explore the melody using the body. Give the skaters some moves to use. Explain the ranges of motion. Explore different levels and movements within them. Give the skaters a story line to be the reason for movement and continue to develop that theme. • As the skaters become more comfortable on the ice and their repertoire of body language expands, coaches will allow for more freedom on the ice by supplying the music and just having the skaters explore. • Starting these sessions at an early age will decrease the reluctance to participate when the skater enters the very self-conscious period of the teenage years and increase self-confidence in performing!	**Video Class:** • Used by many coaches on the ice to help a skater better understand their technique. Using video off the ice gives the coaches more time to explore topics and discuss points with a larger group. Coaches can use instructional videos or performance videos of either elite athletes or your own STARSkate skaters. **Mental Training:** • We all know that sport is 10% physical and 90% mental, yet it is one of the LEAST trained areas. Introducing skaters to mental training will better prepare them to deal with more situations, push themselves through their comfort zone, help them deal with frustration and be more productive on the ice. There are many great books available to assist coaches in this area, here are just a few: • Games Girls Play by Dr. Carolin Silby • The Mind Gym by Gary Mack with David Casstevens

TECHNICAL TIPS FOR SENIOR BRONZE AND JUNIOR SILVER FREE SKATE TESTS

1) Senior Bronze Test

- Russian stroking exercise - ensure your skater is starting each lobe with a strong inside edge. Blade pushes are mandatory at this level.

- Change of edge exercise - skaters must understand and demonstrate good knowledge and ability to perform a strong change of edge on lobes (no "S" changes or diagonal changes). With more power and speed, skaters will use more ice and come very close to the mid line of the arena.

- Double Toe Loop - the most common mistake on this jump is the take off. Ensure that the skater is able to keep the skating leg on the ice on a back outside edge until it passes the toe for take off. If the leg turns or is picked up too early the jump turns into a "toe-axel"

- Flying Camel - proper take off is essential. The skating foot should not turn backwards before hitting the toe on the take off of this spin. Skaters should achieve an air position and maintain good balance during the back camel.

2) Junior Silver

- The stroking circle must expand as the skater increases their speed. The rhythm of the steps should not change as the speed and circle size grow. Skaters must execute strong pushing/ thrusting technique, good knee bend and strong upper body control. Crosscuts should not be done on 2 feet.

- The figure eight exercise must have a sustained edge either starting or ending each circle. The most common mistake is that the edge is flat. Ensure good edge control and direction to help that edge be strong. Try to aim for the edge to be held for ¼ of the circle.

TECHNICAL TIPS FOR SILVER AND GOLD INTERPRETIVE SKATING TESTS

When teaching this level of Interpretive tests, ensure the quality of skating is equivalent or greater than the level of skating expected at the Silver/Gold level of dance or free skate. While the use of music is imperative, the use of ice, levels, directions and variety of turns is also important to train. The focus of these tests is to explore the movement on the ice. The theme of the program should be the reason for the movement. Keep the focus on the skating.

TECHNICAL TIPS FOR SENIOR BRONZE AND JUNIOR SILVER DANCE TESTS

- **Ten Fox** - the most common mistake on this dance is the end steps of the pattern. These steps are not crossovers - they are progressive steps. The Mohawk following these steps is a heel to instep Mohawk.

- **Fourteen step** - focus on a balanced pattern (roll in the middle). The end steps are the same as progressive steps in the Ten Fox and should be skated on a large curve. The Mohawk is also the same as in the Ten Fox. There should be sharp extensions to match the march feel of the dance.

- **European** - three turns on this dance are a big focus. Ensure the turns are done on the count of three and that the feet are together. Both the 3-turns and the back transitions are to be cleanly executed on one foot. Teach the partner to track to the outside when stepping into the turns.

- **Keats Foxtrot** - the cross rolls in this dance are sometimes mistaken for cross steps. Good knee bend, extension and blade push will accentuate the outside to outside edge on the cross rolls. This dance introduces the first closed Mohawk. Ensure it is instep to heel. The skater must skate strong outside edges entering the Mohawk and strong inside edges after the Mohawk.

- **American Waltz** - ensure the free leg passes close to the skating leg on all turns and rolls. All turns are done on the count of four and there are no double knee bends in this dance.

- **Harris Tango** - this is the 1st real test of expression! Sharp extensions and holds are expected as well as neat feet. Partnering is tricky in this dance. Ensure that you teach the tracking for each lobe.

- **Rocker Foxtrot** - as the name indicates, it is the rocker turn that is a big focus on this dance. For a true rocker turn - aim the turn into the middle of the ice. Strong edges are expected on the promenade steps into the Mohawk. Again ensure there is a true cross roll after the double knee bend.

Section 10:

COACHING PROFESSION

COACHING AS A PROFESSION

In the primary STARSkate training course, coaches focused on the various relationships that they encounter when working within a club. In this module, the coach will examine some of his/her own skills in the anticipation of being able to deal more effectively with the activities that affect his/her life on a daily basis. The following topics will be discussed:

- Promoting club programs
- Leadership styles
- Effective communication
- Time management for coaches
- Stress management for coaches

PROMOTING CLUB PROGRAMS

Coach's Responsibility

Every club, as part of its ongoing operations, has certain, activities and programs it wishes to promote. These activities and programs may include such things as carnivals, exhibitions and CanSkate or membership drives. A coach should be aware of a club's promotional strategy and be prepared to contribute whenever necessary. These promotional activities should be considered when negotiating a contract so that everyone involved knows exactly where the coach fits into the promotional plans.

A coach's involvement may simply be to give necessary feedback on programs already in place in a club. Their input could be ideas to enhance the goals of a program such as organizing dress-up days at Halloween. On the other hand, a coach's responsibility may be to appear on television or at trade displays or be able to initiate a promotional campaign in the media. To do these activities with some degree of logic a coach should have some basic knowledge of the fundamentals of promotion. If a coach wants to go beyond these fundamentals, then he/she should consider a complete class in public relations/marketing.

Promotion/Advertising

Basically, promotion is an exercise in information, persuasion and influence. The two most widely used methods of promotion are personal selling and advertising. Another is sales promotion, which is designed to supplement and coordinate personal selling and advertising efforts and includes such activities as setting up displays or holding exhibitions.

The intensification of competition between different industries, as well as between different firms within given industries, has placed tremendous pressures on the promotional programs of individual sellers. In our economy of abundance, the desire for satisfaction has replaced, to a great extent, the mere necessity of fulfilling basic physiological requirements. For example, twenty years ago, Canadian children chose between skating, ballet and piano lessons. Today however, they have many more alternative activities to select from. As customers engage in the satisfactions of wants rather than needs, they become more selective in their choices of alternative expenditures. To attract customers, a club must have a good promotional program. Customer demand is largely dormant; it must be awakened and stimulated. Promotional effort looms important in the overall operations of a club. It is usually the largest part of the total marketing expenses.

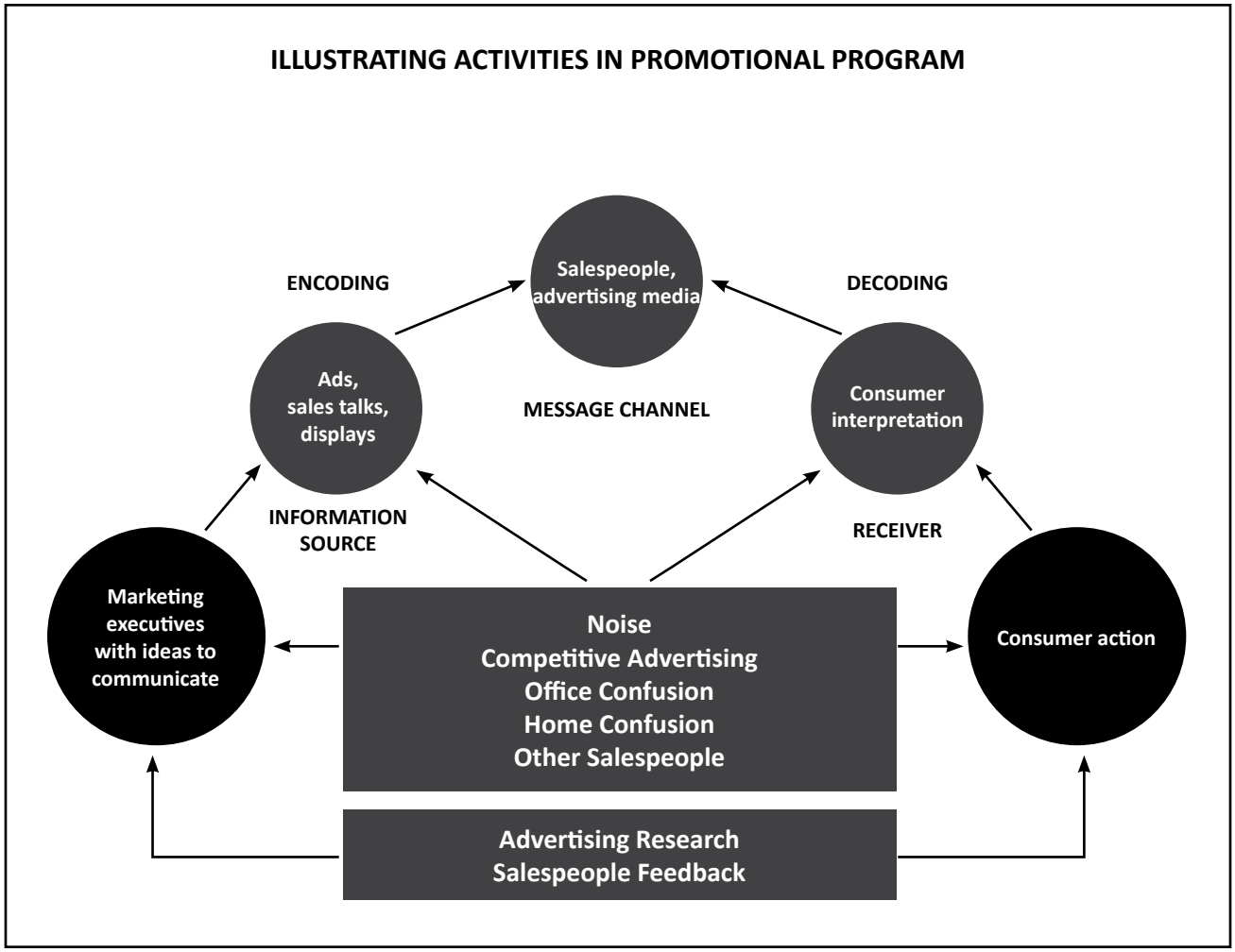
The Communication Process in Marketing

In any society the nature of interpersonal relations depends in large measure upon the effectiveness of interpersonal communications. Certainly in business in general, and in marketing in particular, the effectiveness of the system is related to the effectiveness of the communications. To go one step further within the marketing system the promotional activity is basically an exercise in communications.

The word "communication" is derived from the Latin word communis meaning common. Thus, when you communicate, you are trying to establish "commonness" with someone. Through the use of verbal or nonverbal symbols, you as the source send a message through a channel to a receiver in an effort to share an idea, attitude, or some other kind of information.

Fundamentally, a communications process requires only three elements - a message, a source of this message, and a receiver. The information which the sending source wants to share must first be encoded into transmittable form and then later decoded by the receiver at the destination. The final element in the process - feedback - tells the sender whether or not the message was received and how it was perceived by the destination target. The feedback element is also the basis for planning ahead.

A MARKETING COMMUNICATIONS SYSTEM



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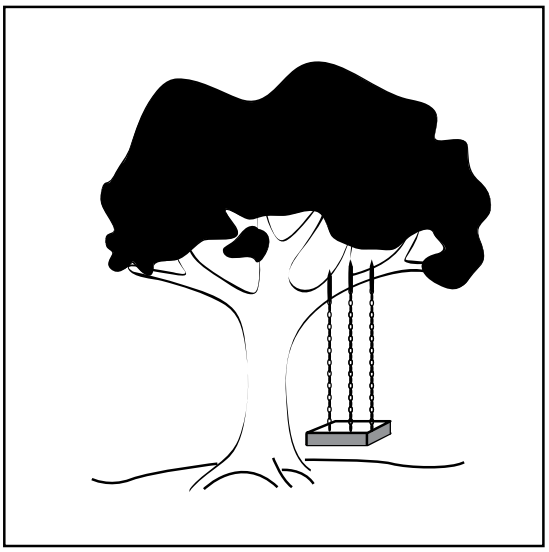

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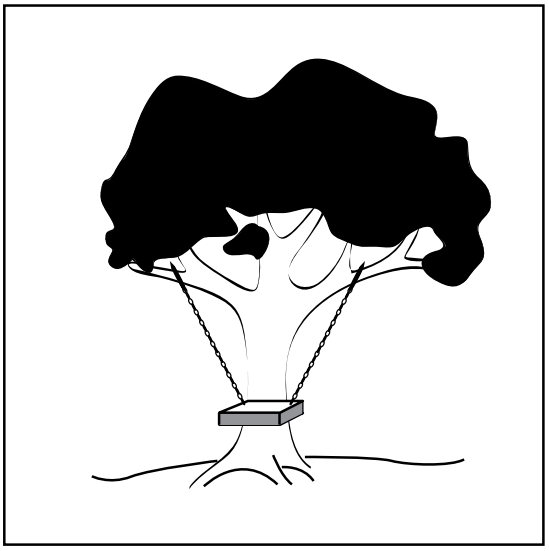

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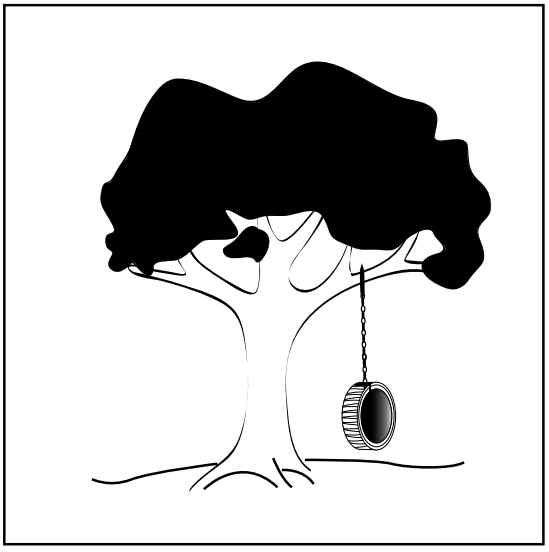


What the customer wanted

Promotional Mix

When planning the total promotional program in a club, the Board must make use of the campaign concept. A campaign is a planned, coordinated series of promotional efforts built around a single theme or idea and designed to reach a predetermined goal. The total promotional campaign can be subdivided into its advertising, personal selling, and sales promotion components, and the subcampaigns can be planned in more detail. The underlying difficulty is that the club will be unsure of the exact extent in which these subcampaigns will help achieve the goals of the promotional effort. They do not know how much should be spent on each promotional activity, nor do they know what to expect from the expenditure. The following factors should influence the club's decision making process when deciding the promotional mix.

1. **Funds available**

   Regardless of what may be the most desirable promotional mix, the amount of money available for promotion is the real determinant of the mix.

2. **Geographic scope of the market**

   Personal selling may be adequate in a small local market, but as the market broadens geographically, greater reliance must frequently be placed on advertising.

   A club may begin by distributing a flyer to local schools and as the club programs expand, may decide to advertise in section publications. A summer school may wish to attract additional skaters and coaches from other clubs.

EXAMPLE: Poster for the carnival or ice show

- Size and color must be determined
- Main features to be highlighted: guest skater(s); location; date; time
- Where to distribute posters: strategic locations; stores; other arenas and clubs
- Determine who will distribute the posters
- Determine the number of posters to be printed: get quotes
- Decide when to distribute posters: in conjunction with other media advertisements; perhaps three weeks before the show

* Lead time for editing, printing and mailing must all be considered. A poster for such an event may have to be started three months in advance.

3. Concentration of the Market

a. The total number of prospective customers - The fewer potential skaters there are, the more apt a club/coach is to stress personal selling rather than advertising. Clubs in small towns will apply different strategies than those in large cities.

b. The number of different types of potential customers - A market which is concentrated in one type of customer (for example, runs programs for ice dancers only) will require a different promotional mix than that of a club which caters to many different customer groups.

4. Type of customers

The promotional strategy is influenced by whether the club is aiming its sales campaign at recreational, test or competitive skaters or a combination. A club may be located in a "one company town"; an agricultural community; or a middle-class neighborhood. These factors must also be considered.

5. Program's life cycle

There are several stages. For example, when a program is in the pioneering stage, the skater does not recognize that he/she wants the particular program. He/she does not immediately understand how it will benefit him. Therefore, the promotional strategy is to inform and educate the potential customer. He/she must be told that the program exists, how it may be used, and what want-satisfying benefits it provides. Skating is a product.

Comparing Media Types

TELEVISION		**RADIO**	
Broad reach	Little demographic selectivity	Low cost	No visual treatment
Creative opportunities for demonstration	Commercial clutter	High frequency	Short advertising life of message
Immediacy of messages	Short advertising life of message	Immediacy of message	Background sound
Entertainment carryover	Decreased viewing in summer	Short notice to schedule	Commercial clutter
A compelling medium	Some consumer skepticism toward claims made	Relatively no seasonal change in audience	
Negotiable costs	High cost	Highly portable medium	
Frequent messages		Negotiable costs	
		Short-term advertiser	
Network		commitments	
Association of prestige with programming	Long-term advertiser commitments	Entertainment carryover	
Local		**Network**	
Geographic selectivity	High reach more difficult on independent stations	Lower absolute cost for national coverage	Difficult to accumulate reach of a large audience
Association with programs of local origin and appeal	High cost for broad geographic coverage		No geographic flexibility
Short notice to schedule	Ad can be preempted		Limited demographic selectivity
			Limited programming variety

MAGAZINES		**NEWSPAPERS**	
Good reproduction, especially colour	Long-term advertiser commitments	Geographic selectivity and flexibility	Little demographic selectivity
Permanence of message	Slow audience buildup	Short-term advertisers commitments	High absolute costs for national representation
Demographic selectivity, reaches affluent audience	Limited demonstration capacities	News value and immediacy	Limited colour facilities
Regional	Less compelling than other major media like television	Advertising permanence	Variable colour reproduction
Local market selectivity	Lack of urgency	Readership not seasonal	Different local and national rates
Special-interest possibilities	Long closing dates	High individual market coverage	Little secondary readership
Readership not seasonal	Not a frequency medium (unless used specially with multiple units in same issue)	Local retailer-dealer identification	Clearance problems
Relatively long advertising life (one week, one month)		Merchandising programs	Variation in audience by market
Informational		Co-op and local tie-in availability	High cost for broad geographic coverage
Editorially compatible environment		Short closing	
Secondary readership		**Local**	
Merchandising programs		Excellent demographic selectivity	
		Good geographic flexibility	
		Personality identification	

COMMUNICATION IS KEY!

Coaches need to be able to communicate effectively with a wide range of people in the skating world. Although, the most crucial is the athlete-coach relationship, given the almost daily interaction that they have with one another, excellent communication with the parents (the primary client), other coaches, board of directors, Skate Canada and Section Offices, judges, adjunct trainers, sports medicine or alternate practitioners, and administrators are essential. Coaches also need to understand their influence in the role that they hold, as a leader and manager of their athlete's skating development.

External communication from others in influential roles (coach, official) will ultimately influence an athlete's behaviour through any their cognitions, emotions, motivational factors, values, or behaviours and greatly affect an athlete's enjoyment, morale, motivation, and performance.

Influential Roles include: Coach - athlete, official - athlete, parent - athlete, organization - coach, team captain – athlete and sometimes athlete - athlete. Their interactions are influenced by their leadership styles, which influence others.

LEADERSHIP STYLES

Leadership = a behavioural process in which one group member influences the other members regarding the attainment of the group's goals.

Knowing yours and others' leadership styles is helpful for working more efficiently and co-operatively with others towards a common goal, and understanding how your style will affect those that you are leading.

Autocratic/democratic dimension: This is the degree that a leader allows athletes/workers to participate in the decision-making.

Autocratic: This style is when leaders make decisions alone, with no input from the athletes or supervisees. The benefits include increased productivity and quicker decision-making processes but often reduce athlete/employee satisfaction and reduce the utilization of their natural skills which could ultimately prove useful to the final goal.

Democratic: This style is when the leader takes input from athletes or assistants into account. It usually increases sport satisfaction, although it slows down the decision making process and sometimes can interfere with athlete's perception of the leader's ability.

