





FUNCTIONAL FITNESS LTD FRAMEWORK 1.0

CANADA
FUNCTIONAL FITNESS

LETTER FROM THE AUTHORS

Dear Stakeholders,

The Canadian Functional Fitness Federation (CF3) is committed to collaboration with volunteers, administrators, and members within functional fitness. This document is intended to be a guide to best practice for the delivery of a quality sport experience in Canada. The adoption of the principles herein by our provincial organizations and local clubs will aid in alignment of functional fitness with the goals of Canadian Sport for Life, Sport Canada and the three visionary pillars of Canadian High Performance Sport Strategy (People, System and Culture).

This resource is meant to be a fluid document.

The evolution of a Long-Term Development guide will parallel that of the Functional Fitness ecosystem. This first draft is an integral step in the development and recognition of the sport domestically, but also to fulfill our role internationally.

We hope this information will be of benefit to you in your attempt to focus on the development of functional fitness participants as they begin their journey to enjoying the sport as a lifelong activity.

Yours in fitness,
LTD V1.0 Writing Team

PROVINCIAL FUNCTIONAL FITNESS FEDERATIONS







PREFACE

The following document presents the Long-Term Development (LTD) framework, *Functional Fitness LTD Framework 1.0* to its provincial associations, its clubs and its participants.

The content found within the *Functional Fitness LTD Framework 1.0* is consistent with Sport Canada's Long-Term Development resources, that have been adapted to suit the needs of Functional Fitness.

Furthermore, the overarching vision of this document is to be a catalyst for the development of a sport system that prioritizes applying theory to its daily practices so that its participants can enjoy lifelong participation in the sport of functional fitness.

CANADA
FUNCTIONAL **FITNESS**

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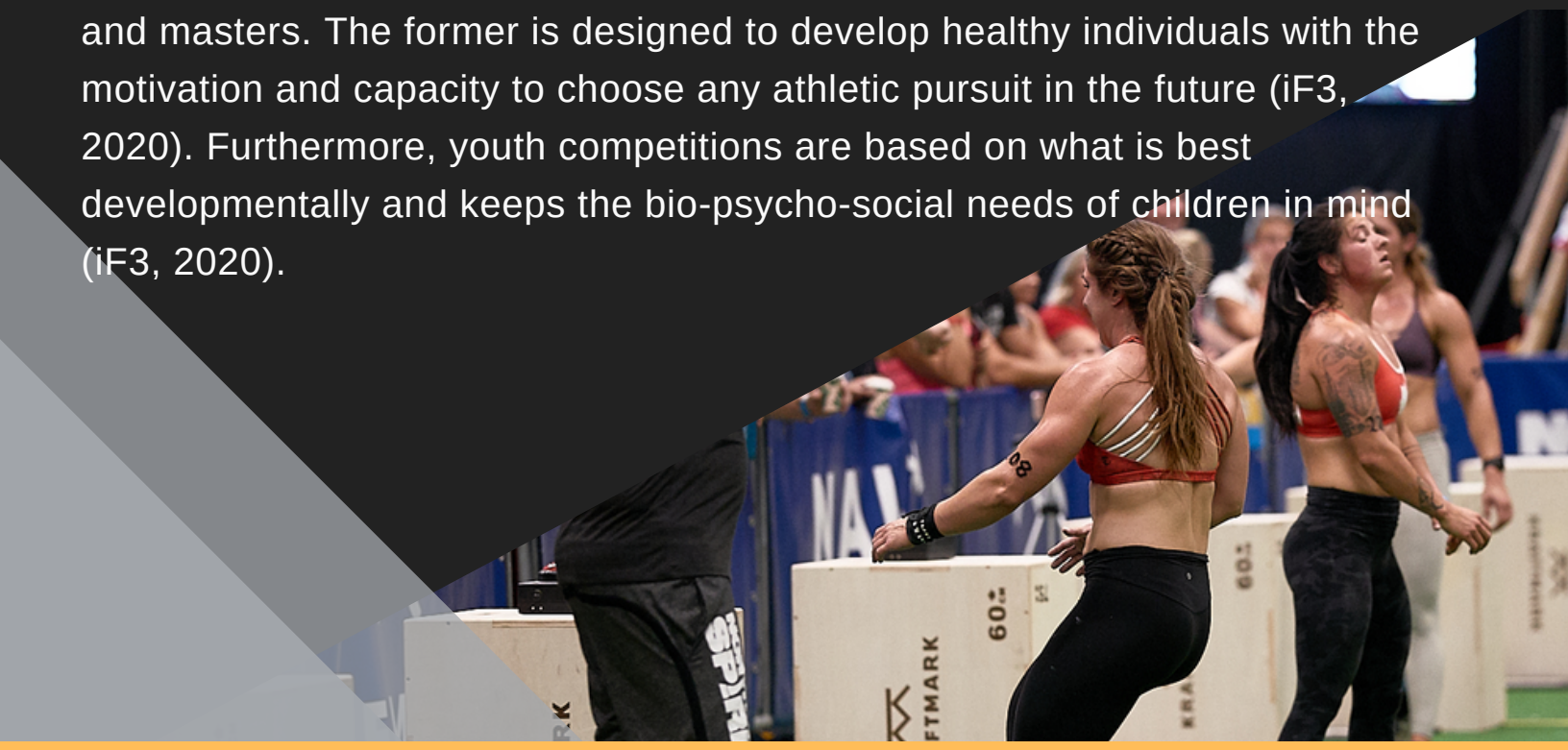


DEFINITION AND EVOLUTION OF FUNCTIONAL FITNESS

Traditionally, the term ‘functional fitness’ was used to describe a type of training that is characterized by focusing on building a body that can perform all the tasks demanded by real-life situations, as opposed to lifting weights from fixed positions (Shaw, 2003, p.2.). Additionally, there has been a rise in fitness programs that are created for both the general population and athletes to improve their performance (Szivak et al., 2013). The Canadian Functional Fitness Federation's LTD Framework is consistent with Sport Canada's Long-Term Athlete Development resources but has been customized for functional fitness.

Currently, there are several components involved in functional fitness including strength, balance/coordination, power, range of motion and mobility— all of which form the foundations in most traditional sports (Opex, n.d.).

Functional fitness currently offers three levels of competition— youth, elite, and masters. The former is designed to develop healthy individuals with the motivation and capacity to choose any athletic pursuit in the future (iF3, 2020). Furthermore, youth competitions are based on what is best developmentally and keeps the bio-psycho-social needs of children in mind (iF3, 2020).



WHAT IS THE LONG-TERM DEVELOPMENT (LTD) MODEL?

Created by Istvan Balyi and Richard Way, the Long-Term Development Model in Sport and Physical Activity is a “framework for the development of every child, youth, and adult to enable optimal participation in sport and physical activity” (Balyi et al, 2019). This is also a model that takes into account growth, maturation and development as well as trainability and sport system alignment.

Further, the three main goals of Long-Term Development in Sport and Physical Activity are:

1. To support the development of physical literacy
2. Strive for excellence
3. Empower people to be active for life



As a result, the stages that will be discussed later on in this framework depict the developmental paths toward achieving these goals.

It is important to note that first involvement and awareness to a sport are integral components of everyone’s initial experiences in sport and physical activity. As such, physical literacy is not confined to the early stages of development— it can continue (and should) be developed throughout the life course.

In contrast, the Podium Pathway describes the sport-defined excellence stages of long-term development in sport and physical activity. Specifically, this pathway applies to athletes on a trajectory toward podium results at the highest level of the sport.

Both pathways will be mentioned throughout the rest of this framework.

WHY IS THE LTD MODEL IMPORTANT?

The application of a systematic and progressive approach is the pillar rationale behind the implementation of the Long-Term Development framework. Within the original LTAD 3.0 document there are three levels of Key Factors that are the basis of the framework including: the individual (Personal Factors), each sport and physical activity-supporting organization (Organizational Factors) and across the Canadian system (System Factors) (Higs et al, 2019) The following will aim to apply the framework to the Functional Fitness plan.

