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Long Term Athlete
Development.....2-12

Manual Version:

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Always make sure safety is your #1 priority. For a coach, this means safe ski jumps, trails, environment, equipment, safety plan, and know the Emergency/Accident Protocol.

Long **T**erm **A**thlete **D**evelopment

Late Specialization Model

1. Active Start
2. FUNdamentals
3. Learning to Train
4. Training to Train
5. Training to Compete/Win

Remember each athlete is different. We cannot fit them all into the same box. Build the program for the athlete not the athlete for the program.

Objectives for ski jumping & Nordic combined

Learn fundamental » Advanced movements and link them together into play » competition. Physical activity is essential for healthy child development and absolutely crucial for an athlete to be healthy in his or her teens and adulthood. Among its other benefits, physical activity:

- Enhances development of brain function, coordination, social skills, gross motor skills, Emotions, leadership, and imagination.
- Helps children to build confidence and positive self-esteem.
- Helps to build strong bones and muscles, improves flexibility, develops good posture and balance, improves fitness, reduces stress, and improves sleep.
- Promotes healthy weight.
- Helps children learn to move skillfully and enjoy being active.
- Physical activity should be fun and a part of the child's daily life, not something required. Active play is the way young children are physically active. It is absolutely critical for a young athlete who wants to be a ski jumper or Nordic combined athlete, to be able to handle physical & emotional loads that come with the sport. In the FUNdamentals stage the frame work "Curriculum" and foundation "The overall result" need to be clearly laid out and followed.

Long= Long term outlook and process. It will not happen in one day

Term= An athlete's development needs to be looked at in terms or periods of time

Athlete= Someone who can do more than one athletic skill and do it well

Development= A process of learning, changing, & making better

Active Start

Active Introduction to Sport: Age 0-6



Active Start To-Do List

Provide organized physical activity for at least 30 minutes a day for toddlers and at least 60 minutes a day for preschoolers. Provide unstructured physical activity — active play — for at least 60 minutes a day, and up to several hours per day for toddlers and preschoolers. Toddlers and preschoolers should not be sedentary for more than 60 minutes at a time except while sleeping. Provide physical activity every day regardless of the weather. Starting in infancy, provide infants, toddlers, and preschoolers with opportunities to participate in daily physical activity that promotes fitness and movement skills. Ensure that children acquire movement skills that build towards more complex movements. These skills help lay the foundation for lifelong physical activity. Encourage basic movement skills — they do not just happen as a child grows older, but develop depending on each child's heredity, activity experiences, and environment. Design activities that help children to feel competent and comfortable participating in a variety of fun and challenging sports and activities. Ensure that games for young children are non-competitive and focus on participation. Because girls tend to be less active than boys and children with a disability less active than their peers, ensure that activities are gender-neutral and inclusive so that active living is equally valued and promoted for all children.

Objectives

Learn all fundamental movement skills and build overall motor skills.

Skill development in the FUNdamentals stage should be well-structured, positive, and FUN!

The first window of accelerated adaptation to speed occurs at ages 6 to 8 for girls and 7 to 9 for boys. Bypassing the specialized skill development in the FUNdamentals stage is detrimental to the child's future engagement in physical activity and sport. No periodization takes place; however, all programs are structured and monitored. If children later decide to leave the competitive stream, the skills they acquire during the FUNdamentals stage will benefit them when they engage in recreational activities, enhancing their quality of life and health. Parents are encouraged to get their kids skiing on small jumps, on cross country trails, ski resorts, or back yards with cross country skis or alpine equipment.