Permissive/directive dimension: This includes the degree of direction that is given to athletes/workers.

Directive: This style involves leaders who usually watch closely over the athletes, telling them what to do and supervising their movements while ensuring that the program or instructions are followed.

Permissive: This style involves leaders who let athletes/workers do it on their own without much monitoring and ultimately gives players a feeling of accomplishment and responsibility.

EXAMPLE - An instructor is fitness training a group of skaters. He gives them a weight training workout and/or circuit to follow on their own, with the fitness trainer on hand for any questions. What was found is that the younger skaters tended to talk and do little work, whereas the older skaters were able to work more independently with some conversation but still got the work done. Sometimes this involved a maturity issue, since some young skaters, particularly the more competitive ones, understood the value of weight training, wanted to get stronger, and still performed. The older kids tended to do better with a permissive style and often had a partner to compete against to stay on task. The younger ones needed continuous guidance and so doing timed circuits or contests to keep effort levels high was more effective, changing to a more directive and sometimes autocratic style of training. However, at times, there was resistance to participate and utilizing a more democratic style by allowing them to choose exercises from time to time increased enjoyment and added to their feeling of responsibility towards their training when they were given some freedom to perform the sets.

Combinations:

Often, combinations of the two dimensions of leadership styles that were mentioned are common. They effects on these being lead are simply a combination of the effects of the independent styles.

- Directive autocrat- monitors closely with no /little input
- Permissive autocrat- allow players to work on own with given instructions
- Directive democrats- close eye but allow suggestions
- Permissive democrats- gain input then leave alone

Additional styles of leadership:

Task-oriented: These are production-oriented leaders who deal with getting the job done, following rules and procedures, and doing things efficiently. However, they often fail to take individual needs into account.

Person oriented: These are consideration type leaders who deal with the ensuring a good relationship between all members, even if the job is done to a lower level or takes longer.

A combination of both types is usually ideal. Tjosvold's research found that leaders with both a high task oriented and person-oriented approach were the most successful.

In different teams, or relationships, it would be important to note if there is a higher need in one of these dimensions. For example- an all girls team might need more attention delivered to good relationships whereas an all male team may need to focus more on tasks and deal with personable issues as they arise. As gender differences for cognitive/attentional difficulties include differences in task/person orientations (men= more task focused, and women=more emotional component), it may explain some of the needs for differences in leadership styles.

Knowing yourself

- The most successful leaders know who they are, how they respond to a variety of situations, and have found the best ways to combine their skills with those they work with, ultimately drawing out the strengths of all and improving upon weaknesses.

- A brief personality measure, the Myers-Briggs, looks at eight personality preferences that all people use at different times, and has very good reliability and validity, although the categories are only one portion of the whole picture. However, these categories are found to be the most useful in businesses to form better project teams, for selecting alternate careers, and to assess communication, decision-making, relationship styles, learning, and problem-solving.

- The measure is comprised of four scales: energizing, attending, deciding, and living, each are on a continuum of exhibited behaviour, and represent your preferences that you lean towards, leadership style and approaching problems. People function best when they can work in a way that allows them to express their own preferences and when forced to use a different style, they tend to burnout. Although, this does not limit one's potential to develop these are sides, personality is relatively permanent over time, and preferences usually become more concrete until significant life events may alter some of this.

The following chart shows the ends of the continuum, which can be assessed on the measure, but will give you a perspective of the preferences that you may align the most with and will most likely find success in.

1) ENERGIZING	
Extraversion - Preference for drawing energy from the outside world of people, activities, things and groups.	**Introversion** - Preference for drawing energy from one's internal world of ideas, emotions and impression.
2) ATTENDING	
Sensing - Preference for taking in info through the five sense and noticing what is actual.	**Intuition** - Preference for taking in info through a sixth sense, and noticing what might be.
3) DECIDING	
Thinking - Preference for organizing and structuring info to decide in a logical, objective way.	**Feeling** - Preference for organizing and structuring info to decide in a personal and value-oriented way.
4) LIVING	
Judging - Preference for living a planned and organized life.	**Perceiving** - Preference for living a spontaneous and flexible life.

EFFECTIVE COMMUNICATION:

Effective communication is the ability to express ones thoughts and feelings effectively in any situation or relationship and to understand the thoughts, feelings, and ideas of others. It contributes to team success and harmony. Often a coach takes on the role of a teacher, counselor, confidant, friend, role model, and sometimes substitute parent. Consequently, a coach has a significant impact on a child's life in some way.

The following are basic communication skills and examples that can be used to facilitate communication with anyone.

BASIC COMMUNICATION SKILLS		
Skill	**Definition**	**Purpose**
1) Active Listening	- Hearing both facts and feelings in eyes/perception of other person - Done through clarification, paraphrasing, reflection, Summarization	- Allows for comprehension, appreciation, evaluation, empathizing, and self-understanding - Understands content, intent, and feelings of messages
Clarification	A question beginning with an elaboration, Eg. "What I hear is…." Or "Areyou saying that…"	- Encourages the person further, checking out accuracy of facts and clear up vague, confusing messages.
Paraphrase	Rephrasing the content of a client's message, not parroting (element of interpretation)	- Helps the person focus on his own content of message and explore deeper feelings/ thoughts
Reflection	- Rephrasing the affective (feeling) part of the message	- Encourages more expression of feelings, increase awareness of them, manage and discriminate among them
Summarization	- Pulling together all the main ideas and feelings of what has been said	- Ties together several messages for a common theme/pattern and provides clarity to lengthy or complex issues

BASIC COMMUNICATION SKILLS		
Skill	**Definition**	**Purpose**
2) Reflective/action responses	- Providing an alternative way to view the self and world - includes probing, confrontation, interpretation, information giving.	- Helps person see a possible need for change or action - "seeing through new eyes"
Probing/questioning	- Open ended or closed questions and inquiries - avoid 'why's'- to keep non-judgmental	- Open - ended: can begin conversation, encourage elaboration, elicit specific examples - Closed- narrows topic, focuses issue, obtain specific info
Confrontation	Description of client discrepancy. - identifies defense mechanisms	- Identifies mixed messages (verbal, non-verbal) - explore other ways of perceiving self or situation
Interpretation **Information giving**	- Possible explanation or association among client behaviours/responses Verbal communication of ideas and facts	- Examine behaviours from another view or with different explanation (reframe) - adds to self-understanding. - Identifies and evaluates alternatives, dispel myths, andexamine issues that might be avoided (opens the door)
3) Empathy	- Understanding, sharing, and acceptance for another's feelings. "feeling with another" and "being in their shoes" - Not Sympathy- feeling for another.	- Helps to understand anotherfrom their view, perception, and individual feeling. - Lack of empathy often results in Roadblocks to communication.

TIME MANAGEMENT FOR COACHES

Coaches in pursuit of greater performance, impact, and excellence must be proficient at time management. They must manage themselves so that everything that needs to be done gets done.

Good coaches know how important fundamentals are to their athletes' performances on the ice. Effective time management requires that coaches faithfully utilize four fundamental skills to organize their time: evaluating, visioning, goal setting and scheduling.

Evaluation: Start where you are

The first step in controlling time is to investigate current habits for using it. Peter Drucker, a prominent business leader, says, "Until we can manage our time, we can manage nothing else...and until we know where it is going, we cannot manage it".

Keeping a time log helps coaches analyze how their time is spent. The time log produces a detailed audit of time use and identifies patterns and trends in daily activities.

A more expedient approach to investigating time use is completing an assessment questionnaire (like the one in the accompanying workbook).

Vision: Know where you're going

Time management requires not only that a job be done right but, more importantly, that the right job be done. If coaches do the wrong job, it doesn't matter how well they do it; they will not be effective.

To be effective, a coach must identify the most important jobs to be done. This process is begun by identifying a personal vision. Coaches' abilities to articulate their intentions for their lives, athletes, and seasons are critical. Vision is a measure of optimism and hope and of the willingness to take responsibility for one's life and organization. The vision forms the foundation for every action taken with the team/athlete, including time organization.

The importance of vision can be difficult to grasp. But imagine trying to put together a 1,000-piece jigsaw puzzle without first seeing the finished picture. Piecing together a season without a clear vision is just as difficult. It can be done, but the results are a surprise and the approach erratic. Vision provides the picture for the athletes and the coach. It gives direction to efforts and supplies energy and motivation to fulfill objectives and goals.

Creating a vision takes thought and time but it eventually saves even more time. To create a vision, coaches should identify two or three core values that they firmly believe in. Great coaches are known for their devotion to two or three specific values. For example, John Wooden's are love and balance and Pat Head Summitt's are discipline, defense and details.

A vision is born from core values. It results from answering the questions: if these values were our top priority and were faithfully practiced, what would happen? How would we act? What would the athlete or team look like? The answers to these questions should mold a coach's vision.

Core values draw out actions and policies that make behaviour congruent with vision. Vision provides the long-term view that makes a precision team, for example, more than a one-year group of athletes. It provides tradition and a common thread of unity from year to year; it is the basis of goal setting.

Goal setting: Translate vision into action

The coach's vision is realized through long- and short-term goals. Effective goals can be established by adhering to these principles:

- Individuals must buy into the goals they are expected to achieve. Each person involved in striving for a goal should have some input in designing it.

- Both long-term and short-term goals should provide challenge but not be overwhelming.

- Each goal should have performance criteria and a time line. Performance criteria, based upon past performances, help break a goal into intervals of accomplishment rather than providing a single measure. For example, the first step of a fundraising goal might be to raise $500 to $750 before the season opens. Using intervals with minimum expectations insures success and avoids setting an artificial ceiling on accomplishments.

- Goals need to be prioritized. They should be ranked in order of importance or assigned to priority groups according to the contribution each goal makes toward the vision.

- Goals should be recognized as they are achieved. Carole Oglesby, Professor of Sport Psychology at Temple University, says that many people, upon accomplishing goals, tend to scratch them off their lists without celebrating their accomplishments. Goal accomplishment increases self-esteem and confidence if achievements are noted and celebrated. Coaches should focus attention not only on current goals but on past successes.

Scheduling: Accomplish your goals

Once goals are established and prioritized, coaches should plan how to accomplish them by scheduling time for specific goals. Proper scheduling is crucial to attaining goals and provides for the attention to detail necessary for a smooth season. In her book Practical Tools and Techniques for Managing Time, Myrna Lebov provides these suggestions for designing a schedule:

- Write out your schedule and carry it with you. This way you can concentrate on matters at hand without forgetting important tasks

- Make a weekly plan and priorize each entry

- For daily scheduling; find one that suits your needs

- Schedule tasks according to your personal energy cycle. Plan important events for times of high energy, concentration, and creativity. Also consider the best time to seek out external sources, such as other people you might need as input for your projects

- Keep your schedule loose. As a guideline, save 25% of your day for the unexpected
- Concentrate your time. Reserve large blocks of time for important tasks that require uninterrupted attention and that contribute the most to your primary goals
- Consolidate similar tasks. For example, make all phone calls or do all correspondence at one time
- Delegate tasks. Effective delegation requires good communication and interpersonal skills. Acquire these skills and use them. Do not feel that you must do everything yourself

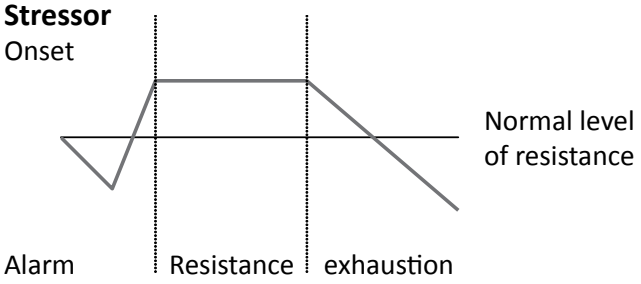
Coaches should carry their daily schedules with them to remind them of what they must do and to keep their attention focused on their goals and they should file schedules rather than throwing them away. Old daily schedules can be used to help plan the next season, to document accomplishments for evaluations, and as miscellaneous references. Past schedules should be evaluated periodically for evidence of effective time use. Periodic evaluation allows coaches to fine-tune their time management systems, making them more productive and responsive to changing needs.

The concept of time management is simple: Decide what is important and do it. The time management system presented here outlines fundamental steps to allow coaches to design their own system. Breaking old habits and establishing new ones are not easy processes, but the rewards are worth the effort.

STRESS MANAGEMENT FOR COACHES

Coaches are not exempt from similar stresses that athletes may face both inside and outside the arena. Stress can have a significant impact on an individuals physical and psychological well-being, and is often a main cause of relationship and communication breakdowns. Additionally, the leadership role of a coach can create negative influences on those that they are interacting with, even before the coach realizes that they are stressed. Following is a review from the athlete's stress responses, as it applies to all individuals, so that coaches may identify some early responses to stress before it reaches a crucial point. Recall, that stress is somewhat individually based, as different individuals respond with different intensities, and interpret stressors differently but the physiological/psychological process of health decline is rarely different.

Seyle's General Adaptation Syndrome indicates the generally non-specific and similar reactions to any stressor by any living organism. His theory is highly physiologically based, and thereby easier to identify for most individuals. However, the symptoms of burn-out follow a similar line and can reveal some of the more psychological characteristics associated with ongoing (negative) stress.



	DURATION	CHARACTERISTICS	REACTION-BODY
ALARM Stage	Onset of stressor	Fight or flight, mobilize resources, resistance decreased	Higher levels of physiological arousal, adrenaline
RESISTANCE Stage	Coping with stressor	Appears normal externally, constant	Higher arousal levels internally
EXHAUSTION Stage	No longer able to cope	Fatigue, illness, defenses broken	Low levels of arousal, body shuts down, headaches, ulcers, insomnia

Note - Stressors may not be entirely non-specific but individual differences, diverse settings, different degree of stress on a person, often cognitive interpretation and psychological aspects can delay or mask this process. However, ongoing stress with no rest and recovery will ultimately result in the exhaustion stage and is usually apparent when individuals become ill.

Coach Stress

The athletes are not the only ones who feel pressure. Coaches not only feel stressed at competition and test days, they often feel emotionally and physically drained on a daily basis and this can lead to "COACH BURNOUT".

The following article, by George Young from the March 1989 issue of "Champion" magazine has been reprinted with the permission of the Champion editors and the Athletic Information Bureau.

Coach Burnout

What do professional coaches have in common with teachers, police officers and social workers? They are all members of the "helping professions" and, therefore, are subject to burnout. Studies done in the United States show, however, that when coaches burnout, university coaches in particular, the degree of burnout is more severe than in other people-oriented fields. That's the bad news. The good news is that Canadian university coaches do not burn out as often.

Studies of coach burnout such as the Howard Stress Symptom Index, the Marlowe-Crowne Social Desirability Scale and the Maslach Burnout Inventory have produced a picture that is worthy of concern in Canadian coaching. The level of burnout is consistent across Canada with no significant difference between team and individual coaches. However, part-time coaches, who also feel more personal involvement with their athletes, experience greater emotional exhaustion than do full-time coaches. Head and assistant coaches report similar degrees of burnout, but coaches who also have additional responsibilities, in most cases teaching (or other "day jobs") experience greater emotional exhaustion.

Terry Haggerty, a basketball coach at Ryerson Polytechnical Institute in Toronto, found that 20 percent of university coaches in Canada are not only willing to take a year off from coaching, but also indicate a willingness to leave the profession altogether. The findings hold true for male and female coaches, but there is a reduced feeling of accomplishment reported by female coaches and coaches who work with female athletes.

Burnout is characterized as a progressive loss of one's energy, idealism and purpose. It is a feeling of being locked into a routine, job or lifestyle that is no longer exciting or pleasurable. This feeling of being 'trapped' is accompanied by overwhelming physical and emotional exhaustion and the development of negative attitudes towards the job and towards life in general.

Andy Higgins, a veteran track and field coach at the University of Toronto, spoke on the topic at a national coaches' seminar in Québec City in the fall of 1988. "Burnout occurs when you reach the point of being ineffective or incapable of doing what you do," he says. "You become so frustrated and exhausted that you just can't do it anymore." For these and a variety of other reasons, less than 50 percent of coaches at the national level will make coaching a life-long career.

The symptoms of burnout can manifest themselves in different ways according to Higgins, and can ultimately lead to heart attacks or other stress related diseases. Coaches suffering from burnout find they can no longer deal with their athletes. They become closed, angry and frustrated.

While burnout may be touted as a disease of the eighties, it has been around for at least 50 years and is not a new phenomenon in sports. It was a major concern in professional athletics in the 1930s. Renewed interest in the subject resulted from the early work of American researchers Herbert Freunberger and Christina Maslach who tested the emotional levels of coaches, their feelings of personal accomplishment and the rate of depersonalization. The first national conference on burnout was held in 1981.

As further studies were completed on the physical and physiological reactions of coaches experiencing burnout, a clearer picture of the problem evolved. Burnout does not happen overnight. It is a debilitative process characterized by specific stages:

1) Depersonalization
2) Decreased feelings of personal accomplishment
3) Over-involvement with, or isolation from, athletes or family
4) Emotional exhaustion. During each stage, the physiological effects may be demonstrated by negative attitudes towards the job, or deterioration in family relationships

Jack Donohue, a coach for 30 years and the national men's basketball team coach for 17 years, believes that keeping everything in perspective will go a long way towards preventing burnout. "When I go home I don't want my kids to think of me as a national coach. I want them to think of me as their father. Because I get my name in the paper, it's a little different than driving a school bus, but it is a job. If it gets to be too much, you have to walk away from it. I always felt I was in control of my destiny and that I'm a good person doing a good job. If the public doesn't recognize that, that's not my problem."

But it can be a problem for some coaches says Higgins. “The whole pace of Western society has become crazy,” he explains. “The expectation of what we should be doing, of what success is, has become distorted and out of perspective. Success is measured more and more in external things.” Higgins believes that working in what many consider a ‘fringe’ occupation creates additional pressures for coaches involved in amateur high performance sport. “It receives no public recognition and therefore no value is attached to the job,” he explains. “The public’s attitude is reflected in coaches’ salaries.”

Maintaining a balance is the key to avoiding trouble says sports psychologist Terry Orlick. “You can be highly committed to something but you have to look after your own needs,” he explains. “Make sure you rest, have time for yourself and some personal space. You can only handle so much of an overload for a certain length of time. You need to eat properly, exercise and sleep.”

Higgins, who experienced feelings of burnout going into the 1988 Olympics, concurs. “We only have so much energy,” he says, “I’m more effective when I am whole and lead a balanced life. Anytime we tip the balance, we will pay for it dearly. We must look after ourselves, physically, mentally, emotionally and spiritually.”

Going into the Olympic Games in 1988, Higgins felt under considerable pressure to produce winners, at any cost. Other coaches have also become aware of the increasing pressures on their performance. The fact that many of the 200 seminar participants attended the session on burnout shows that there is recognition of the problem.

Being aware of the problem, suggests Higgins, is the first step on the road to recovery: “Once we become aware we’re in difficulty, or that the potential exists, we’re on our way.” But, he adds, acceptance without action is not enough, “doing something about it is crucial.”

Currently, no support group exists for coaches; a situation that Donohue believes should be remedied by the coaches’ employers. “The government and amateur sport-governing bodies have to strip the coach of every excuse for failure,” he states. “The coach spends 50 to 70 percent of his/her time resolving unnecessary conflicts and may be overburdened with paperwork or things that do not have any impact on the job.” It is these types of situations, over which the coach has no control, which puts additional demands on the coach’s time.

While solutions are being sought, Higgins believes young coaches entering the profession should be alerted to the incidence and dangers of burnout. “I think the challenge for some of us with experience is to help younger coaches understand that you do not have to burn out,” he explains. But, as Higgins points out, the very qualities that make a good coach are the qualities that make them susceptible to burnout in the first place. Coaches are very emotional as a breed and become intensely involved in their work. The passion for what we do can be a real trap.”

The Coaching Association of Canada is attempting to remedy at least some of the problems by raising public awareness of the value of the coach to the community and to the development of high performance sport in this country. Higgins believes that if coaches feel they are recognized as making a valuable contribution to the system, and a support system can be established to help our nation’s coaches maintain a perspective, then perhaps burnout will remain as a disease of the eighties.

SYMPTOMS OF A BURNOUT:

Psychological
- Sleep disturbances
- Loss of self-confidence
- Drowsiness and apathy
- Quarrelsomeness, irritability
- Emotional and motivational imbalance
- Excessive weariness that is prolonged
- Lack of appetite
- Fatigue, depression, anxiety, anger, confusion….Often looks like depression at first glance.