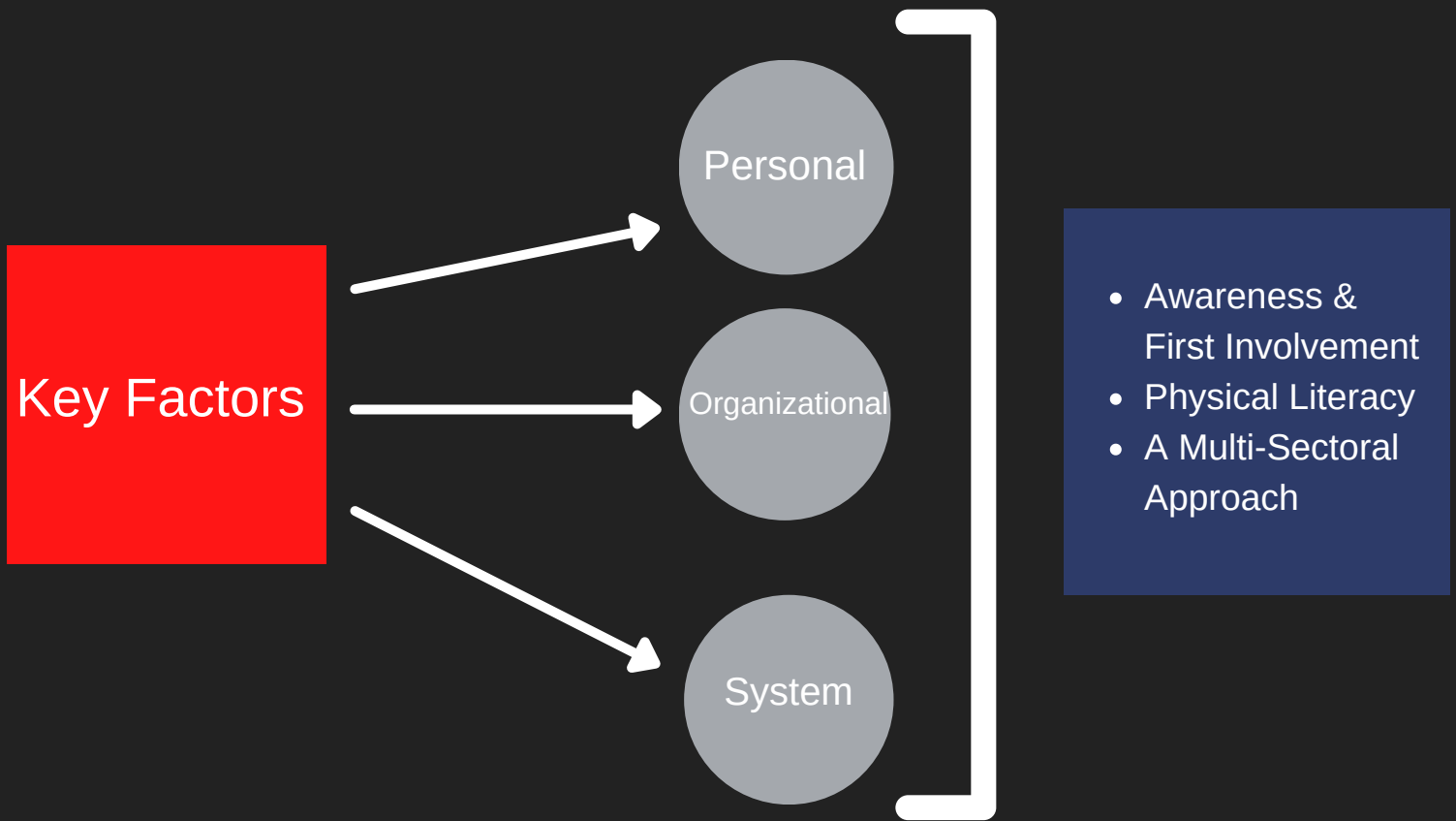
This first edition of the LTD framework for functional fitness is important as it eases the process for Provincial Sporting Organizations with practical concepts that can be applied to their current practices to grow the sport of Functional Fitness across the country. It is also important because community sport and physical activity in Canada has declined; physical education programs in schools are marginalized; and the community sport delivery system in Canada remains fragmented (Balyi et al, 2019). Therefore, this framework is needed to encourage the system to promote physical activity in a way that encourages lifelong participation.

NOTE: all key terms will be defined in the Glossary section.

KEY FACTORS UNDERLYING LONG-TERM DEVELOPMENT AND PHYSICAL ACTIVITY

The diagram found at the bottom of this page displays the key factors that when combined, influence the development of physical literacy, the capacity of a sport to have a multi-sectoral approach as well as the first involvement and awareness a participant experiences in a sport (Higs et al, 2019).

The following section will describes the different factors in greater detail.



PERSONAL FACTORS AFFECTING LONG-TERM DEVELOPMENT

Identified by Canadian Sport for Life, the personal factors are considerations that coaches, National Sport Organization staff and other stakeholders should be employing to ensure the quality age appropriateness of the programming is adhered to for developing youth and athletes within the functional fitness pathway.



1. Developing Physical Literacy: will form an essential basis for further development in top tier sport and life-long engagement in physical activity for health.



2. Quality Environments: providing an appropriate learning and training environment early on provides a greater opportunity for physical literacy and sport-specific skill development. This sets the foundation for the subsequent stages of Long-Term Development. A quality training and competition environment is a safe environment:

- physically,
- mentally
- social-emotionally.

Please note, an enhanced learning and daily training environment is not the same thing as early over-specialization.

PERSONAL FACTORS AFFECTING LONG-TERM DEVELOPMENT



3. Developmental Age: Children do not grow at the same rate. There are many examples like this (A) where adolescents have the same age, but one looks like an adult and the other a child. There also exists a difference between a child's chronological age, and their developmental age. Developmental age encompasses concepts like physical (or biological age), mental age, and emotional age. As performance specialists dealing with physical training, there should be a focus on the aspect of biological age, and its role in guiding training prescription.

4. Sensitive Periods: In normal growth and development, there are identifiable periods where certain physical abilities are more suitable to target in training. These periods are called periods of advanced trainability or, simply, 'windows of opportunity'. It is imperative that these windows of trainability are considered when programming. It is not that the various aspects of training cannot be touched upon outside those identified windows, however, this sets the foundation for realistic expectations around progression and adaptations for the identified athletes.



PERSONAL FACTORS AFFECTING LONG-TERM DEVELOPMENT



5. Predisposition: Many factors will attract participants to a given sport or activity. However, many factors can influence the success at that given sport. The ability to sample many sports helps to lead athletes to find a successful outlet.



6. The pursuit of excellence is a process: To reach their full potential, athletes need support with a well planned, appropriate training plan with logical progression that is executed over many years. It is common that sport will see those that are early adopters or performers, but the success at the higher performance levels has been disputed in the literature. Therefore, the environment must adopt a long-term strategic approach. As well, it must accept those transferring into the sport, being cognisant of potential gaps in foundational principles, with a strategy for training.

PERSONAL FACTORS AFFECTING LONG-TERM DEVELOPMENT



7. For Life: Within training and development, there are critical windows of life when social and cognitive skills, habits, coping strategies, attitudes, and values are more easily developed. Taking these windows into consideration when planning training and development, assists in the acquisition of resiliency for the participant. It sets the foundation for success and takes a multifactorial approach to helping to develop the athlete. This allows the foundation for the athlete and life in conjunction with/ and after sport, leading to a more balanced approach for Active for Life.



ORGANIZATIONAL FACTORS AFFECTING LONG-TERM DEVELOPMENT

In conjunction to the Quality Sport document created by the Canadian Sport for Life, the organizational factors inform the ways sport, recreation, education, and other organizations create and deliver programs for their participants and athletes.

1. CF3 needs to regularly update their Long-Term Development framework to ensure they are incorporating the latest sport, societal and science developments.

2. Long-Term Development is most successful when it is fully embedded in a sport organization. This eventually will include governance, the competition structure and rules, coaching education, and officials' development.

3. Awareness and First Involvement: Participants need to be made aware of a wide range of physical activity and competitive opportunities, and their first involvement should be a positive (safe, welcoming, and inclusive) experience.

4. Different Activities: have different demands and different pathways.

ORGANIZATIONAL FACTORS AFFECTING LTD SPECIFIC TO FUNCTIONAL FITNESS

i. Gymnastics type movements are early specialization sports that favour small bodies capable of fast rotation.

ii. High kinesthetic: Activities that develop an early “feel” for the environment or equipment is important.

iii. Common (benchmarks that are evidence based): typical timing of specialization, with peak performance in late- 20s or early-30s.

iv. Late specialization: Sports in which peak performance can occur in the mid-30s or later, such as golf, rowing or triathlon.

v. Transfer: Functional Fitness could be considered a sport that transfer in from a previous sport may occur for older athletes, or those younger participants may find that Functional Fitness is a great foundational sport, that leads to transfer to a sport that could be considered late entry as seen in 4. iv. above.

ORGANIZATIONAL FACTORS AFFECTING LONG-TERM DEVELOPMENT CONT.

5. Appropriate Specialization: There are right and wrong times to specialize in a sport or physical activity and this depends on the type of sport. Specialize too early, and athletes may limit their development and success at older ages. Specialize too late, and the athlete may miss key developmental opportunities. Sport should aim to offer a wide range of development opportunities and if the sport itself cannot, participants should be encouraged to participate in a wide range of sports and activities to build an elevated level of physical literacy and well-rounded sport skills.