FUNdamentals

Introduction to ski jumping and cross country
Fundamentals: Age 7-11 Males/Females 6-8



Learn the Basics To-Do List

Practice and master fundamental movement skills before sport-specific skills are introduced. Emphasize the overall development of the athlete's physical capacities, fundamental movement skills, and the ABC's of athleticism: agility, balance, coordination, and speed. Teach appropriate and correct running, wheeling, jumping, and throwing techniques using the ABC's of athletics. Emphasize motor development to produce athletes who have a better trainability for long-term sport specific development. Introduce basic flexibility exercises. Develop speed, power, and endurance using games. Encourage participation in a wide range of sports. Develop linear, lateral, and multi-directional speed with the duration of repetitions less than 5 seconds. Include strength training exercises using the child's own body weight as well as medicine ball and Swiss ball exercises. Ensure that sporting and disability equipment are size, weight, and design appropriate and that communities explore ways to share and provide access to appropriate equipment. Introduce children to the simple rules and ethics of sports. Ensure that activities revolve around the school year and are enhanced by multi-sport camps during summer and winter holidays. Participate once or twice a week if children have a preferred sport, so long as there is participation in many other sports 3 or 4 times per week to ensure future excellence. Kids are strongly encouraged to participate in other sports in this stage!

Objective

Learn overall sports skills. One of the most important periods of motor development for children is between the ages of 9 and 12. This is a window of accelerated adaptation to motor coordination. Early specialization in late specialization sports can be detrimental to later stages of skill development and to refinement of the fundamental sport skills. At this stage, children are developmentally ready to acquire the general sports skills that are the cornerstones of all athletic development. Ski Play with balance in inrun positions, one ski, bumps, and turns. On the Jump introduce balanced inrun positions, balanced takeoffs, and solid in control landings coming to a safe stop. On cross country skis focusing on balance and introducing V1/V2 as well as classic skiing. Athletes should be on K5-20 meter jumps and racing or training .5 – 2 km courses. # of jumps is dependent upon facility availability but should not exceed 300 jumps per season. Ski Jumping and Nordic Combined are a late specialization sports. Endurance hours vary upon ability. Suppleness (Flexibility) should be part of every session. Age 6-10 is the optimal age for gaining flexibility.

Puberty

- Correlates closely with PHV
 - Girls achieve PHV on average 1.7 years earlier than boys, girls average age 12, boys average age 14
- Fast growth initially in extremities, through legs and arms, to trunk
- Growth disrupts coordination, ability to execute technical movements with previous precision, flexibility
- Social and psychological factors – rate of maturation
- Athletes need help from coach to understand that these physical disruptions are normal and short-term



Be EDUCATED in the critical development periods

MOTOR SKILLS

- Phase 2
 - ABC's, multi-lateral development
 - Emphasis on proper movement patterns
 - Start very basic and develop progressively

STAMINA

- Phase 3
 - Aerobic base first before PHV
 - Sets foundation for higher intensity training after PHV
 - Important for ability to sustain energy and performance levels through long training day

FLEXIBILITY

- Late Phase 1 and first half Phase 2
 - Window of opportunity to improve suppleness
 - Continue to focus on in later phases to maintain, increase strength through full range of motion
 - Especially important in phase 3 (growth spurt), though likely won't make gains

SPEED

- Phase 2, late phase 3
 - 3 elements:
 - Reaction time
 - Movement time
 - Forward maximal velocity
 - Short bursts
 - Beyond these windows, speed increase primarily due to muscle strength