Physiological
- Higher resting heart rate
- Higher systolic blood pressure
- Delayed return to normal HR
- Elevated basal metabolic rate
- Elevated body temp
- Weight loss
- Impeded respiration
- Bowel disorders

Some causes/pre-disposing factors:
- Tend to be the overly dedicated, idealistic, high achievers, perfectionist
- Working in unrewarding situations
- Other oriented (need to be liked and admired and sensitive to criticism)
- Lacking assertive interpersonal skills (find it hard to say no or express negative feelings such as anger)
- Those with chronic fatigue, anxiety, boredom may result
- Often emotional distress from accumulation of stress, that chronic stress leads to burnout and vice versa

Prevention strategies for burnout:
- Ensure a better balance between commitments, sport and life
- Recognize major mood swings that might indicate burnout
- Take time to engage in other activities outside of skating
- Seek support if continuous psychological symptoms at high levels, with or without physical symptoms
- Have “time-outs” away from competition and practice (active rest periods- similar to athletes)
- Delegate, allow athletes and other team members to participate in decisions and take personal investment in it
- Have relaxation and recovery sessions and try to minimize tension or stressors
- ensure fun is incorporated into life
- Set realistic goals, short and long with a longer progression

Managing Stress

One of the common myths about stress that coaches tend to perpetuate is the idea that we always know when we are under stress. Often, things such as meetings with parents or athletes, editing music for programs, working with athletes to meet competition or test deadlines and small daily irritations can add up to put a coach under stress when he/she does not even realize it.

Another common myth is that stress is "caused by events which happen to one" while it is actually caused by the "way one perceives what happens to him/her".

The successful management of stress is merely the practice of sound mental and physical health. Coaches must understand stress and take deliberate steps to control it. A coach must "pull his/her own strings" in order to effectively manage stress. Manipulation by others is a major stress factor.

Consider the following:

- Stress management is simply attitude management
- Concern one's self only with legitimate concerns
- According to one estimate:
  - People worry about things that never happen and never will happen approximately 40% of the time.
  - People worry about past events which cannot be changed approximately 30% of the time
  - People worry about simple, petty items approximately 22% of the time
  - Therefore, most people worry about REAL, LEGITIMATE concerns only about 8% of the time!

The following are coping techniques to help coaches manage stress:

- Detach yourself from stressful situations by using mental imagery or taking a physical break. Mental and physical detachments can mentally refresh and renew one's outlook on the situation

- Schedule leisure activities into your day/week on a regular basis whenever possible

- "Slow down" - eat your meals slower, take a different, longer route to drive to the arena, make time for "idle time"

- Employ good health practices. Eat a sound, nutritious diet and participate in a consistent exercise program

- Although it is not always possible, try to anticipate and avoid stressful people, negative people and stressful situations

- Evaluate your goals and priorities in life to determine if you are headed in the direction that you wish to be going

- Practice good time management skills

- A coach who is experiencing stress should not be afraid to seek help from friends, other members of the coaching staff or professional counselors

These ideas provide some positive techniques to battle the pressures and problems that come with the title “coach”. It is extremely important that coaches understand that stress will not simply go away, nor can it be eliminated. However, stress can and must be managed. If your attitude is successfully managed, you will be able to endure any of the stresses and pressures of coaching. Every coach should learn to recognize and manage the problems of stress to make their jobs more enjoyable and their lives more relaxed.

SMT (Stress management training)
This is a basic model of managing stress. First, individuals learn about stress, as was outlined in the relaxation/arousal section on psychological preparation. Once understood, individuals begin to identify events and situation that typically lead to anxiety. Lists are often useful for this process so that individuals can identify the most stressful and ways that they typically respond. Once awareness is achieved, individuals can then identify and learn new coping strategies to handle their stressors. This type of program is most effective for longer term or more chronic stress, where thorough reflection of the individual stressors can be reviewed.

The main component for stress management, which follows similar processes as any other psychological technique with assessment, treatment, and evaluation phases, is to train yourself to cope with stress and anxiety in a positive manner. Using both relaxation training and cognitive restructuring (changing your beliefs about the stressor, use of self-talk strategies are helpful) are shown to be the most effective in dealing with stress. Like any other physical or mental skill, coping stress needs to be practiced.

COPE model (Anshel)
This type of stress management is used for shorter term, acute anxiety/stress. Its objective is to deal immediately with a sudden stressor through a more directly active approach.

The main component of this approach includes cognitive behavioural strategies, which means the use of brief relaxation strategies combined with selective perception of negative/positive information, and employing an ‘action plan’ (i.e. attention towards future behaviour).

The use any of the self-talk strategies to change thoughts or filter out negative thoughts help mediate the overwhelming information and just by initiating behaviour, reduction in anxiety will occur on its own. This will not be highly effective for ongoing or repeated stress, as the stressors will continue to show up until adequate reflection and assessment is completed.

SELF-CARE/PERSONAL DEVELOPMENT PLAN:

Personal well-being takes a commitment on an individual to make and sustain changes that enhance their own physical and psychological health. It is easy to be on overdrive in our fast-faced North American culture, but failing to follow some basic essentials to everyday living can create havoc on an individual's satisfaction with all that life encompasses.

The most basic strategies, and are often the first to slip during ongoing strain or stress include good nutrition, sleep, adequate rest/relaxation times, exercise, and setting personal goals that will work with a coach's career.

Good nutrition means ensuring that adequate nutritional value is present in daily foods eaten and limits on the amounts of substances (coffee, alcohol) that are consumed. Poorer nutrition has as many negative affects on coaches as it does athletes, possibly resulting in nutritional deficiencies at times, possible illness, and emotional variability. This is further exacerbated during times of stress when an individual may overeat or not eat enough, consume unhealthy foods with little nutritional value, or lack balance in what is eaten and subsequently creates more stress or using food or substances as coping mechanisms.

Additionally, getting enough sleep each week seems like a simple suggestion but is easily forgotten when weeks of early morning sessions, and late nights at the arena, followed by social outings to unwind are accumulated. Most individuals become fatigued after repeated bouts of such a schedule, tend to have slower reactive time and cognitive abilities, and sometimes lose confidence. Coaches also need to purposely schedule in some time over the year for set periods of rest and relaxation. These usually coincide with the athlete's breaks but on occasion can be implemented, if needed, for adequate restoration. Complete disconnection from the arena and anything associated with it allows for both a physical and mental break. This is an important step to preventing burnout.

Lastly, coaches should ensure that ongoing, daily (if possible) exercise is incorporated into their schedules. The benefits of exercise and enormous on all levels of well-being, and this, along with the other basic requirements of balanced living set a good example for your athletes, now and beyond their careers.

A personal plan, similar to your athlete's yearly training plan, can be developed for yourself. Coaches should consider their goals for the year map out breaks/vacations, major events outside of the arena (weddings, family functions, educational), and develop plans to achieve what they are wanting for the year. Some coaches may plan for running races, attending professional or educational conferences, or engage in particular hobbies and interests to offer additional means of personal and professional development. Associating with others not in the skating business can offer insight and a different perspective to a coach's career, alternative strategies, and awareness of other athletic models that are effective in different sports, or simply provide a break from the cultural/social framework that comprises the skating world.

Section 11:

BUSINESS MANAGEMENT

BUSINESS MANAGEMENT

Lawyers, accountants, insurance brokers, sole proprietorship, partnership, incorporation, term deposits, bonds, equity, debts, RRSPs.

These are all business people or other areas of business that coaches need to understand and investigate in order to run a successful coaching business.

In this module, the following topics will be discussed:

- skating schools
- business insurance
- investments
- retirement

Once coaches have completed this module, they will have an understanding of the business management framework and where to go in order to seek advice about their specific business needs.

SKATING SCHOOLS

Prior to 1989, coaches were allowed to run skating schools in the off-season only; however, since then, coaches have had the opportunity to run year round training schools, summer schools, or special training camp schools that only run for a week or two. With this new freedom comes the opportunity to investigate new business ventures; however, these ventures are accompanied by numerous business and financial decisions.

Much of the information, in this module has been reprinted from (Your Money Matters - Investments, Your Money Matters - Retirement, Your Business Matters - Starting Out Right) with permission of Royal Bank. Skate Canada is grateful for their input.

The idea of launching a business (skating school) of your own may be little more than a dream at first. When you actually start a business, you begin transforming that dream into reality. But keeping an enterprise going can bring you down to earth in a hurry. The person most likely to succeed in business, therefore, dreams big, but remains firmly rooted in reality.

> To be a success in business, be daring, be first, be different.
>
> - Marchant

It is a difficult balance to achieve, but for the right kind of person, the results can be rewarding. The task calls for a combination of creativity, common sense and knowledge. It also requires a tremendous commitment of time, energy and resources, a willingness to take calculated risks, an aptitude for problem solving and an ability to react to changing conditions.

The operative phrase, here, is for the right kind of person. It takes a strong nature to forgo some of the security of working in an established skating club - to have a personal vision and see it through. Remember too, that you'll be asking people close to you to bear with you during the period of adjustment - and sacrifices - that is part of starting your own enterprise. That's why, long before you map out your plan or put your name on the arena door, it is critical to determine whether you have enough of the right attributes to increase your chances of success.

Contact your section office to obtain a current up to date sanction application.

New Skate Canada
Skating School Application
2010-2011

Skating School Name:_____

Address:

_____

_____

_____

Contact Person: _____ Fax: (___)_____

Telephone (Day): (___) _____ Telephone (Evening): (___) _____

E-mail address:

_____

Website:

_____

Note: We suggest that for mailing purposes, skating schools avoid changes in address and acquire a permanent skating school address. A post office box may be the simplest solution.

All Skate Canada member skating schools have the right to operate on a year-round basis. Membership of a skating school confers only the right to allow its members to participate in such Skate Canada skating programs as have been previously approved by the section, to take Association tests, to allow its eligible members to skate in sanctioned **non-qualifying** competitions and to produce carnivals. A skating school is not entitled to vote at the Annual General Meeting or at a special meeting of the Association. [Skate Canada By-law 1201(2)(b)(ii) and (iii)].

Furthermore, all skating schools shall register with the Association, as directed by the approval of the section, all members of the skating school. [By-law 1201 (2)(c)(vi)].

Please note: Skate Canada member clubs offering "off-season" schools in the spring, summer and/or fall seasons to their members, under the general authority of the club, are not eligible to apply for skating school membership.

Skating schools that have previously applied for Skate Canada membership and have been approved by the delegates at a previous Annual General Meeting are not required to complete this application.

SAMPLE

New Skate Canada
Skating School Application
2010-2011

Skating School Name: _____

Skating School's Statement

We, being owner(s)/director(s) of the _____skating school, agree to conform to the Constitution, By-laws, Rules and Regulations, Policies and Procedures of Skate Canada and hereby certify that our skating school is devoted exclusively to skating.

We certify that our skating school will ensure that the eligible status of any member is not jeopardized by any action of the skating school or by unwitting action by the member. We further certify that our skating school will operate only Skate Canada skating programs for Skate Canada members.

We hereby acknowledge that we have sought Impact Statements from the following two clubs and that they have been given the option to submit the statement directly to the Section Membership Chair or return the statements to our club for submission.

1) _____

2) _____

We recognize that the membership of our skating school in Skate Canada is provisional until approved by the delegates at the next Annual General Meeting of Skate Canada.

_____ _____
Skating School Owner/Administrator Date

_____ _____
Skating School Owner/Administrator Date

SAMPLE

New Skate Canada
Skating School Application
2010-2011

Skating School Name: _____

Club Impact Statement

As part of the application process for new member skating schools, existing member clubs that are located proximal to the applying skating school have the opportunity to submit an impact statement to describe the effect that this decision may have on their club. Your club must sign and may provide comments if you wish. Your club has the option to return the completed Impact Statement form directly to the Section Membership Chair or return the statement to the applicant for submission with their application.

We, the _____club, club number _____, a member of Skate Canada, located geographically proximal to the _____skating school, understand that an application has been made to Skate Canada for new skating school membership by the above named school.

A statement outlining the impact that this skating school will have on our club upon joining Skate Canada follows:

_____

_____

_____

_____

_____

_____

_____ _____

Club President Date

_____ _____

Club Board Member Date

SAMPLE

New Skate Canada
Skating School Application
2010-2011

Skating School Name: _____

Club Impact Statement

As part of the application process for new member skating schools, existing member clubs that are located proximal to the applying skating school have the opportunity to submit an impact statement to describe the effect that this decision may have on their club. Your club must sign and may provide comments if you wish. Your club has the option to return the completed Impact Statement form directly to the Section Membership Chair or return the statement to the applicant for submission with their application.

We, the _____club, club number _____, a member of Skate Canada, located geographically proximal to the _____skating school, understand that an application has been made to Skate Canada for new skating school membership by the above named school.

A statement outlining the impact that this skating school will have on our club upon joining Skate Canada follows:

_____

_____

_____

_____

_____

_____

_____ _____

Club President Date

_____ _____

Club Board Member Date

SAMPLE

New Skate Canada
Skating School Application
2010-2011

Section Approval

Skating School Name: _____

First application for membership by a new skating school only

The first time a skating school applies for membership in Skate Canada the section shall include a letter of approval indicating which programs the section is approving for the skating school and whether the skating school will be registering its members directly with the Association or through a member club. [By-law 1201 (2) (b) (ii)]

The only time this form needs to be resubmitted by a member skating school to its Section Chair is if the member skating school wishes to change the Skate Canada programs it is offering or wishes to apply to the section for permission to register non-competitive members directly with Skate Canada.

The _____section authorizes the _____
skating school to operate and register members in the following Skate Canada programs:

	Program	Allow Registration	Member registration not permitted
CanSkate	❑	❑	at this skating school ❑
CanPowerSkate	❑	❑	
STARSkate	❑	❑	
SynchroSkate	❑	❑	
CompetitiveSkate	❑	N/A	

Comments:

_____
_____
_____
_____
_____
_____
_____

_____ _____
Section Chair's Signature Date

NOTE: Section approval of a skating school membership application applies for year-round operation subject to the final approval by the delegates at the next Skate Canada Annual General Meeting.

SAMPLE

New Skate Canada
Skating School Application
2010-2011

Skating School Name: _____

SECTION CHAIR

❑ Membership is approved commencing the 2010-2011 membership year, pending final approval by the delegates at the next Skate Canada Annual General Meeting

❑ Membership is NOT Approved

_____ _____

Signature Date

Comments: _____

_____

_____

SKATE CANADA RULES COMMITTEE CHAIR

❑ Membership is approved commencing the 2010-2011 membership year, pending final approval by the delegates at the next Skate Canada Annual General Meeting

❑ Membership is NOT Approved

_____ _____

Signature Date

Comments: _____

_____

_____

SAMPLE

Three Key Questions

Why do you want to start a skating school of your own?

What is your goal? You may have a unique idea that you think will make a contribution to figure skating. Maybe you want to test your self-discipline, experience and initiative in an enterprise you've created yourself. Or your motive might be, quite simply, profit.

All these motivating forces are valid. But whatever your reasons, it's crucial that you understand and articulate them clearly, well in advance, and that you shape your goals accordingly. Knowing what you want - and why you want it - will ultimately help you design your business plan, select your staff, choose your location and diagnose your problems.

Does starting a skating school fit in with your attitudes and life goals?

You may have a superior idea, excellent financing and years of experience in the kind of business that you want to start. But unless you're reasonably confident that running a business is for you - you may regret your decision to launch a venture. That can be costly; you don't want to waste time, resources and security only to discover you'd be happier working within an existing club or for someone else's skating school.

What are your strengths and weaknesses?

It is important to recognize both your strong and weak points, to know what skills you have and what expertise you would need to find elsewhere. A realistic appraisal of your strengths and weaknesses will have a major impact on whether or not you start your own skating school, how you run it - and, ultimately, on how well you do.

Where to Go for Advice

He who can take advice is sometimes superior to him who can give it.

- Karl von Knebel

Sometimes, it takes the objective eye of a trusted advisor to help you see your dream in the context of reality. After all, no one runs a successful business all alone. While you are responsible for all the decisions about your business, the quality of these decisions can be improved by the advice of experts. So when you set up shop, you're likely to find yourself needing the advice and services of a variety of experts.

For the novice entrepreneur, making the right contacts and building an effective network can be a sensible cost-saving strategy. You may already have personal contacts full of knowledge and information about skating schools. Doug Leigh is one of the many currently registered coaches who are successfully operating skating schools across Canada. It would be worth your while to do your research and talk to one of these coaches.

As well, there are other resources available that need not eat into a significant percentage of your start-up capital.

Resources

There are a variety of contacts, organizations and courses that can help you get started on the right foot. Consult 'The Source Book', available from Royal Bank, for a comprehensive, country-wide listing of information sources and places to turn for help. Some of the resources available include:

Mentors

A mentor is a person whom you respect and look up to and who will help guide you. Someone who has taken an interest in training you, perhaps a former coach, teacher or employer who has watched with pride as your skills develop, can be considered a mentor. If you know someone who fits this description, perhaps you can ask for continued assistance.

Informal Advisory Boards

This is another effective means of getting sound advice from people who have an interest in your success. An informal board works much like a board of directors but without the legal responsibilities a formal board assumes. Bankers, lawyers, accountants and other experts you use may be willing to serve in this capacity.

The Federal Business Development Bank (FBDB)

This Crown corporation provides expertise and financial backing for good-risk new enterprises. The FBDB has a special program called Counseling Assistance for Small Enterprise (CASE). See The Source Book for CASE addresses and phone numbers across the country.

The Canadian Federation of Independent Business

This organization represents some 87,000 small and medium-sized business owners across the country. The CFIB strives to give independent businesses a greater voice in determining laws that govern small business.

The Canadian Organization of Small Business

A 4,000-member organization that provides its members with such services as group insurance and advice on how to fend your way through federal and provincial government forms.

Chambers of Commerce and Boards of Trade

These comprehensive business groups represent every kind of enterprise, including industrial, financial, service and resource businesses. Often, they conduct business seminars and offer courses in management to members.

Courses in Small Business Management

Many community colleges and university business faculties offer such courses. You can ask other entrepreneurs which groups or courses they recommend - and it's wise to take advantage of these resources.

Professionals to Call On

Sooner or later, though, you'll be hiring a professional to help you in some aspect of your business. Here is a list of the players you might want to call on and an idea of what each one can do for you.

Accountant / Bookkeeper

Many self-employed coaches and skating school directors use the services of an accountant and/or bookkeeper to keep an ongoing record of assets, liabilities and capital and to keep tabs on revenues and expenses. A bookkeeper keeps current credit and debit records up to date. An accountant prepares annual and other regular financial statements, as well as both personal and corporate income tax. Good accountants try to ensure that the income tax you pay is kept to a minimum.

Accountants can also advise you on the financial liquidity of your business, on how it's doing in terms of profits, and whether or not you can afford to invest in new capital equipment or personnel. Accountants and bookkeepers generally charge an hourly fee ranging from $75 to $300.

Lawyer

A lawyer will help with any of the legal considerations involved in going into business. If you are purchasing an existing skating school, for example, a lawyer will examine all documents pertaining to the sale. If you choose to incorporate, a lawyer usually sets the wheels for doing so in motion. Lawyers also prepare the paperwork should you decide to go into business with partners and they can help establish the rights and responsibilities of each. Fees vary from about $75 to $300 an hour.

Banker

When you open any form of business account with a financial institution, you can usually call upon the training and expertise of its account managers to help you start and build your enterprise. Account managers are good sounding boards for your plans. They bring a realistic perception of risk and collateral to the task when they assess the potential of your business. Bear in mind that the primary job of a bank is to safeguard the funds of depositors, such as yourself. Bankers do not like high-risk situations!

Financial institutions need your business and will generally try to assist in any way they can, so it's in your interest to shop around for a bank and account manager with whom you are comfortable. Such managers can help you with operating loans, term loans, financing plans, cash management services, letters of credit and leasing assets. They will also outline which of these many options, is best for you. You may be charged a nominal fee determined by the amount of time you spend with the account manager.

Insurance Agent / Broker

Being properly insured is critical to the success of your company. A good broker will not only help you assess the right amount of coverage you need for such standard concerns as theft and fire, but can also advise you on your insurance needs in the event of business interruption, bad debts, or the unexpected loss of a valued executive or partner. Agents and brokers generally do not charge for their services, although those who serve in a management capacity may charge a consultancy fee.