6. Periodization: Periodization is time management of training in annual and seasonal training plans to bring about optimal improvements in athlete performance at the right times. Periodization plans connect the Long-Term Development stage of the athlete with the training and development requirements of that stage.



ORGANIZATIONAL FACTORS AFFECTING LONG-TERM DEVELOPMENT CONT.

7. Competition: Athletes need to train and compete according to training-to-competition ratios that develop skills and fitness while preventing injury and burnout. The quality of competition and the timing of competitive events need to serve the needs of the participant, allowing them to test the stage-appropriate skills they are developing.

8. Transitions: Development in sport has many transitions—the transition into a sport, the transition between Long-Term Development stages, transition between sports, and the transition to be active for life. Transitions that are well planned and well executed maximize sport talent enabling individual potential to be reached.



SYSTEM FACTORS AFFECTING LONG-TERM DEVELOPMENT

System Factors are important for policy makers and organization leaders, informing the ways organizations cooperate and collaborate to build an optimal system.

1. Collaboration: There is an opportunity to improve collaboration between organizations, sectors, and systems to support the optimal development of the individual to succeed.

2. System Alignment: Many sports work with Sport for Life, Own the Podium, the Coaching Association of Canada, and others to create programs and resources. To avoid confusion, it is essential that content (e.g., skills, drills, and tactics/strategy), and the language used to describe them, be consistent across all documents. It is equally important that the sport specific content at Learn to Train and Train to Train merge seamlessly with the demands of a sport's excellence stages of the Podium Pathway including Winning Style of Play and Gold Medal Profile where appropriate.

3. Safe and Welcoming: The system should plan to welcome all participants by providing Safe Sport programming. Diversity is a reality and corresponding participant-centered programs supporting diversity are a necessity.

SYSTEM FACTORS AFFECTING LONG-TERM DEVELOPMENT

4. Diversification: To develop a well-rounded individual, it is important that they participate in many activities and multiple sports. Parents must not be pressured to choose a single sport for their child too early. Because sport and physical activity is delivered by sport-specific organizations, local early childhood programs, in recreation programs, by physical education and school sport, and by active living programs offered within the health system, there is a need to ensure that programs are aligned, that individuals are not pulled in different directions by different programs, and that the overall demands placed on the individual are kept reasonable.

5. Inclusivity: adaptive athletes are an underserved group within functional fitness. This goes beyond the idea of “scaling the workout” to serving the population with training that factors in the needs, the various limitations and disabilities that may be presented to the coach or the organization. It is providing a space where athletes of all abilities can thrive and find success by their definition.



SYSTEM FACTORS AFFECTING LONG-TERM DEVELOPMENT

6. Long-Term Development: Excellence takes time, so it is essential organizations do not build systems that create pressure for immediate success. Systems, business models, processes, and metrics (e.g., series points or rankings) must not influence sport leaders and coaches to favour earlier and more intense sport specialization— particularly pressure to play a single sport year-round. Sport organizations and funding agencies must reward long-term impact over short-term outputs.

7. Continuous Improvement: The concept of continuous improvement is integral to Long- Term Development in Sport and Physical Activity. By constantly seeking improvements in our understanding and practice, this framework will continuously evolve to accommodate new breakthroughs in sport science and physical literacy research, new innovations in technology, and evolving best practices in coaching and instruction.

8. Evidence Based: To shift from an old paradigm, evidence supporting the new is critical. This means assessment, monitoring, and research in all aspects of sport and physical activity programming and practice.

DEVELOPING A MULTI-SECTORAL APPROACH

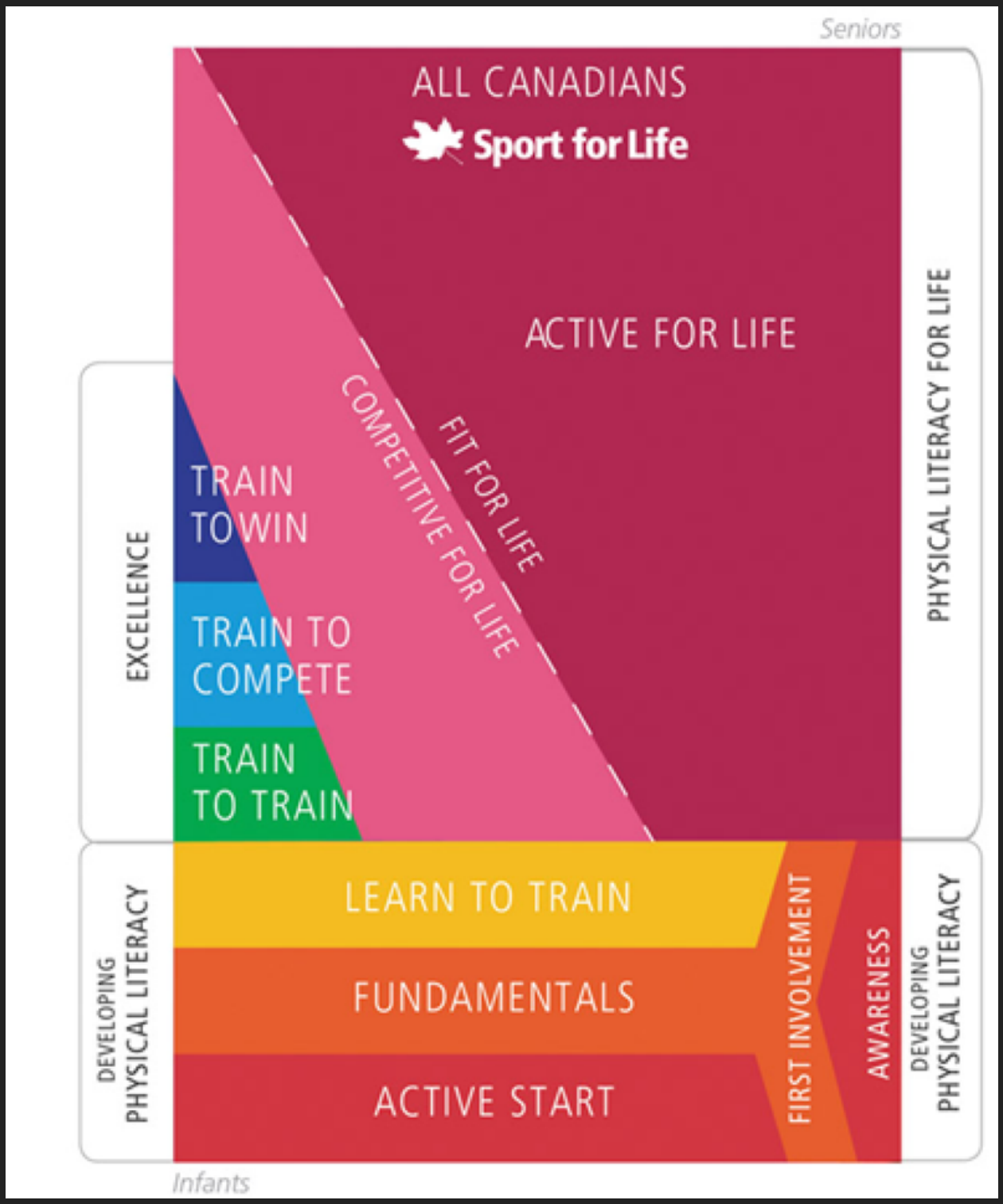
Long-Term Development is a vehicle for system change because it acknowledges that physical education, school sports, competitive sports and recreational activities are mutually interdependent. As a result, there needs to be simultaneous development among the different levels—hence, the sport of functional fitness should be introduced into multisport programs.

KEY FACTORS SUMMARY

Excellence takes time. As a result, it is essential that organizations do not build systems that create pressure for immediate success. Rather, the system should build for the long-term and on building relationships with different sporting organizations.

It is also important for sport organizations and funding agencies to reward long-term impact over short-term successes to promote a congruent sporting system and encourage the development of well-rounded individuals.

THE LONG-TERM DEVELOPMENT FRAMEWORK INTRODUCTION



Higgs et al, 2019

THE LONG-TERM DEVELOPMENT FRAMEWORK INTRODUCTION

The three main goals identified by CS4L are to support the development of physical literacy, strive for excellence, and empower people to be active for life. The Sport for Life rectangle diagram depicts developmental paths toward attaining these goals. The rectangle includes all who are active, unlike the old pyramid models that systematically exclude individuals who do not reach the pinnacle of sporting success.

The basic Sport for Life Long-Term Development in Sport and Physical Activity framework has seven stages. In addition, there are two pre-stages, and the Active for Life stage is sub-divided.
into two phases for greater clarity.