STRENGTH

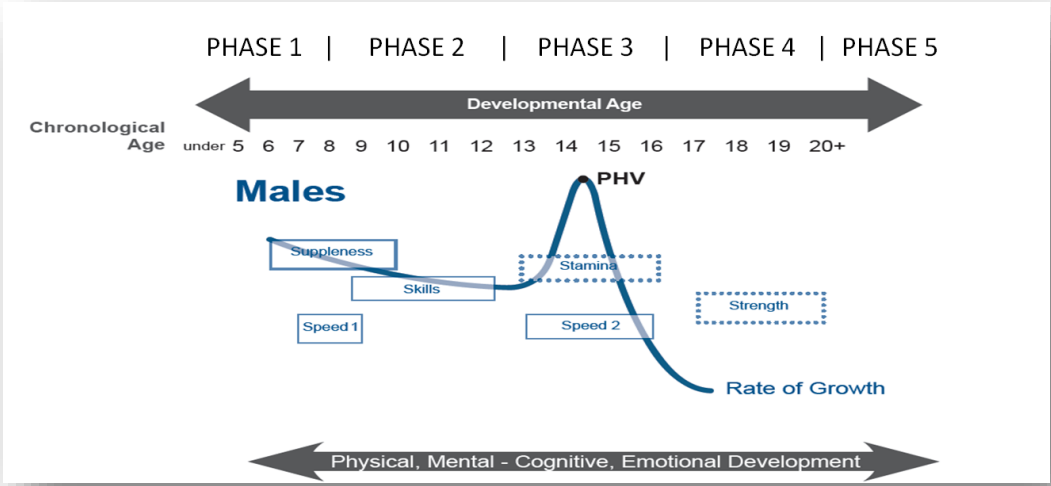
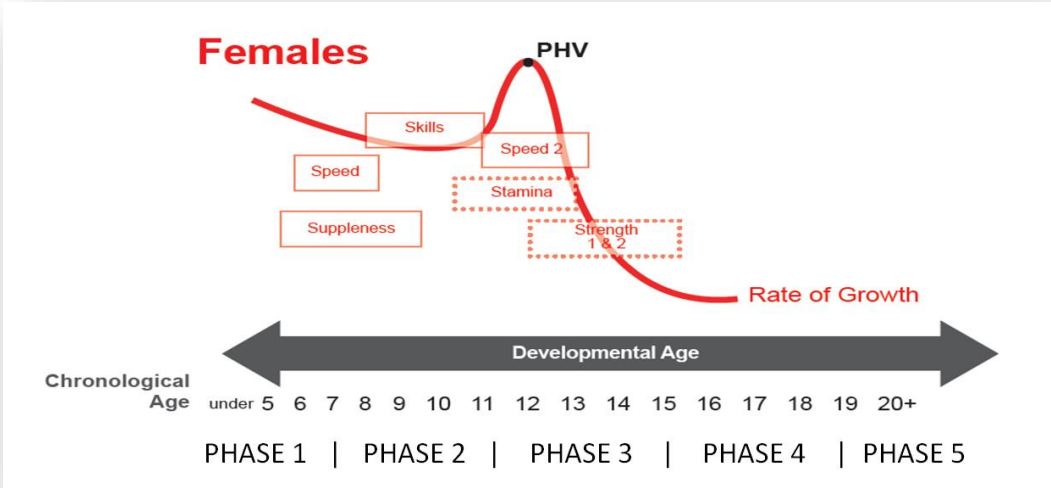
- Immediately following PHV girls, 12-18 months after PHV boys
 - Strength training should begin before this window with emphasis on proper technique
 - Prior to this window, gains are from neuromuscular adaptation
- High intensity anaerobic power work yields only modest gains until after this window
- High impact Plyometrics should follow this window, prior plyo work must emphasize technique and be low impact

Early maturers

- Athletes that are biologically ahead of their age group
- Generally have advantages in competition – size, strength, stamina
- Easier path to early success in age-based competition
- Need to have additional focus on technical fundamentals (though acquisition will take longer), work ethic, and learning how to deal with defeat
- Need appropriate challenge

Late maturers

- Have advantage by being in motor skills acquisition window longer
- Learn strategies to remain competitive despite disadvantages – often have a lot of heart
- Time it takes for late maturers to realize their potential in many cases is too long and they drop out



Long-Term Athlete Development

- 1.** Is based on the physical, mental, emotional, and cognitive development of children and adolescents. Each stage reflects a different point in athlete development.
- 2.** Ensures physical literacy¹ upon which excellence can be built and builds physical literacy in all children, from early childhood to late adolescence by promoting quality daily physical activity in the schools and a common approach to developing physical abilities through community recreation and elite sport programs.
- 3.** Ensures that optimal training, competition, and recovery programs are provided throughout an athlete's career.
- 4.** Provides an optimal competition structure for the various stages of an athlete's development.
- 5.** Has an impact on the entire sport continuum, including participants, parents, coaches, schools, clubs, community recreation programs, state sport organizations (SSOs), national sport organizations (NSOs), sport science specialists, municipalities, and several government agencies and departments (particularly but not exclusively in the portfolios of health and education) at the State and federal levels.
- 6.** Integrates elite sport, community sport and recreation, scholastic sport, and physical education in schools.
- 7.** Is 'Made in Canada', recognizing international best practices, research, and normative data. We are using their model as guidelines and have designed our own credit to (Dr. Istvan Balyi)
- 8.** Promotes a healthy, physically literate nation whose citizens participate in lifelong physical act