Business Consultant

This is someone with particular expertise in the kind of endeavor you wish to start. A consultant can advise you on your business plan, alert you to the pitfalls involved in starting your business and counsel you about how to avoid them. Ask other entrepreneurs how they found their professional consultant and approach business schools at universities or colleges for recommendations. Fees charged by consultants vary.

How to Work with your Professionals

Be forewarned that several factors can jeopardize the success of your relationship with a chosen expert. For one thing, your expectations of what they can do for you may not coincide with the realities. Sometimes they do their jobs well but there are good and bad professionals and it is important to check references and research the company or individual with whom you are considering working. Still, when your money and their fees are on the line, it pays to know how to get satisfaction from the professional you've chosen. Here are the ground rules, broken down into two categories.

Know Your Responsibilities

- Your best defense against running into a problem with an expert is to know your own obligations beforehand.
- Your first responsibility is to know what you want and to be clear about your needs. If, for example, you're the kind of person who would prefer the security of taking a small salary from your skating school rather than having no set salary and taking a dividend at the end of the year, you should choose an accountant who will see eye-to-eye with you on the matter.
- While empathy and support from the experts you choose are at least as important as the price they're charging, you must also agree on fees. If the professional's rates are hourly, clarify whether that includes phone calls, waiting time and whether you'll be billed for missed appointments.
- As well, be clear about your expectations. If you want the expertise of a senior partner in a law firm, say so - and resist any attempt to hand you over to a junior. (Just remember that a senior partner costs more.)
- What's more, it is your duty to provide any advisor with an honest account of yourself. They expect truth and openness in everything pertaining to your consultation, including all the wrinkles and warts of your case. You can't ask a financial planner, for example, to give you a blueprint for your financial future if you withhold vital information about expenses or debts.

Know Your Rights

- Professional groups usually have stringent regulations that govern their behavior. An understanding of those regulations will serve you well. To be licensed, most experts must belong to legally recognized professional associations in their province. They are expected to adhere to strict codes of ethics designed by those groups.

- Perhaps the foremost right these codes protect is your right to confidentiality. Accredited accountants, lawyers, insurance brokers and financial planners must all abide by this basic tenet. Any personal information you reveal during a consultation may not be repeated to a third person without your approval. However, an accountant may be obliged to turn over information about your income tax returns to government authorities on demand.

- Bankers, too, have a code of ethics they must follow, along with a model privacy code developed by the Canadian Bankers Association. As well, there are many government regulations that oblige them to protect the privacy and confidentiality of your financial affairs (with special exceptions - for example, income tax).

- Insurance agents and brokers, according to their code, should only sell you as much insurance as you need and no more.

- These codes also offer protection against conflict of interest. This is especially important in the case of lawyers, who must alert you if they or their firms represent a direct competitor.

- One last word on the subject: Finding experts with whom you can work comfortably is critical to the success of your professional relationship. Once you've chosen them, listen carefully to what they recommend. As valuable as you may find their advice, remember to adapt what they tell you to your own business, personality and needs. You have the final say in your own enterprise. No doubt, that's one of the reasons you're considering going into business in the first place.

Selecting a Legal Framework

> ***It was a friendship founded on business, which is a good deal better than a business founded on friendship.***
>
> - John D. Rockefeller

Rockefeller is one expert you can't consult personally. But you can still heed his words. When starting a business of your own in this case, a skating school, it's worthwhile to analyze carefully the form you want it to take - and whom you want to involve. The way you determine the ownership and the legal framework of your enterprise is a decision you will live with for quite a while.

Basically, you should consider whether you want to be the only owner - a sole proprietorship - or whether you could do better with the expertise and financial assistance of partners - other coaches, for example. If you choose the latter, you'll need to define their input and liabilities right from the beginning. You'll also want to assess whether it's worth your while to incorporate.

Let's look at the advantages and disadvantages of each form of organizational framework.

SOLE PROPRIETORSHIP

Individual proprietorship is the most basic means of doing business and the one most often selected by skating coaches. The key factor here is that, if you choose this option, nothing legally separates you and your personal finances from those of your enterprise. Your business is taxed through the personal income tax you pay.

Advantages

- You're totally on your own. No one can tell you how to run your business or what decisions to make.
- You receive all the profits - and that may increase your motivation.
- If you have a unique idea or product, you don't have to share your secret with anyone.
- It's easy and inexpensive to set up a sole proprietorship, and losses incurred during your first few years can be claimed to reduce taxes on other sources of personal income.

Disadvantages

- You're totally on your own. There's no one within the business to bounce ideas off of or to give you perspective about certain decisions, except your chosen advisors.
- You absorb all costs and are the only one liable if your business fails. You may also find it harder to borrow money because there is no partner to share the debt load.

- Your business ultimately relies on you. Employee coaches may come and go and may not have the same commitment to your skating school as you do. If you become ill or die, no one can easily take your place.

- As your business becomes more profitable and generates more income than you currently require, you will be taxed at higher personal tax rates.

PARTNERSHIP

Now let's look at another form of doing business - the partnership. In this definition of the word, a partnership is not a corporation. Rather, it's an agreement between two or more people who share costs and/or other resources toward the operation of a venture. Again, in a partnership, nothing separates the partners' personal finances from those of the business - but because there are more investors involved, the burden of debt and risk may be shared. And, as in the case of sole proprietorship, partners pay personal income tax on their share of the profits - but the business itself is not subject to income tax.

There are two forms of partnership - general and limited. A general partnership is one in which all partners share in the management of the business in agreed proportions, and in the profits and the liabilities. In a limited partnership, one or more general partners have personal liability for all business debts. But such companies also have so-called limited partners who invest a specific amount of money and are liable for debts up to that amount. Limited partners have no say in the day-to-day operation of the company.

One of the advantages of establishing a partnership is that it can be done fairly inexpensively. You'll probably require legal advice to help you set up the necessary partnership agreement and you'll need to register your partnership with the government. As an advantage, you may not have to incur the kind of legal fee start up costs involved in setting up a corporation. Here are some of the other advantages and disadvantages of choosing either form of partnership.

Advantages

- Partners can bring complementary talents to a business. Perhaps one is a successful coach and the other has excellent business sense.

- Partners usually invest cash in a business. This often means that there is more capital on hand to meet expenses and that lending institutions and suppliers (the arena management, for example) will be more prepared to extend credit because more than one person is assuming responsibility for the debt.

- Partners share the liabilities of a business.

Disadvantages

- Each general partner has a say in the way the business is run. Differing perspectives may result in disagreements - and the partnership may become hard to manage.

- Partners who invest cash in a business share profits, too. The pie is cut into smaller pieces.

- There is nothing to stop partners from taking your ideas, eventually dissolving the partnership and going into business for themselves.

- General partners may have to sell their personal assets to meet outstanding business debts.

- It is not always easy for partners to dissolve their relationship. If you want to sell your share of a business to a new partner, for example, you must have the approval of the other partners - or they must buy you out themselves. The process can be long and painful.

- Partnerships dissolve if any partner does not live up to the partnership agreement for reasons of incompetence, insolvency, illness or death. Although insurance can cover some of these eventualities and allow the business to keep operating, there is less stability in this kind of arrangement than if the business were legally incorporated.

PROFILE

A Toronto coach chose to operate as a sole proprietorship because it best suited her needs. When she started coaching, she was earning about $30,000 annually from various clients. Because she was working from home, she was able to write off a portion of her rent, telephone and utilities. Her business was totally dependent on her. Because her income after expenses was in a reasonable tax bracket, she saw no reason to incorporate and she felt that she could run the business quite effectively by herself. She did not need a partner.

INCORPORATION

Corporations can be identified by the inclusion of the words Limited, Incorporated or Corporation (or appropriate abbreviations) after the company name. These titles signify that corporations, quite literally, have lives of their own, separate from those of their owners. Corporations issue shares, each of which represents a portion of ownership.

Put simply, you cannot be held personally responsible for any debts a corporation you start incurs, unless you have personally guaranteed them. But this also means the assets of a corporation belong to the corporation and not to the owners; the owners are entitled to a share of those assets if the corporation is terminated. Owners are also entitled to a share of the profits, in the form of dividends, that are not reinvested in the corporation.

You may incorporate your company federally or provincially. It is cheaper to do so provincially, but that may limit the ways you can do business in other provinces. If you anticipate cross Canada sales of a skating product that you have invented, for example, it would probably be wise to incorporate federally.

There are two kinds of business corporations - private and public. A private corporation or company is one in which shares cannot be sold to the public and can be transferred only with the permission of the corporation's shareholders. By contrast, the shares of a public company are usually sold through the stock exchange to anyone who wants to buy them. Privately owned corporations usually afford their owners more control; this also means there is less capital available to use. Here are some of the benefits and drawbacks of incorporating.

Advantages

- You cannot be held personally liable for debts if your company does not succeed unless you have personally guaranteed the obligations of the corporation. You can only lose your investment.

- You may pay less income tax. Owning a Canadian controlled private company makes you eligible for certain tax breaks.

- Business goes on, regardless of the ills that might befall the owners. A corporation can only be ended when its charter expires, its shareholders elect to give its charter up, or bankruptcy is declared.

Disadvantages

- It is expensive to incorporate. You have to pay an incorporation fee to the government, do a name search and you usually have to hire a lawyer. Initial costs often exceed $1,000, and you'll be loaded down with paperwork which various governments oblige you to fill out. This fee may be less, however, if you incorporate provincially rather than nationally.

- If the net income of your business is too low, you may actually pay more in taxes than you would if you were simply filing personal income tax. Or, if you experience initial losses, these will not be deductible against other sources of income.

- Shareholders are, by law, entitled to know the annual income and debts of a business. If this information falls into the hands of competitors, they may use it to their advantage.

Before deciding on which form of business your company should take, it is wise to consult a lawyer for a more detailed look at the costs associated with each and for advice on how best to go about the process. Many entrepreneurs start their business as a sole proprietorship, but incorporate later once their enterprise has grown. Each of the above comes with its own advantages and disadvantages and every coach should consult financial experts to help him/her decide the most suitable option. Why not start by contacting your current bank or financial institution.

PROFILE

An Ottawa coach prided himself on his organizational skills and the thoroughness of his record-keeping. He was the sole owner of a skating school employing six coaches and he was bringing in nearly $80,000 a year after two years in operation. His own income from the business was increasing, placing him in an increasingly high tax bracket. Because he knew he could handle the paperwork that comes with incorporation and earn a tax break in the bargain he saw his lawyer and got the process under way.

As you can see, there are three main business options for skating coaches:

- sole proprietorship (most common)
- partnership
- incorporation

BUSINESS INSURANCE

Under insuring your enterprise can be a disaster. Of course, you must be covered for theft and fire, but there are other forms of insurance to think about.

Employee insurance

If staff coaches or off-ice trainers get sick, will your business cover the costs of their absence?

Partnership insurance

If a partner is ill or dies, will you be covered for the unexpected loss of his or her services? In case of death, will you have the funds to buy your partner's share of the business?

Business interruption insurance

If your skating school cannot operate for any reason - because the cooling system in the arena breaks down, for example - will you be covered until you can open again?

Bad debt insurance

Will you be covered if a client/skater fails to pay you?

Business loan insurance

Financial institutions often offer business loan insurance plans, underwritten by insurers, that insure the life of key personnel. Qualified applicants may be life-insured based on authorized or outstanding business loans. The plan helps protect your partners, your family, your business and your equity by paying off the balance of your insured loan in the event of death.

Disability insurance

If important personnel suffer an accident or illness that makes them unable to work, disability insurance can guarantee them an income for the period of time they are off the job.

The main purpose of all business insurance is to control or eliminate unnecessary risks. While entrepreneurs can afford to be risk-takers when it comes to introducing innovative products or services they cannot afford to take the risk of being under insured. Talk to a qualified insurance broker or agent about the kind and amount of insurance you need.

INVESTMENTS

If you're like most people, you spend a large part of your life working for money. By investing, you make money work for you.

The trouble is, the range of investment opportunities may seem bewildering to anyone new to it. How can an ordinary person be expected to choose among stocks, bonds, debentures, bank deposits, short-term notes, registered retirement plans and what have you that crowd the investment scene?

The problem is compounded by the number of institutions vying for your investment dollar by offering ingenious variations on investment packages.

The choices are simplified if you keep in mind that there are really only two broad categories of investment:

Equity - a financial stake in something tangible.

Debt - a loan of your money on which you are paid interest until that money is returned to you.

Equity is an investment in the future value of an asset. The asset could be anything from shares in a company to a house to a work of art. In effect, you are betting that its value will rise (and hopefully rise higher than the rate of inflation) before you sell it. If the price goes up, you share in the gain; if it falls, you share in the loss.

On the other hand, with **debt investments**, the borrower - most often a government or financial institution - undertakes to pay you a percentage of your money in interest and to pay it all back over and above the interest at a specified date in the future. It's just like a bank loan, only you're the lender for a change.

BALANCING ALTERNATIVES

- In evaluating the investment options available, a key question to be answered is how much liquidity you need in your particular circumstance. Another word for liquidity is marketability - the ability to convert an asset into cash or into a more attractive asset.

- It is difficult to foresee when one may want to "sell out" an investment to meet some emergency or take advantage of an unexpected opportunity. The inability to liquidate assets when desired, without loss, could be costly. But a high degree of liquidity has its price.

- For instance, the ultimate liquid asset is cash. It can always be exchanged for goods automatically. But cash is a losing proposition due to inflation. As the rate of inflation goes up, the value of cash goes down.

- Similarly, the more liquid other assets are, the lower the return. The guideline is that liquidity is in inverse proportion to the term of the investment. If your money is in a term deposit for a longer time, it is less liquid than in a savings account, but it fetches a higher rate of interest.

- Shares are liquid, but at a risk. They are usually not hard to sell, but you cannot depend on getting the price you want for them when you want to sell them. The stock market has been known to go into a slump due to poor economic conditions for months and even years.

- The bond market also fluctuates widely. The price of bonds at any given time depends on the general level of interest rates, supply and demand in the market, and the attractiveness of bonds vis-à-vis other forms of investment in the competition for funds.

- Since no known investment offers perfect liquidity with an absence of risk and a high rate of return, you must fine-tune the degree of liquidity among your investments to your financial needs, both actual and potential.

- Luckily, the financial markets have developed numerous choices with which to put together a financial package tailored to the requirements of people in different personal and financial situations. It is rare, however, that any one investment is sufficient to meet all of a person's or family's requirements. That's why investment portfolios exist.

- A well-balanced portfolio should be diversified, but only to the extent that it is manageable. If you're doing it yourself, a dozen holdings may be the maximum, even if you have plenty of time on your hands. If you do not have time, concentrate your portfolio with one investment dealer. Your broker or someone on his/her staff should keep track of what's happening, provide a record of transactions, and assist with advice.

Finally, a few general words of caution:

- Never make investments you do not understand.
- Do not make investments with which you are not comfortable.
- Buy only from organizations which you trust.
- Buy only investments that have a definite, definable and readily justifiable place in your portfolio.
- "Hot tips" should be thoroughly investigated before being acted upon.
- Remember that you may have to live a long time with the results of your decisions. Take the effort to make sure those decisions are the right ones for you and yours. Contact your local bank or financial institution for guidance.

RETIREMENT

To retire or not to retire? And when? For many years, people had these questions answered for them. You retired when you were 65, and that was that.

Now, thanks to improved flexible pension packages, personal retirement savings and changes in government policy, a broad new range of choice in the matter has opened up for many individuals. It's possible - and not at all unusual - for people to take "early" retirement before they reach 60. At the same time, the law in many jurisdictions makes it equally possible for employees to remain in their jobs until they are 70 or more.

The choice of life styles in retirement has also expanded. With more years of leisure time to look forward to, retirees are no longer willing to settle for a life of sitting on the front porch.

For many, retirement represents the first time in their lives when they are entirely free to write their own ticket. In all the years previously, their actions have been circumscribed by their responsibility to parents, teachers, children and employment. Retirement offers them a fresh chance to do what they want for a change.

To take full advantage of this freedom, requires careful planning. Experts in the field say that the most satisfactory retirements are invariably those that are thoroughly planned well in advance.

The earlier we start thinking about what we really want to do in our retirement years, the more likely we are to realize our aspirations. So, even though you may be several years from retirement, it is important to give yourself time to anticipate and adapt to the changes which will occur when you move from a period that is work-oriented to one where the activities are of your own choosing. You may elect to continue coaching part time rather than full time or you may decide to buy a beach-front home on the California coast and learn to "surf"!

Retirement Income:

Money isn't everything in retirement, but you will certainly need it. Let's take a close look at your possible sources of income when the time comes:

Government pensions:

Investigate pension benefits from Old Age Security and the Canada/Quebec Pension Plan. There are three basic sources of government pension income in Canada which must be applied for:

A. Old Age Security (OAS)
Everyone who meets the age and residency requirements is entitled to federal Old Age Security at age 65. The amount of OAS is set by Parliament. OAS is set at a very low level compared to the average Canadian income, or even to the so-called "poverty" line. Details of the amount paid today and how to get it can be obtained from Health & Welfare Canada.

B. Guaranteed Income Supplement
Pensioners who have little or no income other than Old Age Security can apply to the federal government for an income supplement. It, too, is set at a very low level compared to working income and will, with OAS, barely support a minimum subsistence level.

C. The Canada Pension Plan or Quebec Pension Plan
These plans have existed since 1967 and pay a pension to members of the work force based on the number of years of contribution and pensionable earnings. There are survivor's and disability benefits as well. The surviving spouse is entitled to a pension if the deceased spouse contributed to the plan. Employers and workers pay premiums into the plan during their working lives.

Eligible contributors can opt for a retirement pension starting as early as age 60, but at a lower rate than if they wait until age 65. Check with your local office of the Canada or Quebec Pension Plans for details.

Company pensions and other benefits:

- Although most full time coaches are not members of a company pension plan, if you are, find out what pension and other retirement benefits you will be entitled to. It might be a good idea to request estimates based on different dates so that you can compare the results of retirement at these different times.

- Make sure both partners have a good understanding of entitlements in the event of a spouse's death. Some company pensions die with the pensioner and others pay a certain percentage to a surviving spouse. Still others offer a range of options for employees with eligible spouses to choose from at the time the pension begins.

- Check whether other benefit programs continue into retirement, such as life and health insurance coverage, including dental plans. This will determine whether you have to make provision for these items yourself after retirement.

Private income

- Determine what other income will be available from personal savings and investments or from business ventures.

RRSPs

- If you and/or your spouse have a Registered Retirement Savings Plan (RRSP) which you intend to convert to a retirement income option, it would be wise to give yourself plenty of time to explore the market before deciding what to do with these funds. A great number of schemes are available. Selecting the appropriate way to convert your RRSP for your particular circumstance will take study, discussion and care. With some, you're locked in once you sign on the dotted line.

- To "de-register" your plan and invest the proceeds to receive a retirement income, you must do so before December 31st of the year you turn 71. You can, as well, simply withdraw the proceeds from your RRSP, but this must be included in income in the year of withdrawal and tax must be paid at your marginal tax rate.

- When your RRSP matures, you have three basic choices of what to do with the accumulated funds:

  - You may buy a Registered Retirement Income Fund (RRIF). It can be administered by a bank or trust company, or you can administer it yourself as long as it is registered with a trustee.

    With a RRIF you can elect to receive the minimum amount required by law or any amount over and above this minimum. The minimum is based on the value of the RRIF at the beginning of the year divided by the difference between 90 and your age (or your spouse's). For example, if you are 70 and have a RRIF valued at $50,000, the minimum payment in the first year will be $2,500 (90 - 70 = 20; $50,000 / 20 = $2,500). As well, partial or full terminations are permitted. A wide choice of investments are available to meet your personal investment needs.

  - You may buy a fixed-term annuity to age 90, payable to you or jointly to you and your spouse, for the number of years equal to 90 minus your age or your spouse's at the commencement of the annuity. Under a fixed-term annuity to age 90 all funds used to purchase the annuity are paid out over the calculated number of years, whether to you, your spouse or your heirs.

  - You may buy a life annuity which pays equal monthly payments over a term no less than your lifetime. It is important to shop around because annuity incomes on the same investment can vary significantly. The life annuity may be held jointly with a spouse, so that payments continue until the death of the surviving partner.

You can choose any combination of the above three options, including several different types of RRIFs, life annuities and fixed-term annuities to age 90. Life annuities are the only ones that will provide payments beyond 90.

Your retirement years are just as much a stage of your life as your childhood, your schooling and your coaching career. Since many coaches are self-employed they may not be paying into an employee pension plan which means that they must take it upon themselves to start planning for financial security before it is too late. Contact your bank or local financial institution for help with this planning.