FIRST INVOLVEMENT AND AWARENESS

The process of getting people involved in CF3, and ensuring they stay involved, has two distinct pre-stages.

Awareness: Those that are interested in CF3, must be aware that CF3 is more than a local gym facility, and goes beyond that of a regular fitness class. It exists as a competitive sport for development along the continuum to Train to Win and Active for Life. Participants must be aware:

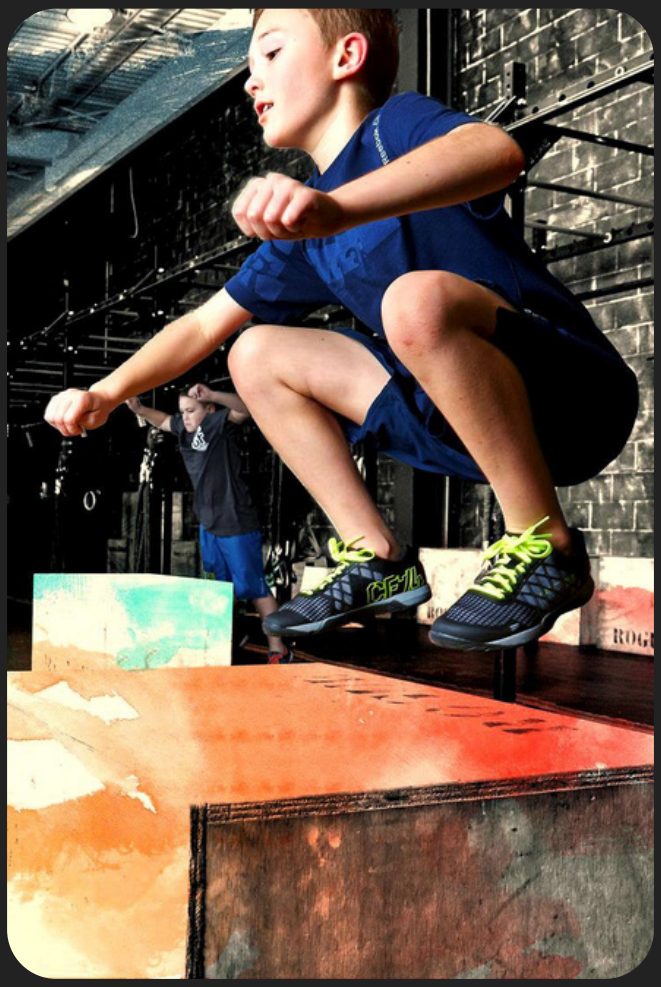
- That it exists, and where to find it.
- Being made aware of sport and activity options is particularly important for underserviced groups:
    - Girls and women,
    - Individuals with disabilities,
    - Indigenous Peoples,
    - Newcomers to Canada,
    - Individuals identifying as LGBTQI2S,
    - Aging adults, and
    - Those living in poverty or in isolated communities.

First Involvement: Once a participant is aware of CF3 as more than a club or fitness class, and the participant decides they want to try it out, their first experience with that activity becomes critically important. A positive first involvement is key to continued participation, and a negative experience makes their return far less likely. CF3 as an NSO should carefully plan the first experience of new participants to ensure:

- there are no barriers to participation—especially for persons with a disability and those from visible and invisible minorities,
- That new participants feel included, knowing they will be welcomed back the next time,
- That new participant can get to know current participants,
- That it is affordable for participants to get and stay involved,
- That there are appropriate facilities and equipment, and
- The leader of the program has the appropriate skills to adapt to the participant's needs.

FIRST INVOLVEMENT AND AWARENESS

Participation opportunities for persons with disabilities to participate in CF3 must be planned and made available to the public for greater participant awareness. The purpose of awareness is to inform the public and prospective participants, of all abilities and backgrounds, of the opportunities CF3 can make available. CF3 needs to enact awareness plans and make their presence and resources known. During first involvement it is paramount that everyone has a positive first experience and remains engaged. It is also critical that coaches are well trained and credible and that programs are developed and provide a suitable orientation for all prospective participants. Participants must feel supported, confident, comfortable, safe in their surroundings, and welcome among peers and training personnel.



OVERVIEW OF THE STAGES OF DEVELOPMENT

Science, research, and decades of experience all point to the same thing: kids and adults will get active, stay active, and even reach the greatest heights of sport achievement if they do the right things at the right times. This is the logic behind the Long-Term Development Framework (LTD).

As previously mentioned, the stages of awareness and first involvement engage individuals in sport and physical activity, they must be aware of what opportunities exist, and when they try an activity for the first time, it is critical that the experience is positive.

The following chart shows a brief summary of the different stages (Higgs et. al., 2019):

Active Start, FUNdamentals, Learn to Train	develop physical literacy before puberty so children have the basic skills to be active for life. Physical literacy also provides the foundation for those who choose to pursue elite training in one sport or activity after age 12.
Train to Train, Train to Compete, and Train to Win	provide elite training for those who want to specialize in one sport and compete at the highest level, maximizing the physical, mental, and emotional development of each athlete.
Active for Life	is about staying Active for Life through lifelong participation in competitive or recreational sport or physical activity.

PHYSICAL LITERACY

Physical literacy development is now included in provincial/territorial and municipal plans, policies, and school curriculums. Physical literacy is a lifelong journey that should begin to develop in early childhood and grows into a greater array and complexity of skills, capacities, and understandings during adolescence and adulthood. Physical literacy may serve different purposes and answer unique needs for different individuals. Physical literacy can provide a foundation for athletic success, while for others it may provide the means to pursue a vocational career. At its core, physical literacy will provide the means to live a healthy active lifestyle at all stages of life and grant the opportunity to age gracefully in good health. Teachers, coaches, recreation leaders, administrators and policymakers in education, sport, recreation, and health providers should place an emphasized focus on providing quality physical literacy experiences when delivering physical activity programs in whatever form they may take. To deliver physical literacy programs and concepts across the various stages for individuals, groups, and sectors of society, there needs to be collaboration between all those involved.

Long-Term Development in Sport and Physical Activity 3.0 is an excellent resource to further an understanding of physical literacy development, available from Sport for Life (www.sportforlife.ca)



CHRONOLOGICAL VS. DEVELOPMENTAL AGE

Children do not grow at the same rate. There are many examples where adolescents have the same age, but one looks like an adult and the other a child. There is a difference between a child's chronological age, and their developmental age. Developmental age encompasses concepts like physical (or biological age), psychological age, and emotional age. As performance specialists dealing with physical training, we will focus on the aspect of biological age, and its role in guiding training prescription.

One easy way to better estimate a child's stage of physical maturation is by measuring their growth rate; how many centimeters do they grow each year, plotted over time. Rapid increases in growth occur as a child starts to enter adolescence.



CHRONOLOGICAL VS. DEVELOPMENTAL AGE CONT.

It becomes obvious that there are early, late, and average maturers. As you see on page 26, it is important to identify phases of growth from a training perspective.

It's also important when looking at how this influences early success and selection in different sport systems. During adolescence, there can be as much as a 4-year difference in developmental age amongst athletes of the same chronological age. Many coaches reward the early maturers because of the advantages their early physical development bestows, and the number of late maturers who participate in elite sport decreases through adolescence. In these scenarios, we do not allow late maturers time to let their physical maturity catch up with their peers; as a result, they often leave sport because of lack of success and frustration. Unfortunately, the early maturers who experience success often leave sport around 15 years of age – instead of continuing to develop skills, they rely on the advantages gained from their early physical development; when peers catch up, the lack of skill development hinders their continued performance, and they leave sport frustrated.