The 10-Year Rule

Scientific research has concluded that it takes a minimum of 10 years and 10,000 hours of training for a talented athlete to reach elite levels. For athlete and coach, this translates into slightly more than 3 hours of training or competition daily for 10 years. This factor is supported by *The Path to Excellence*, which provides a comprehensive view of the development of U.S. Olympians who competed between 1984 and 1998. The results reveal that

- U.S. Olympians begin their sport participation at the average age of 12.0 for males and 11.5 for females.
- Most Olympians reported a 12- to 13-year period of talent development from their sport introduction to making an Olympic team.
- Olympic medalists were younger — 1.3 to 3.6 years — during the first 5 stages of development than non-medalists, suggesting that medalists were receiving motor skill development and training at an earlier age. However, caution must be taken not to fall into the trap of early specialization in late specialization sports.



Lindsey Van invested 20 years of her life to have the opportunity to compete in the Olympic Winter Games in Sochi, Russia

ACTIVE FOR LIFE

EXCELLENCE

PHYSICAL LITERACY

Active for Life (Recreational Program)

Life-long: Age 20+/- M/F Sr./Master/Volunteer/Coach
 Sport and activity should remain a consistent, important and enjoyable part of life.
 This is also an excellent time to give back to the sports and activities that has given to you.
 Officiate, judge or just help with the local club.

Train to Compete/Win (Elite Club Program/National Teams)

Train to Compete/Train to Win: Age 20+/- M/F
 K80+ meter ski jumps / 7.5 – 15km x-c races (USA CUP, FIS, COC, WC, World Championships, Olympic Games) Athletic excellence in all aspects of ski jumping and Nordic combined skiing must be the goal at this stage. Skill refinement, testing, modification of training and competition plans aid athletic focus of 'best performances' in the train to compete/train to win stage. PCNSC – National Teams

Training to Train (Club Programs/National Team Programs)

Train to Enhance Performance/ Capabilities: Age 16–19+/- M/F
 K80+ meter ski jumps / 5 – 10km x-c races (club, divisional, USA CUP, NorAms, Jr. Worlds, FIS Cup, Alpine Cups)
 Athletes begin to optimize specific sport skills and fitness towards competing in ski jumping and Nordic combined competitions. A single sport should be chosen as the primary focus, though other sports can be played as part of the preparation. Athletes should have a complete understanding of all rules and regulations and have the ability to train year round.

Learn to Train (Club Programs)

Learn to Train: Age 10–15 Males/Females
 K30 – K75 meter ski jumps / 3 – 5km x-c races (club, divisional, Jr. Olympics)
 Participants develop sport specific ski jumping and cross country skills while increasing strength, flexibility, speed and fitness. Athletes should begin to focus their attention on fewer sports as they discover their aptitude and enjoyment for a few specific sports. Athlete maturation dictates the level of specialization and the training intensity/load. Ski jumping & Nordic combined is a late specialization sport.

FUNDamentals (Club Programs)

Introduction to ski jumping and cross country
 Fundamentals: Age 7-11 Males/Females 6-9
 K5 – K20 meter ski jumps / .5 – 2km x-c races (club and some divisional competitions) Young girls and boys are introduced to ski jumping and cross country skiing with a focus on fundamental skill development. Participants learn athletic coordination, balance and agility while continuing to develop strength, flexibility, speed and basic fitness. Fun continues to be the major focus. It is recommended that children take part in a number of different athletic activities during this stage. Soccer, lacrosse, baseball, tennis, alpine skiing, etc.

Active Start (With family)

Active Introduction to Sport: Age 0-6
 Sport and recreational activities become a fun and integral part of life where children learn basic athletic motions, develop basic strength, flexibility and fitness all while having fun in a supportive active lifestyle.