Section 12:

EQUIPMENT

EQUIPMENT

The importance of proper equipment was stressed in the Primary STARSkate training. Poor equipment is a common problem with beginners and the coach must be able to identify poor equipment and to advise skaters and parents on equipment selection and care.

Skate sharpening is an extremely important aspect of equipment maintenance. Skaters must not only purchase high quality blades but they must also take proper care of their blades and see that they are sharpened correctly. The coach must ensure that his/her skaters' equipment is well maintained.

It is not necessary for the skating coach to become an expert skate sharpener. Some coaches will be interested in pursuing the trade of skate sharpening and may set up a skate sharpening business for his/her own skaters and other clientele. Most coaches, however, will only serve in an advisory or supervisory capacity. It is important for the coach to find a competent skate sharpener if he/she does not sharpen skates. This may require some "shopping around" or communication with the sharpener before satisfactory results are obtained. All coaches must know the qualities of a well-sharpened blade and must be able to determine whether a blade has been correctly mounted and sharpened.

The coach must know:

- the different methods of skate sharpening
- the difference between a free skating, dance and a combination sharpening
- the qualities of a correctly sharpened blade
- the qualities of a correctly mounted blade
- how to inspect a blade for correct sharpening
- how to use a honing stone to do emergency sharpening
- when a blade must be replaced

The following topics will be discussed to improve the coach's knowledge of skate sharpening:

- qualities of a good sharpening
- methods of skate sharpening
- hand-finishing the blade
- how to check a sharpening
- blade replacement
- boot and blade alignment

SKATE SHARPENING

Qualities of a Good Sharpening

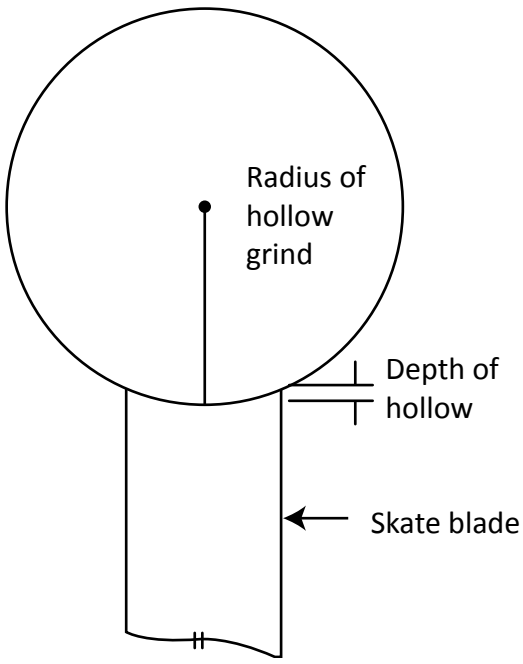
A good sharpening has the following characteristics:

- Correct hollow ground into the blades to best suit the skater's needs (i.e. free skating, skating skills, ice dancing, combination).
- Level edges - one edge is not higher than the other.
- The profile or curvature of the blade has not been altered (i.e. grinding off toe picks or rounding off the heel). When you purchase a new blade you are buying a special design. The shape of the blade is maintained by sharpening with single passes at an even speed and pressure. There is a new machine which has a hydraulic control speed and also the capability of profiling a blade from a factory template (a guide which is the correct shape of the blade).
- Hand-finishing has been done correctly so that the skater does not require a "break-in period". A good sharpening should feel correct right away.

Methods of Skate Sharpening

Grinding is done by expert craftsmen on specialized grinding machines that can cost $4,000 per machine and some sharpeners have several machines for specific parts of the grinding operation.

The main purpose of the grinding is to put a curved "hollow" down the middle of the blade which will affect the way the blade bites the ice. This is usually defined in terms of the radius of the depth of the hollow or radius of hollow grind.



Sharpening of Specific Types of Figure Skating Blades

TYPE	RADIUS OF HOLLOW GRIND
Free Skating Blades	3/8” - 5/8” (.9 cm-1.6 cm)
Combination	3/4” - 1” (1.8 cm-2.5 cm)

Table I

Note: Some skate sharpeners use a number code to identify a particular grinding. This is confusing and restricts the ability to communicate in a common reference of actual radius of hollow.

The above table indicates that there is a range of hollow with each of the various types of sharpenings. The reason for this is that no one grind is ideal for all skaters. Some general rules apply when trying to determine the radius of hollow grind:

- A light skater may require more bite or a smaller radius of hollow.
- A heavier skater uses less bite or a larger radius of hollow.

Much of finding the best radius is really trial and error. A very slight change in hollow can make a large difference in the feel the skater has with his/her skates. Ice temperature can also have an effect. For example, colder, harder ice requires a sharper skate than does soft ice.

Types of Sharpening Machines

There are two methods of grinding skates:
Both machines have certain advantages and disadvantages. Larger well-equipped skate shops may actually have both machines.

1. **Parallel Grind Machine**

   The grinding wheel travels parallel to the blade’s direction of travel on the ice.

   The “parallel grind” machine obtains the radius of hollow by shaping the grinding wheel with a convex curvature with the use of a diamond-tipped “dressing” tool. This tool can “dress” the same grinding wheel to any radius of hollow that is desired.

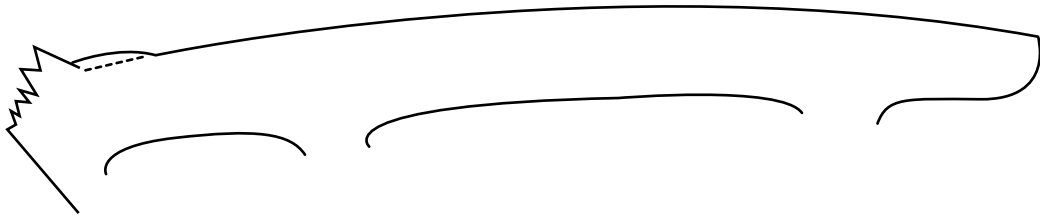
2. **Cross Grind Machine**

   The grinding wheel travels across the blade.

   In general, a “cross grind” machine can take the hollow grind right up to the toe pick. This is an advantage to the skater. However, the cross grind machine requires a very skilled operator to do a good quality sharpening.

The “parallel grind” machine is an easier machine to use and is the more common machine. Most parallel machines have some cross grind features for keeping the shape of the blade correct up into the toe pick area where a lump of metal can form (see Figure 1). The “cross grind” machine is also used to trim the toe pick down. After several sharpenings the toe pick will stick out too much and must be trimmed slightly.

FIGURE 1



Example of a lump which can form on the blade due to parallel grinding.

This lump occurs because the parallel grind machine uses a bigger grinding wheel that is not able to fit right up to the toe-pick. This extra lump can only be removed by cross grinding. It is important to cross grind the blade before the parallel grind as a corrective measure and in order to achieve a good sharpening result.

Hand-Finishing the Blade:

Hand finishing the blade is the final part of the sharpening operation. The grinding wheel leaves a light burr (or edge) down both sides of the blade which must be removed.

Using a flat, fine, hard oil stone (available at most good hardware stores), lightly stone the side of the blades until the burr is removed, then pass the stone very lightly along the top edges of the blade. Make sure the stone remains flat. Should grooves develop, the stone should be resurfaced or replaced.

If a blade is damaged (i.e. collision on ice, stepping on a nail, etc.) the same type of stone should be used to remove the damage. However, this will not restore the skating edge which can only be done by regrinding.

How to Check a Sharpening:

The blade should be checked for balance (equal height of edges) by inverting the blade and placing quarters along it. The blade should then be visually inspected for the evenness of the edges. The edge may also differ along the length of the blade. It may be high at the front of the blade and low at the back, for example.

- The rocker of the blade should be examined by drawing a profile of the blade on a sheet of paper and comparing this with a drawing of the new blade to determine any differences.
- Inspect the blade for dips or flat spots.
- Inspect the blade for nicks, burrs and dull spots by feeling the blade and by visual inspection.
- A sharp blade feels smooth and has an “edginess” to the touch. It will also produce shavings when a finger nail is drawn across it. A dull blade lacks “edginess” and does not produce nail shavings.

BLADE REPLACEMENT:

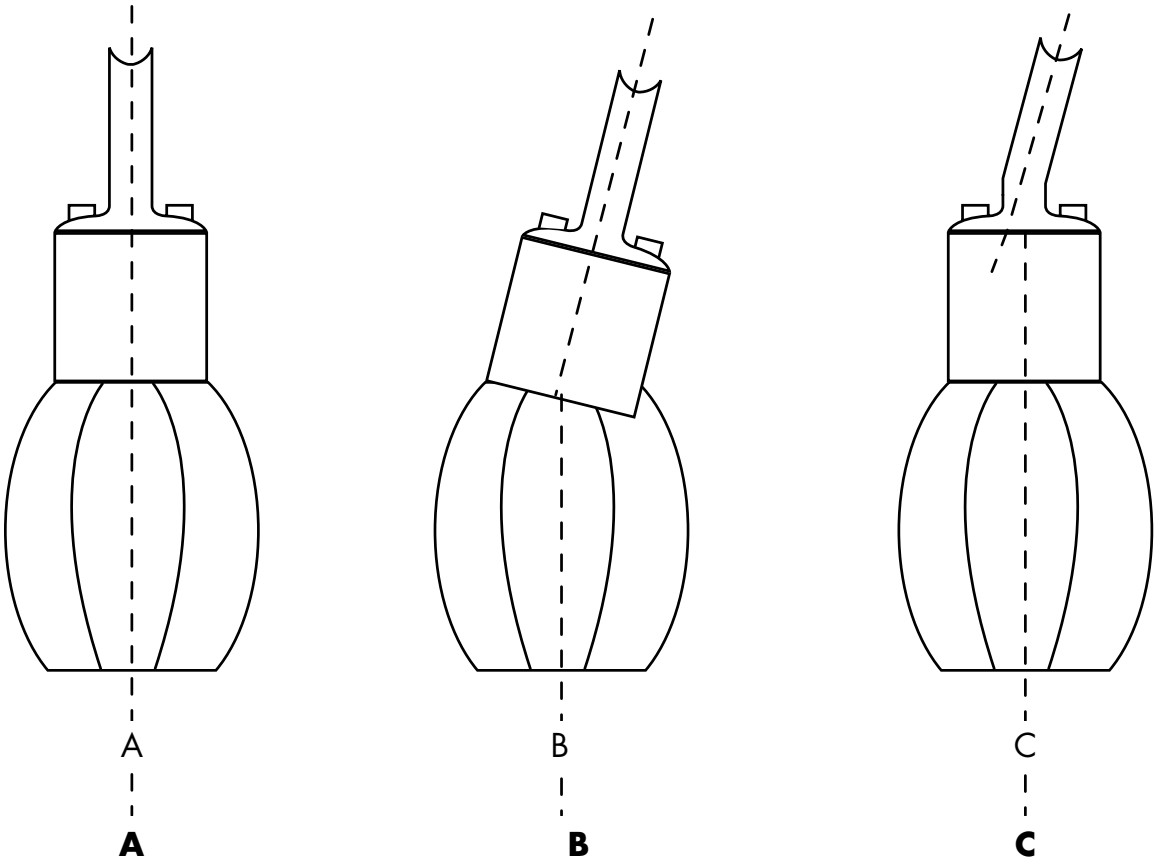
The life of a blade can be prolonged through proper care but must be replaced when the rocker has been substantially destroyed by excessive or poor sharpenings. Blades also need replacing when frequent sharpenings have used up the harder steel at the bottom of the blade, usually where the chrome starts (approximately 3/16” (.5 cm) on a new blade).

The following information was graciously submitted by Derek Smith of Trimatic Skate Sharpening in Toronto.

BOOT AND BLADE ALIGNMENT:

Misalignment of the boot and blade assembly due to manufacturing errors is a common occurrence as shown in the sketches below.

These conditions should be detected and corrected during the mounting operation.



A

Correct

Blade & Boot on common c/line.

B

Incorrect

Heel & Upper of boot not on common c/line throws blade off.

C

Incorrect

Blade not square with toe & heel plate.

Should either of the above conditions exist (i.e. B or C), the skater will never achieve proper balance and in time could suffer knee or ankle problems.

Section 13:

ICE SHOWS

ICE SHOWS

THE IMPORTANCE OF THE ICE SHOW TO YOUR CLUB

The highlight of the year for many skaters is the club's ice show or carnival. Only a handful of skaters from a club make it to the competitive level of figure skating. The majority of the members of clubs are recreational or test skaters and the club ice show is an opportunity to perform for an audience under "bright lights" and get a real feeling of satisfaction and enjoyment.

An overview of the following topics will be presented:

- the importance of the ice show to your club
- types of shows
- Skate Canada sanctions
- basic requirements of an ice show
- planning an ice show
- the ice show committee

The club ice show can be a terrific morale booster for many clubs. It gives everyone a goal to work towards and, run efficiently over a number of years, an ice show can be a money-maker for a club. The main reason for undertaking an ice show, however, should be for the enjoyment of the skaters. A skating club can develop a rapport between the community and municipal government by using the ice show as a "showcase" to exhibit the number of skaters involved in the club and types of activities in which its members are involved.

Although there are many benefits to having an ice show, the club should be aware of the work and the costs that are involved in producing a show. A successful ice show requires planning, certain resources and hard work. A club may wish to start out small with a "carnival" or a "pop concert" and to acquire equipment such as sets and costumes, gradually, over a number of years. A wise rule would be to start out "small" and do a good job, then build up to a more spectacular ice show as the club develops its expertise and resources.

TYPES OF ICE SHOWS

Two major types of ice shows are defined in the Skate Canada Rule Book:

1) a club carnival

2) a pop concert

Carnivals are defined as performances in which figure skating furnishes the principal part of the entertainment. A club carnival is defined as a carnival from which all of the net proceeds accrue to a club, group of clubs or a section. There is no fee for a sanction for a club carnival. The term "ice show" which is used in this module refers to a "club carnival" as defined by the Skate Canada Rule Book. The same principles and guidelines which are outlined in this module also apply to pop concerts and exhibitions.

Skate Canada Sanctions

Sanctions are always required for carnivals, pop concerts and exhibitions. Fees are charged for pop concerts, non-member carnivals, and exhibitions held other than in a club. There is no charge for functions which are held solely for charity.

Contact your section office to obtain a current up-to-date sanction application.

BASIC REQUIREMENTS OF AN ICE SHOW

Probably the most important requirement to run an ice show is lots of willing, hard working and dedicated volunteers! Many hands are needed to carry out this rewarding but demanding undertaking. Volunteers are needed to carry out the various functions of the Ice Show Committee and its subcommittees. Experience in many areas is needed - lighting and electricity, art, carpentry, sewing, costume design, make-up and hairstyling. Imaginative and resourceful people are in big demand. It is amazing the amount of expertise that can be found amongst the parents of one skating club! Club members who have connections to schools, large companies, etc. in the community can often get free advice and assistance for the ice show.

- **Financial resources** are a basic requirement for an ice show. Funds are needed to pay for costumes, lighting, sets, props, choreography, music, ice rental and printing. Clubs who are starting out need to spend more on “one time only” purchases such as lighting or special effects equipment but these can be acquired gradually and become assets which can be reused or remodelled for future use.

- **Costumes** are another important essential for an ice show. For a show to seem special, skaters need some type of costume to create the effects intended by the choreographers. Costumes can be simple or more elaborate depending on the club’s resources. Once again, clubs starting out need to do more in this area. Once a club has staged a number of ice shows, it builds up quite an impressive “wardrobe department” which can be reused, remodelled or rented out to another skating club.

- An ice show needs a **curtain**, background drop and a certain number of sets and props depending on the complexity of the show. A backdrop or stage with an area behind it is needed to conceal skaters coming on and off the ice, and sets and props which are to be used throughout the show. The stage or sets create the environment for the performance to take place.

- **Lighting** plays an important part in an ice show. A club can rent lighting equipment or it may decide to purchase some items which could be used regularly by the club. Lighting is important for creating mood and turning the ordinary into the spectacular.

- **Good quality sound and music** is a must for an ice show. The music needs to have impact on the audience. It must be loud and clear. The selection and the recording of the pieces require special attention. A club may need to rent a top quality system if the arena’s sound system is inadequate.

PLANNING AN ICE SHOW

The most difficult show for a club is usually its first. As with any undertaking, a club learns by its mistakes and can build upon experience. Probably the best approach to take is to start small and then build up to a larger scale production once the club volunteers have learned to perform the various tasks and the club has amassed some assets such as costumes, set, props, etc.

Selection of the Date

- Careful consideration must be given to the date(s) of the show. The club has to reserve the arena in advance and ensure that the show will not conflict with another major event in the community or surrounding areas or on television. The show will not succeed without an audience!

- Shows are generally held on Friday and/or Saturday evenings and matinees can be held on Saturday and/or Sunday afternoons. The number of shows to be held depends upon the objectives of the club, its resources and size of the community. The number of seats in the arena need to be determined taking into account the seating lost due to the backstage area and also if extra seating is to be brought in for ice level seats. The population of the community needs to be large enough to support additional shows.

- It is nice if more than one show can be held. A great deal of planning and effort go into the show so it seems more rewarding for the skaters and volunteer workers to get more than one chance to display their talents. However, if there is any doubt as to the interest by the community in the show or in the expertise of the club, it is better to do one show well than to do three shows poorly. More than one show requires greater numbers of volunteers because usually parents will “work” one or two shows and want to watch one show uninterrupted. This is particularly true of the backstage jobs.

Number of Skaters

- Most clubs allow all skaters from the beginners through to the adult skaters the opportunity to be in the ice show. Involvement in the ice show really builds club spirit and gives skaters who are non-competitive an opportunity to show their skills. Some clubs may elect to leave out special membership categories such as six-week learn-to-skate members, but as a general rule, it is best to leave the ice show open to all members unless there are extenuating circumstances. Ticket sales improve with each participant!

- It is advisable to have all members complete a form indicating whether or not they wish to be involved in the carnival. These should be distributed to all members and be returned by a set deadline.

Theme

- The theme of the ice show needs to be decided early as so many other facets of the show are contingent upon the theme. The ideal situation is to select the theme one year in advance but the theme must be decided by September for an end of March show in order to allow sufficient lead time for music selection, costume design and set construction. Knowing the theme early also gives the skaters, parents and coaches time to become enthusiastic. Promotion can begin once the show has a title.

Guest Skaters

- A club may wish to invite guest skaters to "star" in its ice show. A club which does not have any pair or dance teams or accomplished competitive skaters would improve the quality and variety of its show by inviting guest skaters to fill these gaps.

- Clubs wishing to obtain guest skaters should contact the skaters directly to see if they are available and seek the permission of their home clubs. In addition, for skaters on National Teams (Junior, Senior and synchronized skating), permission must be obtained from the Skate Canada National Office. The top competitive skaters receive numerous requests for ice shows so contact the National Office in writing as soon as possible.

- Amateur guest skaters should have all expenses paid by the club and it is often necessary to pay an appearance fee when the guest is a top level skater(s).

THE ICE SHOW COMMITTEE

The efforts of many people are needed to produce an ice show. The numerous volunteers need to be effectively managed by committee chairpersons or conveners to see that jobs are completed on schedule. Each club has its own system of forming committees and subcommittees but some common requirements can be identified.

Recruitment of Volunteers

- One of the toughest tasks faced by amateur sports organizations is the recruitment of volunteers. With the increasing number of working mothers it is not easy to get people to commit themselves to volunteer work. The best solution is to try to give a small job to a large number of people rather than large jobs to few people. Many clubs take the attitude that if your child is in the ice show, you, the parents, are expected to help out in some way. The skater's application form could contain a section for the parent to complete concerning areas of the ice show that they have expertise in or would like to obtain help. Information about the various tasks will help in the recruitment of volunteers.

Committee Structure

- One basic model consists of an "Ice Show Committee" which is headed by the Ice Show Chairperson and consists of chairpersons of the various subcommittees which could include:

    - Theme Selection
    - Casting Committee
    - Costumes
    - Music Selection
    - Make-up
    - Scheduling
    - Lighting and Special Effects
    - Ice Painting
    - Ticket Sales and Promotion
    - Photographs
    - Program
    - Security
    - Dressing Rooms
    - Announcing and Script
    - Props, Sets, Stage, Backstage
    - Lobby and Arena Decoration
    - Flowers, Gifts, Presentations
    - Ice Captains
    - Choreography

The larger and more complex the show, the greater the number of subcommittees needed. For example, Promotion and Ticket Sales could actually be three separate committees - Promotion, Advance Ticket Sales and Ticket Sales at the door.