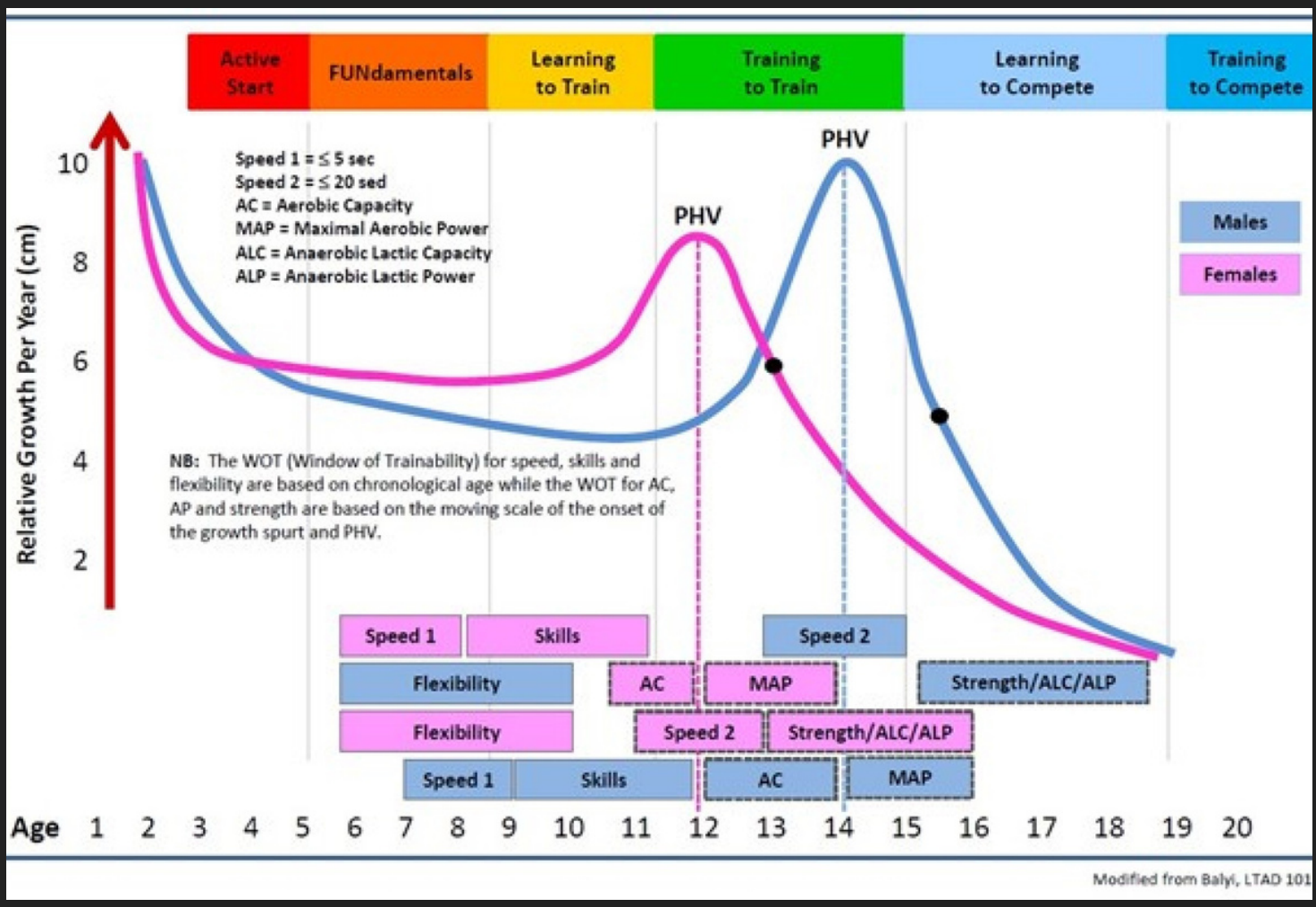
As specialists working with youth sport, it's important to be able to educate sport clubs, coaches, parents, and athletes about such worrying trends during this period of development so that all youth remain engaged in the healthy lifestyle enabled by sport participation.



WINDOWS OF TRAINABILITY

In typical growth and development, there are identifiable periods where certain physical abilities are more suitable to target in training. These periods are called periods of advanced trainability or, simply, ‘windows of opportunity’. The pink and blue boxes on this chart indicate the approximate windows of opportunity for different physical abilities. For example, normal maturational processes during the ages of 8-12 make this an opportune time to emphasize all-around skill development in females.

In the Canadian Sport for Life Model, these windows of opportunity are aligned with the different stages of training, and are anchored by physical maturity, as indicated by peak height velocity.



STAGES OF DEVELOPMENT

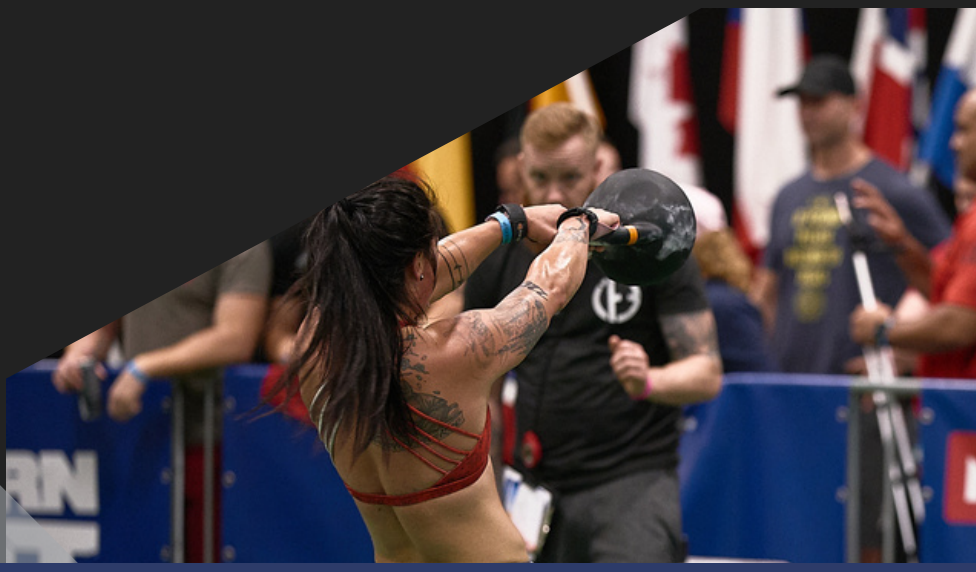
The first three stages: Active Start, FUNdamentals, and Learn to Train are designed to provide the best possible start in sport and physical activity.

Active Start- Mastering basic human movements and developing habits of physical activity.

FUNdamentals - Developing fundamental movement skills and enjoying being physically active.

Learn to Train - Learning a wide range of foundational sport skills.

Children will move through the first three stages simply because they are growing and developing. It is also important to note that adults, when learning a new sport or physical activity, will pass through the FUNdamentals and Learn to Train stages. The transitions from stage to stage are therefore developmentally based.



ACTIVE START

BIRTH TO 6 YEARS OF AGE

Males and females: birth to approximately six years of age.

- Begin the physical literacy journey.
- Make activity FUN and part of the child's daily routine
- Activity and movement skills development
- Focus on developing locomotor, object manipulation and balance skills on land, water, ice/snow and in the air in a variety of movements.
- Meet the 24-hour movement guidelines for young children of being active for 180 minutes/day.
- Encourage play:
  - structured (adult led),
  - unstructured (child led), and
  - opportunities for play in natural environment. Include activities that develop executive function:
  - working memory,
  - cognitive flexibility, and
  - building self-control.



ACTIVE START GUIDELINES

- It is important to provide a series of challenges with both successes and failures to help develop better confidence.
- The exploration of risks and limits are done in a safe environment—including outdoor play in nature.
- Active movement environments are combined with well-structured gymnastics and swimming programs.
- Outside play on snow and ice.
- Create mini challenges to extend children's comfort range.
- Ensure activities are fun and allow for social connectedness.

PHYSICAL SKILLS

- While no specific domain should be focused on, common positions and movements should be explored in a play-based format
- Physical literacy

PSYCHOLOGICAL SKILLS

- Cooperation
- Attentiveness

LIFE SKILLS

- Safety in a group environment
- Self-evaluation of how their body feels

FUNDAMENTALS

BOYS: 6-9 YEARS OLD
GIRLS: 6-8 YEARS OLD

Boys approximately six to nine years, and girls approximately six to eight years.

- Further development of physical literacy.
- Develop fundamental movement skills, with emphasis on participation and having FUN daily.
- Emphasize activities that develop agility, balance, coordination, and speed – The ABCs.
- The building blocks to move more.
- Encourage running, jumping, wheeling, throwing, and catching, as well as swimming, and activities on ice and snow.
- Build up physical capacities through medicine ball, Swiss ball, and own body-weight strength exercises.
- Introduce simple rules and etiquette of sport, with a focus on fair play and respect for others.
- No periodization, but well-structured programs.
- Continue to build executive function with focus on:
  - building working memory,
  - increasing mental flexibility, and
  - strengthening inhibition control.

Guidelines

- Provide and respect children's activity choices.
- Competition should be informal with no record of results.

SKILL DEVELOPMENT

PHYSICAL SKILLS

- Introduction to basic techniques/body positions/skills in a cooperative environment
- Encourage play, both structured and unstructured
- Physical literacy

PSYCHOLOGICAL SKILLS

- Attentiveness

LIFE SKILLS

- Safety in a group environment
- Self-evaluation of how their body feels
- Decision-making
- Introduction to proper fueling and hydration

LEARN TO TRAIN

BOYS: 9- 12 YEARS OLD
GIRLS: 8-11 YEARS OLD

Boys from approximately nine and girls from approximately eight: to onset of adolescent growth spurt

- Continue to develop physical literacy Brain and body primed for skill acquisition.
- Build fundamental skills in a wide range of sports and activities—on the ground, in water, in air and on ice/ snow—before entering Train to Train stage.
- Ensure environment promotes and supports fun and friendship.
- Avoid early over-specialization.
- Consider individuals' variations in physical, psychological, cognitive, emotional, and moral development.
- Build up physical capacities through medicine ball, Swiss ball, and own body-weight strength exercises, with additional focus on building flexibility and arm/ leg speed.