SUMMARY

Producing an ice show is an enormous job but one that is rewarding for the skaters, their parents and the volunteers working on the show. If you are planning to organize a show, there is an excellent resource manual that has been developed by Skate Canada and that discusses each aspect of an ice show in great detail. The Ice Show Manual is available through the Skate Canada catalogue.

APPENDICES

Q&A: Core Strength Training -
Maximize your Skaters' Performance On & Off the Ice
by: Jennifer Reinson, Exercise Advisor - Skate Canada Sport Science Committee

1. **When is the best time to do (core) strength training session (before or after an on-ice session)? How much time should there be between the two sessions?**

    - In terms of when to do a core training session, I think it will depend on your athlete.
    - For example, if they are new to core training they may find it tiring to warm up, do the core conditioning and then skate afterwards. However, when they go to step on the ice, they will definitely have an awareness of their core that should translate into a stronger skating position.
    - I think you need to sit down with each skater and see what will work best with their schedule.

2. **Can you apply the same core strength training exercises to all of your skaters (male vs.female, or dance skaters vs. singles skaters) or should each program developed be specific to the individual?**

    - I think that no matter what event your skater competes in, they will start off with the same base level of core conditioning, that is learning how to engage the lower abdominal, how to fire the gluts etc.
    - After a 4-6 week period, the programs will start to differ depending on the event they skate in. Individualized programs become very important when you have athletes that are injured or are in the pre-pubescent age category.

3. **What constitutes a good warm up prior to an on-ice session?**

    - The purpose of a warm up is to get the blood flowing to the working muscles, to lubricate the joints and to mentally prepare the athlete for the upcoming activity.
    - 5-10 minutes of light aerobic activity needs to happen, anything less then five minutes is not enough to start raising the core temperature of the body and to lubricate the joints.
    - I often see skaters skipping which is fun for them and gets them moving, but to try to skip for 5-10 minutes would probably be too aggressive as it would tire them out.
    - Try combining jogging on the spot, stationary bike, skipping, jumping jacks, etc. to get the skaters moving. I find the big debate comes when skaters want to stretch before going on the ice. A lot of skaters like to do ballistic stretching or stretch with movement (i.e. large leg swings while hanging on to the boards)
    - The idea behind ballistic stretching is to get the muscle moving through the range of motion that it will be working in while on the ice.
    - I caution coaches and athletes with ballistic stretching as often it is really over done.

- Try combining a few ballistic stretches with some good static poses.
- The idea is that ballistic stretching is done before the activity to get the body moving freely through the entire range of motion and temporarily increase flexibility.
- Static stretching is done to try to permanently increase flexibility and is usually done after the activity.

5. What constitutes a good warm down after an on-ice session?

- The best time to stretch and work on flexibility is when the skater is warm. I know that skaters like to spend every last second on the ice trying one more jump, but they then get off the ice, sit down, take their skates off and get in the car.
- If the skaters legs are really tight and tired for run throughs or a stroking session, a light ride on a stationary bike to help flush out any lactic acid would also be helpful followed by some light static stretching.
- Stretches should be held for a minimum of 30 seconds, longer if the muscle feels tight and repeated if it feels good.

6. Is it possible that an individual can develop the abdominal muscles to be stronger than the back muscles, which would affect their on-ice training or balance?

- I have yet to read anything on whether an individual can develop their abdominal strength greater then the strength of the back muscles, but I would say that the trend seems to be that athletes will definitely do five to six exercises to strengthen their abdominal strength and maybe include one to two lower back strengthening exercises.
- The trend also seems to be that the abdominals are strong while the lower back is tight.
- A good combination would be to include four abdominal exercises, three lower back exercises and finish with some good lower backstretches.

7. When/how do you resume training following an injury?

- The general guideline is to be pain free before you resume a strength and conditioning program again. However, having said this, the most common mistake is to expect that you will be able to start where you left off in terms of your strength program.
- Depending on the injury, three to six weeks of rehabilitation work using only your body weight may be required and then slowly adding external resistance such as tubing or a medicine ball.
- The best thing to do is to work closely with a fitness professional or physical therapist that can gradually progress you back to full strength capacity.

7. What can I do to strengthen my abdominal muscles after having surgery so I can get back to jumping? I made the mistake of jumping too soon and strained my abdominal muscles.

- With any type of surgery it's a good rule of thumb to be pain free before attempting any type of physical activity.
- Even then, with no pain, you're not sure what your body can handle. It gets even more complicated with an abdominal muscle as your core is involved in every single activity so the question becomes, how far can you push it?
- Be conservative. Once you've gotten the clearance from your doctor to be active again, I would recommend contacting a fitness professional or rehab physical therapist to start a base level of core conditioning and strengthening of the abdominal muscles.

- Then slowly you will be able to add skating moves, building up to jumps and spins which require an immense amount of core stabilization and contraction of the abdominal muscles.
- Be conservative and start slow so that you don't end up at square one again.

Q&A: "THE ROLE OF THE CLUB ADMINISTRATOR"
by: Claude Robert, Skate Canada Professional Coach

Due to the demands on the time of our volunteers and the increasing importance of a professional approach to running a Skate Canada club, the role of the club administrator has never been more important. The club administrator is instrumental in a club's success regardless of whether they have a coaching or administrative background and whether or not it is a paid or volunteer position. Claude Robert is our special guest and is going to answer some of your questions on this important role.

Q: I am looking for information regarding club administrators/program directors and their role in the club. Are they usually in charge of all on ice sessions regarding scheduling, guest skating and rules? Can you provide me with more information about this role and its usual duties?

A: Before I begin I should say that the role of a club administrator could be very different for different clubs. The key is developing a set of responsibilities that meet the needs of the club.

There are many tasks a club administrator/program director could be responsible for in a skating organization. I would say that the program director is a very important link that should generate interaction between the club members, the professional coaching staff and the volunteer board/ executive. A club administrator can be an individual with coaching expertise or administrative expertise but ideally they should have some skating background and knowledge.

As a technical expert, the program director can provide an educated and experienced opinion to all board/executive members in conducting the club's business. Administrative decisions can often have a great impact on the club programs in terms of membership retention, program growth, professional staff motivation and overall skater's progression and satisfaction level. On a day to day basis, the club administrator may take on administrative tasks such as:

- Negotiate with city staff for the ice allocation for the different seasons
- Participate in the budgeting process
- Generate program plans and fee schedules for the different programs and present them as recommendations to the board/executive
- Liaise with Skate Canada and the section office for any membership and program related issues
- Provide input for fundraising matters
- Provide background information on members to PR volunteer and media
- Overlook the processing of registration and program allocation to members
- Develop fee assistance programs in conjunction with municipal services or local organizations

On the technical side of the operation, the list can be quite large depending on how many responsibilities the individual has been assigned:

- Develop programs, curriculum/content and participate in the delivery of those programs
- Set program schedules and standards
- Manage professional staff working within the programs
- Evaluate staff and help coaches evaluate skaters
- Oversee the delivery of the various Skate Canada programs offered by the club
- Provide customer service and information to members (parent information & volunteer planning sessions)
- Develop seasonal brochures addressing programs' content and packages
- Develop policies and procedures to ensure safety and high program standards
- Liaise with Skate Canada coaching consultants, section's technical director and local professional skating coaches for all issues of technical matter
- Develop and implement talent identification programs and/or enrichment training opportunities for members

A club administrator can be a paid employee of the organization but the amount and manner in which that individual is compensated will vary widely based on the club. Larger clubs with a more solid financial position may have a club administrator with a large list of responsibilities and pay this individual accordingly. In contrast, smaller clubs or clubs thinking about hiring a club administrator to manage or assist with some of these duties may only be able to pay a modest amount for such work. For these situations other ways of compensating the club administrator are possible. For example, the more members the club attracts and retains, the higher the bonus for the club administrator.

Q. How would you describe a successful club and how do you, as a club administrator, go about making a club better?

A. There are many ways to define success, one can think in terms of members' satisfaction level, athletes' competitive success, program size and membership numbers,the variety of programs offered or member retention rates from one year to the other. I believe a successful organization is one that communicates well with its membership. Members often have to choose between skating and other leisure activities or sports. The busy lifestyle of the average family sets the pace of the organization and the club has to be flexible with its policies, program packages and options for its members. As an example, people are sometimes more comfortable with committing to programs being offered over 10 weeks as opposed to 20. If the program quality is high, members will often choose to sign up for the second session and will often return the following season.

A strong professional coaching staff is essential to the delivery of high quality programs and the success of the club. Coaches will be your best assets to retain the present members and attract new ones and they are instrumental in providing positive recreational, test and competitive experiences and results.

The following are also indicators of a healthy organization:

- Strong business approach in the conduct of club board meetings
- The club has a detailed plan for program implementation, delivery and growth showing timetables for completion of tasks and accountability
- There is ongoing communication between the board/executive and the professional coaching staff
- There is a healthy relationship between board members and city officials/staff
- Involvement of professionals in the delivery of the club's programs from the CanSkate to the elite/high performance levels
- Strong volunteer base (including professional coaches)
- Clearly communicated program objectives and curriculum descriptions
- Unbiased overview of the club affairs by all elected members and professional staff
- Willingness to change and evolve with the sport

Another important area that deserves special attention is identifying the strengths and areas of expertise of your professional staff members. Not everyone has the same interests and passion. Some coaches will be great recreational program teachers, some will excel in preparing the athletes towards competitions, some will be great communicators and others will be specifically skilled in choreography. The club administrator needs to understand and appreciate these strengths to create the best possible environment for the members.

Q. As a club administrator, how do you boost interest in various club programs such as synchronized skating?

A. I believe the answer lies within the strength of the club's recruiting program. With a synchronized skating program one has to be careful not to focus exclusively on an existing roster of skaters to the detriment of following a continual recruiting plan. Sometimes too much focus is placed on one specific generation of skaters and the recruiting process is lost in the shuffle.

In my mind, the success of the whole program is in its juvenile team program and the close tie you create with your CanSkate program. I would recommend setting up a promotional program that would see your lead synchronized skating coach(es) visit the CanSkate sessions. Activities such as a parents' information session, team demonstration during the last 10 minutes of a session, a "buddy program" between skaters of different teams or skaters moved up from CanSkate and video presentations of past performances can all help promote synchronized skating. Creating a club synchronized skaters alumni could also generate interest towards the adult team or bring children of ex-synchronized skating athletes to the discipline.

Q. How do you go about hiring a coach for your club when you are looking for a particular skill? For example, what makes a coach a "skating skills specialist"?

A. The hiring process is often perceived as very challenging by many club volunteers. In terms of process, I would start by performing a year end review with your entire professional coaching staff members. In doing so, make sure to address the following:

- Program coverage intentions for the coming year
- Their interest towards teaching new disciplines and new responsibilities they would consider taking
- Short and long term goals
- Any continuous education plan, certification courses or seminars they intend to take in the next year
- Interests towards group lessons in the delivery of programs
- Communication performance with skaters, parents, club officials, officials and club office personal
- Team teaching philosophy
- Expectations towards the board, other professional staff members etc.

After review of the information gathered through the exercise, I would then make recommendations to the board as to the specific profile of the ideal candidate(s).

To identify whether a coach has expertise in a specific field, verifying test records and personal references can be helpful as well as asking for the opinions of coaching peers. Other experience such as leading seminars, courses or contract work may also be considered as valuable experience.

Q. I am a coach that is interested in learning how to be a club administrator. How does one learn to do this and how did you learn the skills you use on a day-to-day basis?

A. I would say that volunteering has been a great contributor in preparing me for my role as technical director. Learning how to understand and communicate with board members and other volunteers is essential to the success of the individual. Volunteering for different positions with your club, region, or section can give you a better understanding of the sport system, its mechanism, and the various policies and procedures. Volunteering will also give you experience in planning exercises, conducting meetings in a professional manner, networking and communicating with peers and others which can be key activities of a club administrator position.

Education is also very important. Sport and administration degrees can be valuable for learning skills required as a club administrator. Pursuing a coaching education through the National Coaching Certification Program (NCCP) will also help improve your technical skills that in turn will assist with program development. I have completed university degrees in Kinesiology and Sport Sciences which has provided me with a strong base of knowledge and scientific information that support and complement my skating and coaching experience.

Working as a team with Skate Canada professional coaches will always be beneficial to any coach. The work I have done with the Quebec Section High Performance Committee gave me the chance to review the technical concepts I was using daily in coaching. It also created a great opportunity to either try new ideas and techniques or stick to those I felt were best suited to my skater's needs.

Last but not least, administering my own skating school for many years taught me a lot in terms of customer service, public relations and functioning as a Skate Canada sanctioned body providing services to members. Establishing and maintaining a strong and harmonious business relationship with local clubs, the region, the section board and office staff was very important for success. I learned to work with these bodies and the elected volunteers and staff to complement services and programs that would benefit the members and generate growth for all.

Q. What recommendations do you have for a club that is having trouble getting more ice-time in their town? Do you have any strategies you use to help negotiate with the city and other sport organizations for more ice time?

A. This is a major dilemma for most organizations as everyone is striving to get access to more prime time ice for its members. It is crucial that you invest time and energy to establish and maintain a positive interaction with city staff working in the athletics and recreation department (or its equivalent) and also the other organizations providing ice sports programs such as hockey, speed skating and ringette. I would encourage you to take the lead and set up meetings where all involved would gather and discuss the growth plans of each organization.

In some situations, a club may be able to negotiate with their city regarding delivery of a specific Skate Canada program. For example, a club could be the sole provider of power skating instruction for all ice user groups in the city so duplication of programs could be eliminated. To help convince city staff of the benefits of this idea it is important to remember that you would be helping to reduce the duplication of programs. The duplication often occurs with the recreational skating skills programs that other sports are designing and implementing.

Having a stronger base of members can also be important in acquiring access to ice time. Marketing the CanSkate program as a skating program as opposed to just a "figure skating" program may generate new members for the CanSkate program.

As for generating more ice time for test and competitive programs, creativity is the key. Keep track of the test records of your members and try to identify ahead of time which program will experience growth and which will see a lower number of registrations for the following season. This will enable you to make the technical decisions in planning your programs and the amount of hours to allocate to each level. Pairs can share freeskate sessions with your high-end singles competitors for the singles portion of their training. Skating skills sessions can be taught in group lessons, which also allow for a more controlled and safe environment when dealing with large numbers on the ice. Where possible, plan the skating skills and the dance sessions for members with different skating interests. Doing so will create potential for good flow between programs and levels. For example, a skater may progress more efficiently through the dance and skills program then the freeskate program, and your synchronized skaters may focus on skills and dance more then freeskate.

In term of seasonal planning, some disciplines have a different competition calendar then others and may free up some of their practice time before a season ends. You want to be ready and organized when this happens so you can use it to offer seminars, talent identification sessions or extra training before test sessions. Hockey and ringette are also vulnerable in terms of programming. If a team is eliminated before the end of the season, the organization often gives the ice back to the city. Your knowledge and level of awareness of these facts could translate into increased ice time opportunities if you have a good rapport with these organizations and the city.

Q. Is a club administrator involved with the club coaches in any way? If so, how do those individuals interact?

A. Yes, they are involved in many ways. We often think of coaching as the main task of professionals, but there is a lot more to coaching then teaching proper technique. Coaches may want support in conducting meetings with parents of competitive athletes, hiring fitness instructors that would train their athletes off ice or finding substitute coaches that can assist while the coach is attending test sessions or competitions.

Developing coaches may want to interact with the club administrator on a regular basis when planning a season for his/her athletes, provide a second opinion before putting up a test or selecting a piece of music, or participating in coaches' meetings to plan school schedules and programs. Often I am involved in helping coaches prepare for practical assessments for their NCCP personal certification. I provide assistance negotiating contractual agreements between coaches or facilitating communication when securing the services of outside coaches and choreographers.

Working together in a team format can make things happen more easily and professionally. The club administrator needs to demonstrate the ability and desire to help others when they need assistance and respond in a positive, constructive manner when handling problems and challenges.

Q&A: ICE SHOWS - LIGHTS, CAMERA, ACTION!
by: Denis Beaudoin, Skate Canada Professional Coach

1. **We have four separate skating clubs within a 15 minute drive. Since all of these clubs are small in size, I think it would be a good idea to stage an "Ice Show" involving all four clubs. I'm not sure if you have experience with merging a few clubs together for this specific reason, but we appreciate any suggestions that you can provide us on how we can make this incredible idea become a reality.**

I think the idea is fantastic. Often you are stronger when you pool your resources, if it is well orchestrated. One piece of advice - a coach selected from the coaches of the four clubs must be the artistic director to ensure number control and to make certain everyone sticks to the theme of the show. A definition of the director's task must be clear, in writing and submitted to each club. A delegate from each club shall then be selected to serve as a link with his/her home club (he or she is not required to sit on the board of directors of his or her home club). The last person is a treasurer who, ideally, does not sit on any of the four clubs.

A document must be prepared and signed by the four clubs for financial issues, e.g., the profit will be divided equally among the four clubs, etc. I can perhaps offer some technical advice and that is to allow each club to perform and produce their numbers with their members.

Good luck!

2. **Hi Denis - My club was planning an ice show this year, but due to the lack of funds, we have decided to fundraise this year and have our ice show next season. In terms of budgeting for an ice show, could you provide us with some logical ways to budget for such an event in a small community?**

You must ask yourself before starting whether the objective of the show is to make money or merely cover costs. First of all, you must evaluate the number of seats in the arena and calculate based on one or two representations of approximately what the receipts come to. I have always sold my numbers to businesses in the area. For example, my opening, which is always my biggest number, I sell for $500 to a food store chain. Therefore, I can determine what receipts can be deposited before the show. I then figure out the advertising in the souvenir program and finally the small receipts generated by flowers, photos, video cassettes, etc.

In order of importance, lighting is the most expensive, followed by quality sound, costumes (made or rented) and a conservative or a huge décor. With quality lighting, the cost of decors and costumes can be reduced substantially.

Have a good show!

3. **I have a bit of experience with organizing ice shows and was wondering if you could expend your thoughts on the following planning areas:**

   - Organizing Committee - In my view, the organizing committee is very restricted. One representative comes from the club, but that person is not necessarily a member of the board of directors, the treasurer, the artistic director and the coaches. This does not stop one from bringing in tens of volunteers, but they are not part of the committee.

   - Choosing a Theme - An attempt must be made to be straightforward and current. You see my best show was a joke that came up at a meeting. It was the year when probably 80% of the club adopted the Titanic as their theme.

   - Music Selection & Choreography - When the theme is straightforward and broad, the music selection is easier. You must use a variety and go with music from various eras and with several rhythms. Avoid using "hits" that older people do not always like. A trip to radio stations is a must, because they have extraordinary record libraries.

   - Costuming - It is becoming increasingly difficult to find mothers able to make costumes. I have previously used community organizations in a pinch, senior citizens, schools that offer a sewing option and if it's impossible to line someone up in your area, recycling and rentals are the best option, as many clubs now have a site and we can see the costumes that are available.

   - Special guest skaters - As far as guests go, I think skating must be promoted to attract boys to our sport. Pairs, dancers and men in that order are my choices. Avoid having a guest who is competing with one or several of the most advanced skaters in the club.
   -

   - Equipment / Décor - A quality décor is very important to me. It is an accessory in itself, and if it is well thought out, it gives some personality to our choreographers. On the other hand, I am not a fan of accessories which, when installed, break the rhythm of the show.

   - The day of the ice show - Everything is fine, everybody is good and I like YOUR SMILE.

4. **I'm looking for ways to have local businesses and general population involved with the planning/ executing of our ice show next year? Any help would be greatly appreciated! Thank you!**

You see, this year, we put on a combined show with the gymnastics club - 1/3 of the ice for them and 2/3 for us - the visibility was different. An activity can be held the same evening as your show. You attract a diversified clientele, and you may end up recruiting future volunteers who will like the experience.

Q&A:The Art of Choreography on Ice
By: Kelly Johnson, Skate Canada Professional Coach

1. **As a coach, I sometime feel intimidated by the word "choreography". I love coaching technical skills, but when it comes to choreography - I don't feel creative or confident enough to put a good program together. What type of training exercises would you recommend to help me develop creative choreographing skills? Thanks for your help, Kelly!**

As a coach, our first responsibility is to recognize our strengths and weaknesses. When we know our weaknesses it is our job to bring people with expertise in that area in to help us. Not everyone is cut out to choreograph and sometimes it is in our skater's best interest to find someone who can come in and choreograph the programs for you.

Having said that, there are many things you can do to educate yourself so that even if you never feel confident enough to choreograph, you will at least have a better understanding of how to maintain the integrity of the choreographer's original idea thus enabling you to help the program grow artistically.

This is a huge job in itself. There are many resources available to you. I do a lot of research with videos. "Amazon.com" has a huge selection of dance videos that you can order; I did a lot of research on Flamenco, Swing etc. by watching videos that I ordered this year. If there is a particular style of dance that you need help with, a great way to learn the style is to register for some private dance lessons with an expert in that area. I recently took private lessons on the rhythms of the original dance with a ballroom teacher which helped me immensely.

There are also some good books that I've read. One in particular is "Dance Imagery for Technique and Performance" by Eric Franklin. Another one is "Choreography and Style for Ice Skaters" by Ricky Harris

Choreography is an ongoing learning process and you must continue to grow as the times and styles changes. Everything I've suggested are things that I do myself. As a final note, I think it is best to get your feet wet by starting with the younger skater's programs; it will also be a little less intimidating. Hope this helps and good luck!

2. **What are the key components to consider when developing a new program for a junior dance team that would reflect the character, accents and nuances of the chosen music? I appreciate your assistance, Kelly!**

The first thing I do when I start to choreograph a program is to get a story line and from that point on I figure out musically the best place to put the required elements.

There is always a musical moment that says “straight line footwork” or a highlight in the music that screams “rotating lift”, etc. To highlight these elements, you must find the best part of the music. It’s so important to recognize these spots first so you can build the program around them. When possible, I prefer to have all my lifts made up before I start so I can find the best musical moments for them. However, at times some original lifts ideas must change due to a bad viewing angle or time frame, or when it does not reflect the character of the dance.

I also make sure that my skaters have a good understanding of what they must portray character and movement wise by giving them videos to watch and learn in dance classes all spring. It makes it so much easier if they can do it on the floor first before attempting it on ice. The “phrasing” of steps is also very, very important when you first choreograph a program. If the steps are not phrased properly it can appear as if the team is just skating through the music instead of skating to the music! For me these are the most important things in the early stages of building a program and once the steps are mastered you can build on the character and emotion of the program.

3. **My skaters love to improvise on the ice and are always interested in choreographing their own little program - some of them are excellent, very creative and have lots of fun! What type of off-ice activities should I offer my skaters that would train them to discover various artistic styles on the ice? Thanks Kelly!**

It’s so exciting to see skaters with no inhibitions to have the desire to be creative. You definitely have to nurture by taking them to dance studios available near you. In order to develop control, good carriage and beautiful arms and lines, ballet classes is a must. Hip-hop is another great one - kids of all ages love as it teaches them rhythm and freedom of movement. Tap dancing is one of the most useful things I learned when I was younger as it teaches you a sense of timing and rhythm and quickness on your feet that is hard to learn anywhere else.

Try to get them into as much various styles of dance lessons as time and money allows, it will strengthen them and help them grow artistically.

4. **Can you share from beginning to end one of the most memorable and successful choreography experiences you have had so far in your coaching career? Looking forward to reading your reply - thanks!**

I’ve had so many great experiences over the years but I would have to say that choreographing the original dance and free dance for Kati Winkler and Renee Lohse

(German Dance Champions) this year in Oberstdorf, Germany was the most enjoyable. They are such extremely talented and versatile dancers, but have been plagued with injuries the last few years.

I didn't hear their music until I got there, so the first day we just played with ideas, decided where footwork sequences, spin, lifts and highlighted stops would go in the music. We all loved the music for the OD so when we finally started choreographing the ideas were flowing. At times Katie and Renee would just improvise and I would yell out "Yes! That's it - that's great! " and we would build on that idea. They are so creative and have the ability to make things look good right from the start. When we got to the Blues, they needed a definite idea of their various role and character. Once these were established, it came together quickly - the free dance was developed.

The most difficult thing with Katie and Renee is getting them to do the same thing twice. They were energetic, positive and a joy to work with. I am really happy with the end result of both programs and as long as Renee's groin injury heals I think they will have a good year.

5. How do you build magic and charisma among a dance team when developing a program? Thank you, Kelly!

This is actually the most exciting part of the whole process. You start with a skeleton and you give it life. The most important thing for me is finding the right vehicle for each team, finding music that I think will allow me to showcase their strengths. Each team is at a different maturity level technically and emotionally so a lot of time goes into selecting the perfect music. As I mentioned earlier in question #1, I generally start with a story line when I choreograph but as the season progresses there are always parts of the program that seem flat so we add to the story. We talk about what the skaters are feeling emotionally as individuals, and how they should be relating to each other emotionally in each little section of the program. Sometimes this is harder with the younger teams who haven't experienced the full range of emotions in life.

I teach them that there are no boundaries between them - that they are two bodies that become one with the music. I teach them to really listen to the music, hear the highs, lows, subtle nuances, and the passion in the vocals or instruments. After months of repetition, they can easily start to go on "autopilot" instead of hearing the music. I try to teach them total commitment to the story and to give 100% to enjoying each run-through and/or performance. I also work a lot with video cameras so that they have a clear mental picture of how they look - sometimes they think they are showing emotion and once they see it, they realize that it is barely visible. It's an excellent teaching aid!

My personal end goal is knowing that the team loves to perform their program and that to me is half the magic.

The Athlete Manager

by: Jeff Partrick, Chief Membership Officer
Bill Bridel, Elite Athlete Development Consultant
(With input from - Petra Burka & Marijane Stong National Coach Consultants & Louis Stong, Skating Development Director)

The role of a coach is not easy as they are responsible for many aspects of the athlete's development. In fact, coaches need to take on the role of an "athlete manager" if they are going to prepare their athlete properly for the training or competitive season. The role of an athlete manager is to facilitate the technical, physical, psychological, and life skill development of the athlete. The athlete manager is also a planner and a strategist for the athlete.

Off Ice Training

One area of athlete management in which many coaches still need to become more involved is off ice training. Off ice training helps the athlete attain a level of physical conditioning that allows them to train effectively on the ice. There is recent evidence that some coaches may not have an appropriate level of involvement in their athlete's off ice conditioning program. Louis Stong, Director of Skating Development, has first-hand experience with this issue. "I have often heard a coach say, 'I don't know anything about fitness training. It's up to someone else to look after that.' Coaches MUST be more involved in all aspects of their skater's development whether it's on ice or off ice."

The National Coach Consultants have had the opportunity to see many young competitors and their coaches across the country this past year. Petra Burka, National Coach Consultant for Skate Canada knows the importance of the coach taking the role of an athlete manager and being involved in the athlete's off ice training. "A coach MUST be responsible in overseeing the fitness program for their athlete. There are three things that should happen:

(1) the coach, athlete and parent should attend the initial sessions of evaluation and the setting up of the programs, (2) the coach and fitness expert should be in regular contact to discuss the progress of the skater, to see if adjustments should be made to the program, and if the program is meeting the skater's needs, and (3) the coach and athlete should have an ongoing dialogue about the off ice program."

Musicality and Movement

Another component of the athlete's development that is often overlooked is the athlete's artistic development. Petra believes that off ice dance classes are essential. "I highly recommend ballet and creative movement for musicality, body and line awareness, and creativity. I highly recommend stretch classes, Pilates, and/or gymnastics to stretch the muscles. This should all begin at an early stage in the development of the skater. Body awareness, musicality, and discovering one's own ability to interpret music and be creative are necessities in the development of a skater. Take out the jumps from a program, and what remains? This is what 'packaging' is all about!"

Off ice dance classes also help with the development of rhythm, flexibility, improved range of motion, and it exposes athletes to new ideas that can be used in developing programs.

Mental Training
While sport psychologists were not as prevalent when Petra competed, she understands the importance of mental training and practicing mental training exercises to help the athlete perform to their potential. “In my day, mental training wasn’t taught, so I taught myself! I visualized a perfect program before an event, taught myself positive reinforcement messages, and how to focus. Luckily, today, we have experts that can help our skaters in this area. Mental training exercises can make the difference between a fifth place and the podium!”

Think of it this way. A competitive athlete probably trains close to 500 hours (or more) per year. Why would they invest all of that time, energy and money on preparing themselves physically and invest little or no time in preparing themselves mentally for competition!

Contrary to popular belief, sport psychology is not common sense and Louis agrees. “Mental training skills are just as ‘learnable’ as any other kind of skill. The problem is the perception that mental training should be reserved for international athletes.” Learning to use mental training skills can help any athlete to improve their consistency and performance level in training and competition.

Good athlete managers understand the importance of mental training and incorporate it into their athlete’s training regime. If coaches are having difficulty locating a sport psychologist, try contacting a local university or college for a professor or student in the psychology department with a sport focus that could assist with setting up a program for the athlete. If that is not possible and cost becomes a factor, a group of competitive athletes could share the cost or a club or section could help set up and subsidize a program for a mental trainer to work with the athletes.

Working Independently
As athlete managers, coaches need to be very aware of the skills that they teach to their athletes. Technical skills are not the issue here, but rather life skills that coaches impart on their athlete throughout the training process. One such example is teaching athletes discipline and teaching them to work independently. The value of this skill is immense not only for the athlete’s training and competitive career but also for the rest of their life. Coaches should not be ‘hovering’ over their athletes and giving them lessons every session because they cannot train on their own. Rather, coaches should be teaching their athletes to work independently which builds self-confidence, discipline and self-reliance. The result is a healthier athlete and person.

Petra believes very strongly in teaching young skaters to work on their own. “Coaches should not be babysitters! It’s the QUALITY of the lessons not the quantity that counts. Coaches should be the skills teachers and the developers of talent. They will do a disservice to their skater if they over teach them. Skaters must learn to think and work independently. After all, when the ice is clear and the music starts at a competition, the skater must do it alone.”

Marijane Stong, National Coach Consultant, also believes that quality and not quantity should be the coach's philosophy when providing lessons. Coaches have to take responsibility to ensure that their athletes leave the lesson with skills and ideas that they can practice on their own and perfect. "Skaters should learn something in each lesson experience and then go off to practice that lesson. Coaches should remember that if nothing has been learned, nothing was taught."

It is also important for parents to understand that giving their child more lessons is not always a good thing and does not always result in improvements. Coaches are sometimes pressured by parents to provide their child with more lessons than is necessary. Sometimes the reason is simply that another child is receiving a greater number of lessons from another coach. It is important for parents to understand that by learning to work independently the child is learning discipline, independence and self-reliance and that will benefit them in the sport and for the rest of their life.

The Financial Side

As athlete managers, coaches also have to be aware of the financial impact the sport has on their athletes, especially in light of the number of lessons they are giving their athletes. A recent survey results suggest that coaches may be underestimating the total amount that an athlete's family is spending on all skating related items during the year. Given the fact that many parents took the time to calculate a reasonably accurate amount, parents surveyed, on average, estimated they spent $14,028 on their child's participation in the sport during the past year. In contrast, when coaches were asked to estimate the parents' total annual expenditure for the same time frame they estimated $8,706.

88% of coaches surveyed mentioned that they are meeting three or more times per year with the parents of their competitive athletes. That is a great sign. However, it is important that these meetings are used to openly communicate about all aspects of the athlete's training and preparation so that the coach, athlete and parent are well informed of the progress and requirements. Coaches need to treat their parents as a business partner as the parents are often involved in providing transportation, finances, moral support and short and long term goal setting.

Being responsible for all of these different aspects of athlete management in addition to being competent with the on ice technical components is crucial for coaches. It is a big job and coaches should not hesitate to ask for assistance with areas for which they are unfamiliar. By adeptly managing all of these items, the coach will be fulfilling their role as well as providing their athletes the opportunity to reach their goals and their potential.

Choreography 101
by: Marijane Stong - Skate Canada National Coach Consultant

Choreography - definition - the art of creating movement to music

No one ever knows at the beginning of their career if they will be a great choreographer, but as coaches, we should all be able to choreograph at a base level.

I was always interested in this part of my own skating, even as a young skater. I was lucky enough to be influenced by very talented people in this area who were my own coaches. Liliane de Kresz, Donald Laws, and Osborne Colson were great influences in this direction. My ballet teachers gave me quite a different appreciation. We learned to work diligently with the rhythm and phrasing of the music. This is often missing in the training of our young athletes today. Later in my life I was able to study free form or contemporary dance and modern jazz, as it was called then. We always had time to delve into the true character of the music we danced to. I was privileged indeed to have had such influences and did not realize how valuable they would be to my career.

My choreography skills matured in a coaching atmosphere where it was expected that a coach would do the programs for their skaters. This was definitely the mandate for a good coach. You must be able to teach good technique, coach and do good choreography as well.

Very early in my career I was fortunate to work with an extremely talented couple, Donna Taylor and Bruce Lennie (my younger brother). Together we were able to produce some programs that were exciting and creative for their time. We took risks and made them work. We had to be contemporary, stylish and had to have good taste. I was immediately thrown into the “big time” and had to work very hard to stay there.

GETTING STARTED

Consideration must be given in many areas before starting to choreograph.

- What must the work accomplish?
- Does it need to be a medal winning performance?
- Is it introductory at a new level?
- What new skills need to be highlighted?
- What areas of style do you want to develop?

THE MUSIC

This is the most crucial decision you make. There are several questions to ask yourself here as well.

- The age of the skater
- The gender of the skater
- The strengths and weaknesses of the skater
- The musicality or lack thereof
- The quality of the elements to be displayed
- The areas of style that need to be developed
- The energy of the athlete
- The personality of your athlete
- Rhythm, and the chance to develop it

The best advice I can give you is to listen, listen and listen. Always take the time to jot down any music that appeals to you. Try to find music that is not overly popular or there is no chance to be unique. Listen to all styles of music. If you are not familiar with classical music then you MUST learn to appreciate it. It is the style that will give you the greatest opportunities for choreography. The music of Broadway shows is usually quite good as well, and you are often given a recognizable character to work with. Movie music is more difficult for the new choreographer as there are not often as many highlights for elements, it tends to be repetitive and lack melody and it is more demanding of personal style. You must not fall into the trap of using music just because the athlete likes it. As the coach, it is your job to help them grow and improve as skaters and challenge them with music.

It is my opinion that you, as the coach choreographer will learn much more about setting a program when using classical music. Research the music as much as possible - the composer - the style - the story line - and the various characters involved. You will then have a clearer definition of what you can accomplish with your skater.

If you choose ethnic music, be sure to study the correct body carriage, attitude and arm and hand movements. Learn to be true to the music and the style it dictates.

It is much easier to find a wonderful piece of music when you are not under pressure. I was stuck in a traffic jam on my way home from work one evening and heard a delightful piece of music titled “Comme çi, Comme ça”. I thought it would be perfect for Josée Chouinard for the short program. It was very difficult to find the recording, but I did manage to have the radio station loan us their copy. It was worth the effort as it turned out to be an all time favourite within the skating community and it earned Josée very high marks. If you make the effort, the rewards can be beyond belief.

There are many other ways to find and learn about music. Attend a ballet, an opera, a theatre production and of course the movies whenever you can. Watch musical arts programming on television if you do not have access to these arts. You will always find inspiration and learn something. Study the acclaimed works of some of our leading skaters and learn from them as well.

SETTING THE PROGRAM

Whether you are a famous choreographer or a want to be choreographer, the steps are pretty much the same.

First, you must be satisfied with the editing of the music. The quality of the original recording is paramount. The music must be well balanced and sound like a complete composition without even introducing the skating. It must have an introduction, a little character, changes of pace, a climax, and an ending. The editing of the music should allow for cardio success. This takes some work but it is certainly worth it in the end. When you are satisfied that the music is wonderful, now you are ready to begin.

Play with the music and figure out where you will place all the important elements. The most difficult elements should come within the first third of the program. This will give a much higher rate of success. The skater is fresh and there should not be any muscle fatigue. The program should close with very polished elements or specialty items in the skater's repertoire. The in between must be interesting and intelligently placed for success. The footwork should be a highlight. Work very hard to make it interesting. There should be a variety of steps, turns, and changes of direction and levels as well. The spins like the jumps should be strategically placed, according to the ability of the skater.

Make the steps and movements between the elements interesting and suitable to the style and energy the music dictates. Honesty of movement will always be successful in the end. The steps and patterns must also create the opportunity for success of the elements. Pay attention to the ice coverage, drawing the pattern as you go along. Spread out the elements and keep them clear.

SOME "DON'TS"

DO NOT:

- Put everything you always loved in one program. It creates a cluttered appearance
- Have your skater jump at a different speed than they are used to doing in practice. This is a common error seen over and over again
- Use mature or sensual movements for young skaters
- Force a style of movement if it does not look natural
- Use spins that have no value, unless all prescribed spins are done
- Stop too many times

SOME "DOs" or in my opinion, "MUSTS"

- Go over the program with a fine toothed comb, making sure it will accomplish what you intend
- Check that the program abides by all applicable rules
- Check the program for cardio success
- Be true to the timing and the natural phrasing of the music
- Use phrasing to create little stories within the big picture
- The use of nuances and stylistic movement will add to the charm or appeal of the piece - honesty of movement

- Allow for time to show off good stroking and movement across the ice
- The skater must use all levels in space and all the personal space around them
- Revisit the choreography after each outing and be sure it is accomplishing the job intended
- Take your time with this process - even if the technical elements are not perfect the second mark or presentation mark is judged separately and can allow for a high placement. Be forewarned, and take advantage.

There are obviously some people in skating who are gifted with a special talent for choreography. Even they had to start somewhere, and the process is quite the same.

To choreograph successfully at a high-level takes time and experience. Many experiences make the challenge easier to understand, and deal with. The higher the level of competition the more important the choreography is. The great pieces are seamless and almost perfection, they carry you to another place and when they are finished you, the audience are fulfilled.

INTEGRATE PLANNING IN THE ROLE OF A PROFESSIONAL COACH!
by: Josée Landriault - Recreational Coaching Programs Manager

Planning is one of the many key responsibilities of a professional coach. With having various relationships with athletes, parents, professional colleagues, and club executive members - professional coaches need to plan and manage their business all season long.

Professional
Leader, Role Model, Teacher, Coach, Manager, Strategist, Volunteer, Talent Identifier
Abides by the Coaches' Code of Ethics
Need to commit to the philosophy of professional development and the business of skating
Necessitate the best training for athletes of all ages and skating abilities
Is the technical skating expert
Need to provide athletes with the opportunity to experience the passion, spirit and triumph of skating
Geared to setting and achieving realistic, yet challenging goals

RECAP THE SEASON - NOW IS A GREAT TIME!
Beginning to plan ahead is a good thing to do at this time of year. In fact, February is indeed a great time to complete a review on the following skating business aspects:

- **Skating Programs** - Evaluate effectiveness on the overall set-up and delivery of your CanSkate, CanPowerSkate, STARSkate, and Adult Skate programs. Outline what aspects really worked well and other aspects that need improvement. Skating programs are your "bread and butter" in your business and for that reason, it is important that all program delivery aspects are well planned out and delivered throughout the season.

- **Coaching Team** - The key to program delivery success really depends on the ability to demonstrate competency by your front line coaching team. Observe professionalism in their role, interaction and communication with customers, sense of responsibility, fulfillment of contract expectations, dedication to athletes - parents - other professional colleagues - club executive members, etc. To avoid last minute recruiting and hiring a professional coach, inquire about who is planning on coming back next year and determine whether or not your club will need to advertise for positions. If needed, plan to advertise now!

- **Customer Service** - Increasing membership is a win-win strategy for both coaches and clubs. By survey or word of mouth, feedback provided by your customers is priceless. Start planning how your club can boost up membership a notch higher next season - i.e. decorate a float to represent your club at a July 1 parade and hand out pamphlets that highlight your club's programs.

Based on the outcome of this review, use that feedback as your "starting point" to plan ahead for next year.

CONTRACTS - A MUST FOR ALL PROFESSIONAL COACHES IN A CLUB!

Planning ahead for next year also means developing contracts for your professional coaches. All coaches (club and/or freelance) should have written contracts that outline their responsibilities and club expectations related to the coach's employment and/or services in the club.

A contract is a tool that will benefit both coaches and clubs and help them clarify the parameters of the role each is expected to fulfill. It is important that the contract be written clearly so that it can be easily understood. Ultimately, it is best to have the contract reviewed by a "duly certified expert" who is knowledgeable regarding contracts and can help ensure the document is well written.