Guidelines

- Introduce ancillary capacities:
- warm up/cool down.
- Nutrition
- Hydration
- recovery including sleep and mental preparation such as anxiety control.
- Informal talent identification with opportunity to move participants to an enriched training environment.
- Introduction to formal local competition, with emphasis on fair play, and opportunities to try different events or positions.
- Single or double periodization.
- Sport-specific training three times per week plus participation in other sports or activities three times a week.

SKILL DEVELOPMENT

PHYSICAL SKILLS

- Initiation/Acquisition of basic techniques/skills.
- Load progressions that are manageable and tolerable for each participant
- Likely first window of speed development for both males and females
- Physical measurements

PSYCHOLOGICAL SKILLS

- Introduction to goal setting
- Focus and concentration
- Introduction to visualization
- Relationship between effort and change

LIFE SKILLS

- Decision-making
- Introduction to proper fueling and hydration
- Sleep hygiene
- Understand school/sport balance

THE ADOLESCENT PARTICIPANT: TRAIN TO TRAIN

The Train to Train stage is the stage where many athletic careers begin. Train to Train coincides with the transition from childhood to adulthood, and individuals make the decision to strive for excellence and commit to having an athletic “career” or decide that they will no longer commit the time, energy, and resources to achieving excellence in their sport. Sometimes that decision is made for them, through injury, lack of opportunity, or inability to progress.

Train to Train also marks entry into the excellence stages of Long-Term Development. As athletes achieve success, they will transition in the Podium Pathway. Note: some sports contain an additional stage known as Learn to Compete.

Special issues in Train to Train

- Train to Train is critical for the development and retention of athletes.
- There is so much going on in the lives of youth during adolescence that it is not surprising many drop out of sport or physical activity.
- A collaborative, coherent approach among coaches, organizations and system stakeholders is needed to support the Train-to-Train athlete’s continued development toward excellence, or transfer into ongoing activity for life.
- When these stakeholders understand the issues and show patience in development, more youth will be retained in sport and physical activity and progress to Train to Compete.

TRAIN TO TRAIN

MALES: 12-16 YEARS OLD
GIRLS: 11-15 YEARS OLD

Period of the adolescent growth spurt. Around 11–15 females and 12–16 males.

- A critical stage in the development of high-performance athletes. During this stage participants typically:
  - commit to high performance and begin their journey on their sport's Podium Pathway.
  - enter Competitive for Life or Fit for Life in their sport or sports of choice.
  - drop out of sport.
- For those on a Podium Pathway, this is the stage for tremendous skill refinement, and for greater position/event specialization.
- Major fitness development stage:
  - aerobic and strength.
  - The onset of the adolescent growth spurt and the time of Peak Height Velocity (PHV) are key markers and growth must be tracked.
  - Stage for development of whole-body speed.
- Cultivate life skills.
  - Ensure environment promotes and supports fun and friendship.
  - Introduce free weights with emphasis on correct technique.
  - Greater attention to mental preparation.
  - Develop ethical approach to sport including respect for opponents and fair play and commitment to doping free sport.
- Formalized competition and standings/rankings.
- Build ancillary capacities and sport-life balance.
- Single or double periodization.
- Sport-specific training six to nine times per week including complementary sports.

SKILL DEVELOPMENT

PHYSICAL SKILLS

- Likely a critical window for stamina
- Suppleness
- Speed

- Self-awareness
- Motivation
- Task engagement

PSYCHOLOGICAL SKILLS

- Self-awareness
- Motivation
- Task engagement

LIFE SKILLS

- Injury prevention and recovery
- Sleep hygiene
- Nutrition/Hydration

RECOMMENDED TRAINING AGE:

- New participants are common but coaches should be aware there is a significant difference between a new participant and one with 1-3 years of experience at this stage.

OTHER CONSIDERATIONS IN TRAIN TO TRAIN

TRAINING, RECOVERY AND MEANINGFUL COMPETITION

Training, recovery, and meaningful competition are critical components of Long-Term Development in Sport and Physical Activity.

DEVELOPMENTALLY APPROPRIATE TRAINING GUIDELINES:

- increases duration, volume, and intensity progressively,
- takes advantage of sensitive periods,
- is based on the stage of physical development of the participant,
- supports the individual needs of participants,
- incorporates equipment and playing spaces that are appropriate for the stage of the participant,
- uses movement preparation as part of warm-up, and
- develops all round athleticism and general fitness before sport-specific fitness.

OPTIMUM RECOVERY:

- recognizes that recovery is as important as training,
- is sufficient to allow participants to recuperate before next training session or competition,
- recognizes that quality sleep can help in skill learning and retention as well as in physical recovery, and
- requires post-training and post-competition nutrition.

OTHER CONSIDERATIONS IN TRAIN TO TRAIN

MEANINGFUL COMPETITION:

- designed to support what has been practiced in training,
- modified in terms of game duration, size of playing area, and rules to match developmental stage of participants.
- offers equal competition opportunities by keeping participants in events rather than eliminating them (A finals, B finals, C finals, round robins, and crossovers),
- in initial stages, focuses on the process of competing and using recently learned skills in competitive situations—not on results, and
- is in the “challenge zone”—not too difficult or too easy, resulting in close competition without blowouts or humiliating defeats, and cuts down on travel time and cost.



TRAIN TO COMPETE

MALES AND FEMALES: POST-ADOLESENCE

- Dependent on sport progress – beyond the end of adolescent growth spurt.
- Athletes at provincial, junior national or early national level.
- Requires specialized coaching in a specialized training environment.
- The stage for specialization in sport, position or event then specific training design for physical conditioning and technical/tactical preparation to maximize development.
- Test tactics and practice under competitive conditions.
- Evidence-based training built on testing to identify strengths and weaknesses.
- Optimize ancillary capacities, and balance sport, work/school, and family/friend life obligations.
- Advanced mental preparation, and practice under highly competitive conditions.
- Strengthen ethical approach to sport including respect for opponents, fair play, and commitment to doping-free sport.
- Single, double, or triple periodization.
- Sport-specific technical, tactical, and physical capacity training nine to 12 times per week.



SKILL DEVELOPMENT

PHYSICAL SKILLS

- Be aware of PHV - denotes a critical window for stamina
- Males likely in second speed window
- Females engaging in largest strength window late in this stage
- Suppleness

PSYCHOLOGICAL SKILLS

- Self-motivation for training
- Consistent effort
- Identification of a personal ideal performance state
- Continued development of goal-setting, imagery, self-awareness
- Post-training self-reflection
- Resilience

LIFE SKILLS

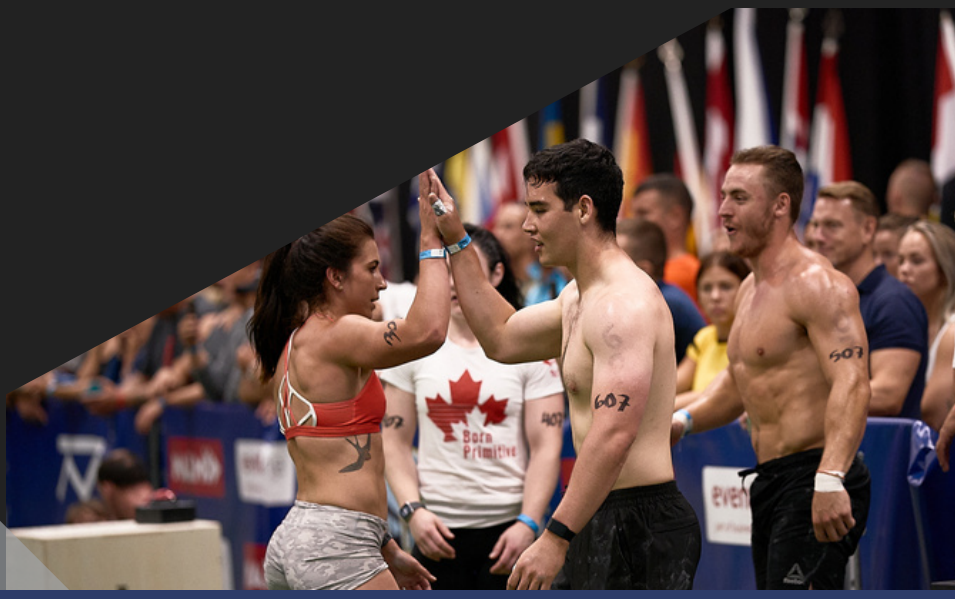
- Educate on behaviors in drug-free sport
- Promotion of healthy behaviours (tobacco, alcohol use, safe-sex)
- Nutrition/Hydration
- Respect for others
- Appropriate social-media use
- Schooling plan

RECOMMENDED TRAINING AGE:
1-2 years

TRAIN TO WIN

MALES AND FEMALES: ADULTHOOD

- Dependent on sport progress – around the age of optimum performance in the sport Athletes competitive at the highest level:
  - Olympics, Paralympics, and World Championships.
- Focus is on podium performances at highest level international events.
- Improvement or maintenance of all physical capacities required for optimum performance through evidence-based training prescription.
- Further development of technical, tactical, and performance skills, with modelling of all aspects of training and competition performance.
- Frequent prophylactic breaks for recovery and regeneration.
- Maximize ancillary capacities, with support from knowledge specialists.
- Single, double, triple, or multiple periodization with focus on the major events.
- Sport-specific technical, tactical, and fitness training nine to 15 times per week.