Here are some key components to include in a coach's contract:

- Term of the Contract - How long is the contract for? Is there a fixed date, or is it indefinite?
- Status - Specify if the position is full-time or part-time.
- Work Schedule - Outline hours of work
- Wages - What is the wage? What is the wage paid for? (i.e. - 45 minute CanSkate session plus 15 minute preparation time = 1 hour at $35.00 a week.)
- Scope of Services / Job Description - Specify each duty that the coach is expected to fulfill throughout the season. (i.e. - volunteer contribution at three parent information sessions, some ice show planning time, etc - conduct one initial program assistant (PA) training day plus three follow-up PA training sessions.)
- Performance Appraisal - To provide feedback, recognize, and reward coach's accomplishments - outline purpose of this service, review and provide tentative date(s) of when and where the performance appraisal will take place.
- Club Rules & Policies - To help coaches reinforce club regulations on and off the ice, it is important to outline these in their contract. (i.e. - safety rules - food is not permitted on the ice, first aid kit a must by the boards, no one permitted on the ice without skates)
- Professional Training & Development - Encourage all of your coaches to continuously upgrade. Maybe your club would like to support and/or subsidize some of their NCCP course, seminar, and travel expenses. If so, these benefits should be outlined in their contract.
- Acknowledgement - Have a coach declaration closing statement that would require the coach's signature should they be in agreement with the contract presented.

A WELL RUN-SEASON STARTS WITH A GOOD PLAN - GOAL SETTING!

Setting goals and objectives is a key responsibility of a professional coach. The determination in setting goals for themselves, athletes and parents, and various other club members will help measure progress and take steps to establishing a successful coaching career.

Once there is a clear view of what type of goals and objectives are needed for yourself and your customers, it is important to review your goals frequently and assess performance honestly. Analyze what worked well, what did not, and identify areas for improvement. Plan some time to modify your goals and your customer's goals on a regular basis.

Remember when people clearly see themselves achieving their goal, they can use that imagined picture of themselves as motivation to keep going when they encounter a roadblock.

By helping your customers reach their goals and attain their dreams, you are playing an integral role in providing quality skating instruction and support to all Canadians who participate in skating throughout their lifetime for fun, fitness and/or achievement.

The Importance of Simulations in Athlete Development

By: Bill Bridel, Elite Athlete Development Consultant Louis Stong, Skating Development Director Marijane Stong and Petra Burka, National Coach Consultants

The importance of simulations in the development of the competitive figure athlete cannot be emphasized enough. Simulations are very, very important for athlete development. Simulations are a positive part of the training process, as long as they emulate a competition as closely as possible. A small invitational competition can be used by as a simulation, or it can be conducted within the club/ skating school environment.

Simulations allow our athletes to pre-test their programs in a competitive environment and help them to be better prepared for their events. Many times a program and technique, which an athlete may find easy in a normal training environment, change dramatically at an event, for different reasons. Event logistics, conditions and competition pressures can all impact; athletes must be fully prepared to handle all different scenarios in order to deliver their best performance when it counts. Simulations will help to create a comfort zone for athletes, better prepare them for any and all situations, and give them confidence for their competition performance. Simulations are a must in the learning curve of athletes.

There are many different ways of coordinating a simulation - with different goals and end results. As such, a series of simulations should be scheduled into the yearly training plan.

Early Season Simulation

In the pre-competitive phase (late spring or early summer) the first simulation is to see if the programs 'work' in design/structure, so that the choreographed elements can be successful. This can be done in any situation, where the athlete has clear ice or even in an invitational-type competition. It should be a low stress situation, where the program itself, and not the performance, is being monitored by the coach/judge. If the coach, club or skating school can arrange to have a judge(s) present, the stress level goes up for the athlete. If there is time at the end of a test session and the judges/evaluators are willing to stay longer, an opportunity presents itself for a simulation.

Summer Simulations

The more the athlete can perform under pressure the better; some summer schools take one day a week, and have athletes run through their programs on clear ice. Performing in front of one's peers can be somewhat stressful. This simulation should include new outfits that need to be tried. Any of the various summer competitions are also good opportunities for simulations as this is a true competitive environment. However, simulations on clear ice during a regular training day are also extremely beneficial.

Competitive Season Simulations

An effective strategy before major competitions is to plan a simulation that closely reflects the conditions that the athlete will face, at the competition site.

Conditions such as:

- Time of day (athlete used to skating at night)
- Temperature
- Ice size (going from Olympic-size to NHL)
- The absence or addition of hockey lines
- Seating (theatre as opposed to one sided)
- The lack of or the addition of hockey boards
- Language of the announcer
- Distractions (music problems, audience noise etc.)
- Potential lack of a warm up area

This could mean holding the simulation in a rink, other than at the home club.

Other things to be taken into consideration when coordinating a simulation at any point in the season are:

- Divide athletes into groups of five or six and allow them the usual competition warm-up time
- Flood the ice before starting, and after every second group (if more then two groups of athletes)
- At summer and competition season simulations, athletes should be groomed (makeup and hair) and costumed as in competition
- Coaches should stand by the boards as they would at a competition
- Play warm-up music
- If possible, have an announcer introduce the event and each athlete, as in competition. If an athlete at the club is going to a national level competition, announce them from the section they are representing. If an athlete is competing at an international event, announce them from Canada. This is often a big deal the first time an athlete hears, “Representing Canada, Jane Smith!”
- If possible, have judges attend the simulation, to help further create the competitive environment. This also enables the provision of feedback to the athlete and coach, in a private environment

The simulation is an inexpensive and non-time consuming exercise that will teach the athlete and the coach invaluable information on how they must deal with and prepare for their future competitive experiences. Beyond the benefits outlined in the introduction, there are also other positive factors, such as:

- Allows the athlete to assess their readiness factor
- Allows the athlete to challenge their mental readiness
- Allows the opportunity to check on the music reproduction quality
- Allows the coach and athlete a chance to experiment when there is no result (e.g. placement of elements, change of elements, relaxation techniques, is the costume working, is the sharpening correct)

- Allows the opportunity to simulate the music stopping, or some interruption in the performance and how to handle that (this can be plan in advanced between the coach and individual playing music, but the athlete should not know about it until it happens)
- Allows the coach and athlete to work on how best to deal with the waiting time and how soon the athlete goes on the ice before they skate
- Allows the coach an opportunity to figure out how best to handle each athlete
- Reinforces areas that the coach still needs to address
- Allows for feedback which must be assessed very carefully
- Allows the athlete to own the performance - good or bad - and learn from the experience
- Provides, ideally, for a smoother transition from practice to performance - a very important step
- Provides the opportunity for the athlete to learn independence, and what is necessary for him/her to deliver personal best performances every time

If you think about it, one would never buy a car without taking it for a test drive, at least once, so why would we ask athletes to compete without having the opportunity of a test run?!

Q&A: Nutrition 101
with Andrea Holwegner, B.Sc.,

Q-1: How can I promote good nutrition with the athletes I coach?

- Practice what you preach! How meaningful is it for you to tell an athlete to choose healthy snacks and meals if you don't choose them yourself? You are one of the most influential people in an athlete's life. They respect you and will follow your advice and patterns of eating, so lead by example!

- Talk to them regularly - Ask your athletes about what they are eating before practice and after practice. Ask them about how much junk food they are eating. Ensure you remind them to drink water and allow time in practice to ensure they do so. For traveling, ensure that you set some rules about appropriate choices and places to eat.

- Ask them to keep food logs of what they are eating - Getting your athletes to keep a log of what they are eating will allow them to explore some of the patterns they are establishing, along with the types of foods they are eating, the portion sizes, and explore the emotional aspects of eating.

- Seek the help of a Registered Sports Dietitian - You don't have to be an expert at everything. You will find that by working with other professionals you will have better success with your athletes. Sports dietitians keep up to date with all the current nutrition research, supplements, fad diets and common questions and scenarios to be able to give your athletes the facts.

Q-2: Can you give me an example of a nutrition plan for full day competitions?

A: Immediate Pre-Event Meal

Goals:
- Feel comfortable (not too hungry or to full)
- Choose familiar and tested foods
- Consume a carbohydrate rich meal two to three hours before competing. The meal may have a small amount of protein if tolerated to slow meal digestion and sustain fullness longer
- Aim for at least 500 ml fluid two hours before your event begins, and another 250 - 500 ml fluid consumed at least 45 minutes before you compete

Meal Choice Examples:
- Toast, fresh fruit, juice, and peanut butter
- Oatmeal, egg(s), and sport drink
- Sandwich with veggies and lean meat, tomato juice, and fruit
- Pasta with meat sauce, salad, unsweetened juice
- Instant breakfast shake made with milk and fruit

B: Throughout the Day of the Competition

Goals:

- Feel comfortable (not too hungry or to full)
- Choose familiar and tested foods
- Pack your own food and fluid to the competition. Don't rely on the venue to supply what you need
- Consume carbohydrates whenever the opportunity arises. Supplying enough carbohydrates will prevent low blood sugar, which can affect your energy and concentration. Sufficient carbohydrates also are needed to minimize glycogen (stored muscle carbohydrate)
- Prevent dehydration and loss of electrolytes, drink fluids at regular intervals throughout the competition whenever the opportunity arises
- Avoid highly sweetened foods (pop, candy, chocolate bars) and fatty foods (fries, chips) since they can cause cramping and heaviness.

Meal Choice Examples:

- If you have two or more hours before competing again choose meal ideas that have a combination of carbohydrate and protein such as the above pre-competition meal ideas
- If you have less than two hours before competing again choose meal ideas that are mostly carbohydrate such as sports drinks, juice, sports gels, high carbohydrate sports bars, fresh/ canned/dried fruits.

Q-3: What are your top ten nutrition tips to get me started?

#1 - Avoid Fad Diets and "Quick Fixes"

- If it sounds too good to be true… it probably is!
- Use the CARS checklist: Credibility - Accuracy - Reasonableness - Support

#2 - Never Skip Meals

- Eat at least three meals per day
- Definitely eat breakfast

#3 - Eat Foods Closer to Nature

- Eat more whole foods and less processed/packaged foods

#4 - Build Balanced Meals

- Breakfast, lunch and supper should consist of three things:
- grain/starch, vegetables and/or fruit, protein source: milk product or meat/alternative

#5 - Portion Sizes Count!

- Once in a while - measure out you food you may be eating more/less than you think!
- "Fat free" does not mean "Calorie free"!

#6 - Fire Up Your Engine…Have a Snack!

- Eat every three to five hours to keep your energy levels up, prevent grouchiness, and manage a healthy weight

#7 - Eat More Meals From Home

- Restaurant and fast food meals are typically high in calories; high in fat - especially saturated/ trans fats; high in sodium; low in vegetables and fruit; large portions
- If you eat out regularly you need to plan to make healthy choices

#8 - Feeling a Little Low?

- You may have forgotten an essential nutrient! WATER
- Sleepy or Hungry? You may just be thirsty

#9 - Listen to Your Body

- Learn to difference between hunger and appetite
- "HUNGER" - response to a biologic need (signs: fatigue, weakness, mild stomach rumbles, grouchiness)
- "APPETITE" - psychological desire to eat (What is eating you? Boredom, sadness, habit, stress, anger, etc.)

#10 - Plan Ahead!

- Making nutritious food choices requires planning and commitment
- PLAN to have healthy ingredients on hand
- PLAN to make time for preparing nutritious food
- PLAN to make good choices if you eat out regularly

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The Elements of Nervousness
By: Tricia Orzeck - Skate Canada Professional Coach and Sport Consultant

Many reasons contribute to nervousness during events (competition or practice). Often times, it is a combination of the following reasons, which create or magnify being nervous and can negatively affect performance, in any realm. The following strategies can be implemented for a variety of reasons that influence the degree of nervousness, and may apply on any given day. Choosing what's right for the individual athlete, and utilizing different methods as needed or a combination thereof, would be most beneficial to enhancing athletic performance.

Without physical practice, mental strength cannot emerge

- Physiological effects: Any anxiety, which produces muscle tension, breathing irregularity, or change in energy levels can be affected when nervous. The use of relaxation breathing techniques, muscle tension release, self-talk, which changes any thoughts that add to anxiety, and imagery to control physiological changes, can be implemented.

- External Distractions: Listening to comments from others, or perceived negative evaluations, music distortions, applause or lack thereof, can be common distractions that add to being nervous. Focusing/concentration strategies are most useful, while incorporating self-talk to center focusing, reframing of perceptions, and having good competition plans (which include who one interacts with at competition) can help offset any external distraction.

- Self-confidence: Doubts, lack of felt ability to perform, and degradation of self, which add to anxiety, can be monitored and corrected through positive self-talk strategies, imagery of successful performances and enhancing skill development. Realistic and progressive goal setting would be a key to continued success and subsequent self-confidence.

- Novelty: New arenas, procedures, substitute coaches, outfits, music, or anything else that has not been physically present in a competition (or practice) setting before can dramatically affect nervousness. Well-defined competition plans, physical practice & simulations, and a great deal of imagery can combat this contribute to anxiety levels.

- Outcome Focused: If winning is the only acceptable outcome, pressure and nervousness are sure to be prevalent, and often sets an athlete up for failure. Personal goals and key concentration cues are important to keep athletes focused on what they need to do. Chances are, the outcome will take care of itself when a good performance is given.

- Poor Relationships: Arguments with parents, coaches, friends, can easily increase anxiety and affect performance poorly if not resolved. Individual planning, communication, and reframing are essential for optimal performance and beneficial relationships.

- Negative Analysis: An athlete/performer is quick to evaluate and analyze what needs to be better but often forgets what is already great and/or improved. Positive self-talk, imagery of good performances, and recognition of goals are important to lessening nervousness.

VISUALIZATION/IMAGERY

By: Tricia Orzeck - Skate Canada Professional Coach and Sport Consultant

WHAT is visualization/imagery?

Incorporating all senses (auditory, visual, kinesthetic, olfactory, emotional) and having a degree of control of one's images provide the greatest performance enhancing tool for an athlete's performance. Although strongest when relaxed, an athlete can train their visualization skills, and augment the principles of imagery theories, which state that similar neurons are innervated when one imagines performing a skill as when one physically does it. The power of the mind can sometimes be the tool for success.

HOW can it be used?

Some examples of how imagery is used can include the following. Ideally, individual assessment of the aspects that affect a particular athlete is essential to applying the technique of visualization in a way most beneficial to the athlete.

Focusing: Imagining one's goals, a task, a particular element (jump, spin), or the ideal performance, can help an athlete perform the job that needs to be done on a given day.

Confidence: Seeing oneself perform skills or programs successful elicits positive feeling about oneself and one's ability.

Skill Development: 'Muscle memory' allows one to practice without physical aspects (fatigue, cold etc). However, without a physical base, the skill may never be realized.

Positive Emotions: Visualizing good performance, reviewing them in one's mind, integrating videos or modeling successful peers can generate positive feelings and lift athlete's spirits.

Motivation: Imaging goals and seeing oneself achieve them, using both internal and external aspects, can help an athlete stay motivated on the task at hand.

There are many more ways to apply visualization techniques, which can be practiced at any time, almost anywhere. Assessing an athlete's specific needs and areas in which the individual can strengthen would enhance the effects of this tool for an athlete's performance.

EATING DISORDERS – SIGNS, SCREENING, CONFRONTING

Research indicates that athletes, especially female athletes, are at greater risk for developing eating disorders (ED) than non-athletes of similar age. There are many reasons for this, but a frequent element is believed to be pressure to be lighter or leaner in order to excel at their sport. Coaches, health professionals, and parents have important roles to play in the prevention, identification, and management of disordered eating and eating disorders in athletes.

The spectrum of disordered eating behaviours ranges from mild to life-threatening. Clinically recognized anorexia nervosa or bulimia nervosa are the most severe forms. However, sub-clinical conditions, generally called disordered eating (DE) can also have adverse health consequences and may potentially lead to a frank ED.

Characteristics of Disordered Eating

- Bingeing and/or purging, food restriction, prolonged fasting
- Use of diet pills, diuretics or laxatives to control body weight
- Food preoccupation; relentless avoidance of dietary fat and/or carbohydrates, plus other abnormal eating behaviours
- Body shape dissatisfaction and/or fear of gaining body fat
- Distorted body image
- Excessive exercise – beyond the regular training program

Contributing Factors that May Increase the Likelihood of ED/DE Amongst Athletes:

- Early onset of puberty
- Participation in judged, weight-classified, and endurance sports
- Psychological stresses and excessive physical demands of training and competitions
- Striving for unrealistic body composition standards
- Perceived pressure to lose weight (from society, coaches, family, friends, etc.)
- Perfectionists – "Type A" personality
- Personality prone to depression, unnecessary worrying, and the "all or nothing" attitude
- Having a history of troubled family or personal relationships
- Feeling confused about their sexuality or feeling like they are unable to communicate their feelings and their truth
- Traumatic social event(s) in the athlete's life that may feel out of their control (e.g. starting at a new school, parents divorcing, moving, etc.)

Warning Signs of an Eating Disorder or Disordered Eating

Many of the signs and symptoms below do not by themselves identify or diagnose an ED. Nonetheless, the greater the number of warning signs observed, the greater the need to explore further.

- Striking weight loss or weight gain; significant fluctuations in body weight
- Preoccupation with food, calories, body weight; criticizing personal body weight
- Changes in the athlete's usual eating behaviours (e.g. by declaring to be vegetarian)
- Use of diet pills and/or laxatives
- Going to the bathroom frequently after meals; bloodshot eyes; smell of vomit after bathroom visits
- Obsessive physical exercise beyond the training program
- Wearing layers of loose fitting clothing
- Avoiding social activities with teammates
- Excusing self from food-related activities, (e.g. skipping "team" meals)
- Mood swings; depression; low self-esteem
- Irregular or absence of menstrual cycles; stress fractures; overuse injuries; sleeping problems
- Reduced and/or inconsistent performances in training and/or competition (decrease in strength, power, endurance, and/or recovery)

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613-235-5000 www.coach.ca

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Confrontation

If the coach suspects that an athlete may be suffering from an ED/DE, the coach should first confidentially discuss the matter with the athlete. The steps outlined further describe how to approach an athlete with a suspected ED/DE.

1. In a private, confidential meeting the coach discusses with the athlete their observations of the athlete's changes in attitude, behaviour, health and/or performance. Noting athlete's loss of weight should be avoided as this reinforces their behaviour.
2. The coach assures that the athlete's role on the team is not in jeopardy and that the health of the athlete is the primary concern.
3. The coach contacts an eating disorders clinic or multi-disciplinary team which includes a physician, psychologist, and dietitian to let them know of his/her concerns or to seek advice on the matter.
4. The coach provides the multi-disciplinary team contact information to the athlete to suggest where they can get confidential professional help.
5. If the athlete is less than 18 years of age, their parent(s) will need to be informed of the potential health concern.
6. If the athlete denies that a problem exists, the coach should continue to insist that the athlete receive professional evaluation. This insistence may necessitate intervention by the athlete's family members and/or training privileges could be limited until the athlete agrees to seek professional advice.

Conclusion

Eating disorders can be successfully treated; however, professional help is almost always necessary. The treatment for an eating disorder should be multi-disciplinary to include psychological, nutritional, and medical intervention. It may be necessary for the athlete's family member(s) and/or coach to attend treatment sessions with the athlete, especially if the athlete is less than 18 years of age.

An ED will not simply go away if ignored. Action must be taken when evidence of an ED seems apparent. Athletes need to understand that their bodies are susceptible to change, especially during adolescence. Natural weight gain will occur as their bodies mature. Coaches must also be aware of these changes with puberty, along with the fact that young women often feel a great deal of societal pressure to be thin and may be bothered by comments about body weight, appearance, and body composition.

Coaches may not be able to prevent all ED/DE among the athletes that they work with, but coaches are powerful role models and have a strong influence on their athletes. Coaches should be able to recognize early warning signs and symptoms associated with ED/DE. If the coach suspects an athlete may be suffering from an ED, the coach should act quickly to refer the athlete for appropriate medical, psychological, and nutritional intervention.

For more information on disordered eating in athletes, here are some valuable resources:

Prevention programs:

www.bodysense.ca – a disordered eating prevention program for athletes, parents, and coaches.

www.nedic.ca – Canada's National Eating Disorder Information Centre. The NEDIC site offers resources and contact information across Canada.

Once you have found a health professional to assist in recovery for your athlete, refer the athlete to a dietitian, in particular, if you can find one who has experience in disordered eating. Visit www.coach.ca/eng/nutrition/find.cfm or www.dietitians.ca.

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