SKILL DEVELOPMENT

PHYSICAL SKILLS

- Improvement or maintenance of all physical capacities required for optimum performance through evidence based
- training prescription; aligned with winning style of play.
- Further development of technical, tactical, and performance skills, with modelling of all aspects of training and competition performance.

PSYCHOLOGICAL SKILLS

- Frequent prophylactic breaks for recovery and regeneration.
- Maximize ancillary capacities, with support from knowledge specialists

RECOMMENDED TRAINING AGE:
3+ years

LIFE SKILLS

- Sport-specific technical, tactical, and fitness training nine to 15 times per week
- Single, double, triple, or multiple periodization with focus on the most important events.

ACTIVE FOR LIFE

ALL AGES AND GENDERS

Competitive for Life is the phase of Active for Life for those who compete within the formal structure of their sport.

This could be at the U-14 or U-17 level in a house league, all the way to World Masters Competition. At this stage of development, competitive athletes are striving to improve and to win, and they train accordingly. When an athlete or participant enters true Fit for Life, it is the phase for those who participate simply because they get satisfaction from sport or physical activity. They may occasionally compete at a recreational level, but that is not their primary purpose. Fit for Life also includes those who engage in non-sporting physical activity. Sport and Physical Activity Leaders include the individuals who contribute in ways other than being an athlete or participant in the sport or activity itself, such as coaches and instructors, officials, administrators, and those involved in sport science and medicine.
An individual is not restricted to one of these pathways at any given time.

Often, individuals in the Active for Life stage will be actively involved in multiple pathways.

ACTIVE FOR LIFE

Physical literacy, increased activity and recreational sport and being fit for life are an especially important concept to consider in a complete participant pathway. The benefits of regular physical activity are well documented: sustained long-term health, increased social connectedness, improved general mental and physical well-being and better quality of life. As we understand the numerous benefits associated with regular exercise, it is paramount to foster physical activity so that adults can safely meet national physical activity recommendations and rates of sport participation in a safe and supportive environment.

A novel concept that has gained regional traction is the Functional Fitness League (https://www.functionalfitnessleague.com/) which currently serves the Vancouver, British Colombia area, It is described as the first ever league-format competition in the sport of Functional Fitness, for athletes of every level. This league allows for the participant to remain engaged at a recreational level and could be adapted to other regions of the country.



CURRENT CHALLENGES IN FUNCTIONAL FITNESS

COACHING EDUCATION

Currently, there is a range of coach education opportunities in the space. However, many are directed towards group fitness, are without scientific backing, and/or come from private firms which leaves the coach with a heavy cost burden. Current coach education is largely absent in socially safe, developmentally appropriate, and ethical training. There is significant demand for evidence based and accessible coaching curriculum from the introductory phases of the sport to the management of high-performance athletes. The design, implementation and on-going redesign of this material should be a priority of the CF3 for the coming years.



CURRENT CHALLENGES IN FUNCTIONAL FITNESS

PROGRAM PERCEPTION

While there are many advantages to the sport's emergence from a fitness movement, more work needs to be done to separate the sport from group exercise. The two will always be intertwined to some degree, but this document should help separate the objectives based on intent.

RESISTANCE TRAINING IN YOUTH

The perception of resistance training being a danger to developing bodies remains prevalent. Coaches always need to respect a caregiver's apprehensions, but communicating recent research such as a 2014 International Consensus (Lloyd et al) can promote the physiological and health benefits of developmentally appropriate resistance training in youth (Lloyd et al., 2013).

CURRENT CHALLENGES IN FUNCTIONAL FITNESS

COMPETITION FRAMEWORK

The current competition standard of a 2-3 day test of abilities and resilience needs to be challenged. These events may be enjoyable for some, but they are inappropriate for many and a common barrier to attendance. Local associations could have more success planning half-day to one day events for recreational or qualification level participants. A weekly series of events or on-going regional seasons has also shown to be an effective model in more populated centers, as demonstrated by the British Columbia Functional Fitness Sport Association's Functional Fitness League (BCFFSA FFL).





CURRENT CHALLENGES IN FUNCTIONAL FITNESS

TECHNICAL OFFICIAL TRAINING

As with any robust sport system, the officials need to have an identity as valued components. The speed and physical demands of functional fitness place a significant burden on the technical officials. Ongoing training, support and recognition for the officials in the sport should be viewed as a foundation piece.

COMPETITION SEASON

To better align with a multi-sport environment, a functional fitness calendar season needs to be established and maintained. Athletes, coaches, volunteers and parents will all benefit from knowing when to expect local, provincial, national and international competitions.

QUALITY SPORT

In Canada, there are more than 30,000 sport and recreation organizations, with about 75% of children ages 5 to 17 years participating in those programs. While sport can have a tremendous positive impact, we must continue to work towards ensuring a safe and positive experience for all participants.

Quality sport is important for the advancement of Long-Term Development as it has a “focus on athlete growth and development, within an organization committed to sport for all and partnerships that prioritize athlete development needs” (Sport For Life, 2019).

The following section will describe some ways to practically implement quality sport for functional fitness.



GYM TO CLUBS

Baseball, hockey, soccer, and volleyball associations rent time from diamonds, rinks, fields and gymnasiums. Sport association rentals have become a major, and often primary, revenue stream for facility owners. Functional fitness has a unique opportunity in that hundreds of suitable facilities already exist across the country. Similarly, these facilities are well positioned to benefit from the stability that a well-established sport program can provide. On top of rental revenues, there are financial benefits to incorporating and renting to a non-profit, which vary by province.

The goal, and connection to this document, lies in a quality community sport experience. According to Jurbala (2019), the matrix of quality sport is made up of developmentally appropriate programs, good people who are caring and knowledgeable, and good places that create good feelings.



PRACTICAL IMPLEMENTATION OF QUALITY SPORT

There are three different aspects to the practical implementation of quality sport including:

- ***Know:*** to share the knowledge about quality sport,
- ***Do:*** to deliver quality sport and
- ***Check:*** to assess your progress (Quality Sport for Communities , 2019).

KNOW:

- Ensure coaches are trained, ideally NCCP trained, and understand the sport's Long-Term Development framework (this document)
- Provide coach, official and parent education on the sport's LTD approach
- Provide a checklist of the skills and abilities young professionals will be developing, and how these will be developed, based on FF LTD framework

DO:

- Identify barriers to participation and provide solutions to ensure access for all
- Creating or using mini-skill competitions, not just "traditional" competitions, to encourage a focus on skill development in early LTD stages.

CHECK:

- Use development checklists for all participants, and measure and track pre- and post-program progress
- Survey parents/caregivers on their knowledge of their aims of your Quality Sport program
- Tracking member retention and development, rather than member registration

THE ROLE OF MUNICIPAL RECREATION, FACILITY PARTNERS AND LOCAL SPORTS COUNCILS ON QUALITY SPORT

- Supporting volunteer training and development opportunities for sport coaches, managers and board members
- Supporting partnerships for youth mentorship or training, to prepare youth to become sport coaches, officials or volunteers
- Linking facility use to LTD recommendations
  - This can help make efficient use of facilities
- Collaborating and planning with community sport to understand evolving facility needs and seek solutions
- Coordination of sport facility usage and seasons to encourage multi-sport development
  - Establishing incentives to the clubs who are doing quality sport delivery





OTHER CONSIDERATIONS

This document, as well as future committee work from the CF3 is what can help delineate a community sport experience from an open fitness product. For example:
Programming can consider the outcomes of the sport, alignment with other sport seasons, sensitive periods and be a cog in the physical literacy wheel; rather than varied general physical preparation.
Competitions can be used intentionally for development. Sport competitions are a part of the learning process and a chance to test your strategy, capacities, and skills, rather than seeing who is best on any given day.

A commitment to sport for all. There are many marginalized groups who may have difficulty affording or feeling welcomed to a group fitness class. Appropriate education and governance for coaches and leaders on inclusion and appropriate participation for Indigenous Peoples, people with a disability, newcomers to Canada, the LGBTQI2S community, aging adults, those living in poverty and isolated communities, and others, can help eliminate significant barriers.
Partnerships that prioritize development. Local clubs, PSO's and the CF3 do not need to be on their own. All entities have their own needs and can leverage each other to fill gaps in the program. Every additional person involved and engaged in the process is a net gain to the Canadian functional fitness community. A rising tide raises all ships!

For more information on becoming a registered functional fitness club: https://www.functionalfitnessfederation.ca/club

FUNCTIONAL FITNESS FOR UNDERREPRESENTED GROUPS

Sport participation, both training and competition brings about a lasting value in the lives for all those involved. It has been well documented that sport participation brings not only physical benefits, but also personal, social and cultural benefits. Therefore, the Functional Fitness community must go beyond meeting the needs of current and plan for/ identify how to meet the needs of marginalized and underserved groups. A space must be created that is inclusive, welcoming and meet the fundamental needs to foster this inclusivity and serve all the participants. Programs also need to be aware of the basic skill levels of the participants in order to effectively run drills the majority can do. As a result, some individuals need to be taught basic movement skills before sport-specific skills are introduced. According to the Institute for Canadian Citizenship, the highly structured sports system in Canada makes access to playing sports more difficult for new Canadians. For many newcomers to the country, they are not used to the Canadian system in which sport participation is very formal. This can be intimidating and very foreign to people not used to such a system.



FUNCTIONAL FITNESS FOR UNDERREPRESENTED GROUPS

Access to information, possibility in a variety of languages is encouraged, as that will remove barriers to reaching numerous communities. As language itself may become a barrier when some participants do not use English or French as their first language, the possibility of language translation may support greater sport facilitation. Cultural barriers for some minorities may exist and therefore deter participation. Examples such as being sensitive to religious holidays or specifics of cultural attire would be an important factor to consider. The lack of understanding about specific cultural and religious needs which can deter participation must be mitigated and not be a barrier to active participation.

The most significant barrier for participation in sports for many is cost. As many underserved or marginalized groups may avoid sport participation due to this, it is important to factor in that we must not limit our sport participation to only those who can afford to participate. The Functional Fitness community must find a viable solution to help to mitigate this barrier to participation.
Some solutions that could be suggested would include engaging with ethnic and cultural groups that could partner and can help address many of the language, culture, religious and/or community concerns that could prevent the participants of these communities taking part in the sport. It would also be imperative to create gender specific programming and opportunities to address any cultural barrier or concerns with feelings of safety or comfort level for the individuals. In addition, finding cost effective solutions to sport participation for underserved groups would be a major step forward that would help to make the community more inclusive and welcoming.

FUNCTIONAL FITNESS FOR UNDERREPRESENTED GROUPS

A great example of the lasting impact of sport and continuation of participation is the Arctic Winter Games (AWG), which is in its third decade of operation. The AWG is a culmination of sport, culture, national regional identity, individual and collective growth, and benefits of sport and cultural performances. Taking place every second year, the AWG involves several countries and has many benefits. The effects and success of the AWG can serve as information that can emphasize personal, social, and community benefits; validating stated purposes; segmenting gender values; observing the subtle balance between friendly competition and shared cultural values. (Lankford, 2008).





GENDER EQUALITY IN FUNCTIONAL FITNESS

We are defining Gender Equality as being the equal rights, responsibilities and opportunities of males and females, regardless of their age (UN Women, 2001). As a result, gender equality implies that the interests, needs and priorities of both women and men are taken into consideration, recognizing the diversity that exists between the genders (UN Women, 2001).

The CF3 is proud to be an organization where there is an almost equal representation of males and females in the different areas of the organization including: the Board/Committee Members since inception (53% Male, 47% Female), National Team Athletes (50% each), as well as National Championship Attendance across all divisions over 2 years (58% Male, 42% Female). Our hope is that in future years, there will be an equal representation of both genders in all aspects of the organization.



ADAPTIVE FUNCTIONAL FITNESS

Compared to segregation, inclusive sport environments have a significant number of benefits for both practitioners and participants (Kasser, 2012). All aspects of Functional Fitness are applicable to athletes with disabilities. This Long-Term Development model should be a guiding document for appropriate experiences for all participants.

Inclusion begins with the organization and coach. Both need to eagerly welcome an inclusive environment and comfortable learning safe and effective movement modifications to thrive. The default position cannot be token participation. Movements will look different from one participant to the next in all situations. The ultimate goal should be fulfilling the desire of every individual to feel like a legitimate participant (Spencer-Cavalier N., Watkinson E.J., 2010). A great starting point for a coach would be to complete the NCCP module, Coaching Athletes with a Disability.

The CF3 and iF3 are encouraged to develop a framework for classification and competitive divisions using the International Paralympic Committee's research.



CONCLUSION

Currently, there is little integration between physical education programs in the schools, recreational community programs, and competitive sport programs. As a result, Functional Fitness should leverage Long-Term Development as a vehicle for system change because it provides a platform for simultaneous development of all aspects.

This framework aims to advance the long-term development of functional fitness across Canada through the involvement of the CF3 and the PSO's of the sport in the movement towards developing a healthy population. It is also in everyone's best interest that all organizations and sectors work together and follow a congruent approach to developing physical literacy and athletic potential. That way, we can ensure that everyone has access to quality sport and physical activity programs.

The common objective of sporting organizations should be to increase retention in sport and physical activity and reduce burnout. To do this, organizations should take a life-course approach with their programming; where leaders are encouraged to reflect on the effects of programs on their participants years into the future.



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Sport for Life



GLOSSARY

Adaptation: is response to a stimulus or a series of stimuli that induces functional and/or morphological changes in an athlete. The degree of adaptation is dependent on both the genetic endowment of the individual and their history of training. Adaptations can be either positive or negative

Ancillary Capabilities: refer to the mental and physical abilities of an athlete other than sport technical skills and physical training. It includes warm-up and cool-down procedures, stretching, nutrition, hydration, rest, recovery, restoration, mental preparation, taper, and peak. The more knowledgeable athletes are about these training and performance factors, the more they can enhance their training and performance levels.

Chronological age: is "the number of years and days elapsed since birth". Children of the same chronological age can differ by several years in their level of growth and maturation (see Developmental Age).

Development: refers to "the interrelationship between growth and maturation in relation to the passage of time. Development also includes the social, emotional, intellectual, and motor realms of the child". The terms "growth" and "maturation" are often used together and sometimes simultaneously. However, each refers to specific biological activities.

Developmental age: can be based on different body systems, including skeletal maturity or sexual maturity and different systems may give slightly different developmental ages. Therefore, developmental age should be treated as an approximation unless measured by skilled evaluators with specialized equipment. In sport, developmental age should be used as an indicator.

Gender Equality: The equal rights, responsibilities and opportunities of males and females, regardless of their age.

Growth: refers to "observable, step-by-step, measurable changes in body size such as height, weight, and percentage of body fat".

Maturation: refers to changes in structure and function in the athlete's progress towards maturity. Maturation takes place at varying rates and at different times in each individual

Peak height velocity (PHV): is the maximum rate of growth in stature during adolescent growth spurt. The age of maximum velocity of growth is called the age at PHV.

GLOSSARY

Peak strength velocity (PSV): is the maximum rate of increase in strength during adolescent growth spurt. The age of maximum increase in strength is called the age at PSV.

Peak weight velocity (PWV): is the maximum rate of increase in weight during growth spurt. the age of maximum increase in weight is called the PWV.

Physical literacy: the life-long development of fundamental movement skills and fundamental sport skills in a wide variety of environments.

Quality Sport: means good, developmentally appropriate, values-based programs, run in a safe, welcoming and inclusive environment by good people who are adequately qualified and are committed to the True Sport principles.

Sensitive periods: refer to a period in development of a specific behaviour or body adaptation when experience or training has a greater impact than at other times. All systems are always trainable, and a sensitive period is when a system has optimal trainability.

Trainability: is the responsiveness of individuals to training stimuli. Trainability can refer to the speed of adaptation to a training stimulus or the degree of adaptation for a given level of training stimulus.

Training Age: is a measure of how long an athlete has been training in a specific sport.

CANADA
FUNCTIONAL **FITNESS**



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