



# Pentathlon Canada

## LONG-TERM DEVELOPMENT FRAMEWORK V2.1

From Participation to Performance





## Preface

The implementation of Long-Term Development (LTD) is a milestone for Modern Pentathlon, as it has been for Canadian sport. For the first time, every Canadian sport organization is planning around a common framework which aligns the sport system and integrates health and education with sport and physical activity.

This document was developed by pentathlon experts with the assistance of Canadian Sport for Life (CS4L), and draws upon the experience and best practices of other sports. It embeds the key principles of CS4L's LTD 3.0 Framework within the context of Modern Pentathlon.

Why is LTD important for sport in Canada and our sport specifically? The successful implementation of this framework leads to better athlete performances, more athletes who enjoy pentathlon for life, and a thriving sport supported by quality coaches, officials, and volunteers at all levels in Canada.

Pentathlon Canada has created this framework as a blueprint for all stakeholders involved with pentathletes of all ages. In line with Sport for Life's philosophy, it takes an athlete-centred, coach-led, and

system-supported approach. Following the approach and structures contained within offers a united pathway with consistent practices. A founding principle explored below is collaboration. Whether an athlete is sampling several sports, training for pentathlon in multiple clubs, or in a dedicated pentathlon club environment, our unique multi sport requires collaboration from many individuals (athlete, coaches, volunteers, parents) to provide a cohesive, fun and successful experience. Beyond the daily training environment, the athlete journey is largely defined by the broader development pathway and appropriate competition structure. LTD is instrumental in outlining these two key components which support a healthy community and future performance.

It is a pleasure to introduce this framework to members and the broader sport community, and it is our hope that it provides a lasting impact within our sport system.

Thank you to Sport Canada, Canadian Sport for Life, the authors, and the many volunteers who contributed to its creation.



- Rod Staveley  
President, Pentathlon Canada

*Modern Pentathlon gave me the belief that I can do anything. That it will take time and effort, but I can do anything. The skills transferred to my professional life - I was always amazed at the coaches who coached me and what they knew. I started coaching because of these people. Now, having coached for over 25 years, I still draw on the experiences I had; how they interacted with me and how they knew how to get the best out of me.*

- Lynn Seguin,  
Pentathlon World Champion (1983)

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## This is Modern Pentathlon

Modern Pentathlon is a sport with a story. Baron Pierre de Coubertin, the founder of the modern Olympic Games, created the sport as an update of the Pentathlon held at the ancient Olympics (which featured discus, javelin, long jump, wrestling and a footrace). Modern Pentathlon recreates the experience of a 19th-century cavalry soldier delivering a message across enemy lines: ride an unfamiliar horse, fight with pistol and sword, swim, and run to return to his own territory. Geo-political tensions, particularly in Europe, required soldiers to be adept at these skills and ready for battle. The sport has been on the Olympic program continuously since 1912, where initially only male military officers were allowed to compete; women have only competed since 1977, and competed at the Olympics since 2000.

The sport has evolved immensely since its inception. While once a five-day event, it was compacted to three days, then one day, and now its flagship competitions are 90 minutes long taking place in a stadium. Riding progressed from a cross-country course to a show jumping event, and the swimming distance was reduced from 300 metres to 200 metres. The most profound changes are seen in the shooting and running phases. Initially athletes contested a .22 calibre rapid fire event, and ran a four kilometre cross-country course. Today the run and shoot are combined into Laser-Run, where athletes run a five by 600 metre course, with four speed shooting efforts using a laser pistol. Each chapter of change has resulted in new training methods, athlete profiles and competition strategies.

The Canadian Modern Pentathlon Association (CAMPA) was founded in 1971, and is now recognized as Pentathlon Canada. From its inception, it has overseen the growth of the sport, developing grassroots programs while also playing a key role in the high performance aspect. Canada hosted the 1975 Junior World Championships (Montreal), 1976 Summer Olympic Games (Montreal) and the 1999 and 2015 Pan American Games (Winnipeg and Toronto, respectively). Historical highlights include international medals at major championships, 15 Olympians, and Lynn Seguin's (nee Chornobrywy) 1983 Women's World Championship title.

Although the journey of a cavalry officer traversing on horseback and fighting with a sword may seem anachronistic today, pentathlon's evolution has resulted in a contemporary multisport demanding an array of elite-level skills. Like sports such as triathlon and biathlon, or heptathlon and decathlon on the track, the combination of disciplines creates unique challenges for the athlete in both training and competition. Yet pentathlon is distinct from other multisports in that its disciplines have almost nothing in common with each other, bridging physical, mental, technical and tactical skills to develop a 'complete athlete.' The sport provides an expansive platform for youth and new athletes to develop physical literacy in multiple contexts, and for experienced participants to aspire toward the most-complete athletic version of themselves.

Canada's future success relies on applying global principles within our unique sport system. Working in a similar manner to the leaders in our sport is instrumental in fostering the next generation of pentathletes. From early introduction, to development, to high performance, there are common themes to adapt and implement. Given Modern Pentathlon's highly competitive environment and its international growth, the foundation of LTD is one important element in Pentathlon Canada's next chapter.





## What is Long-Term Development?

*Long-Term Development 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. It takes into account growth, maturation and development, trainability, and sport system alignment*

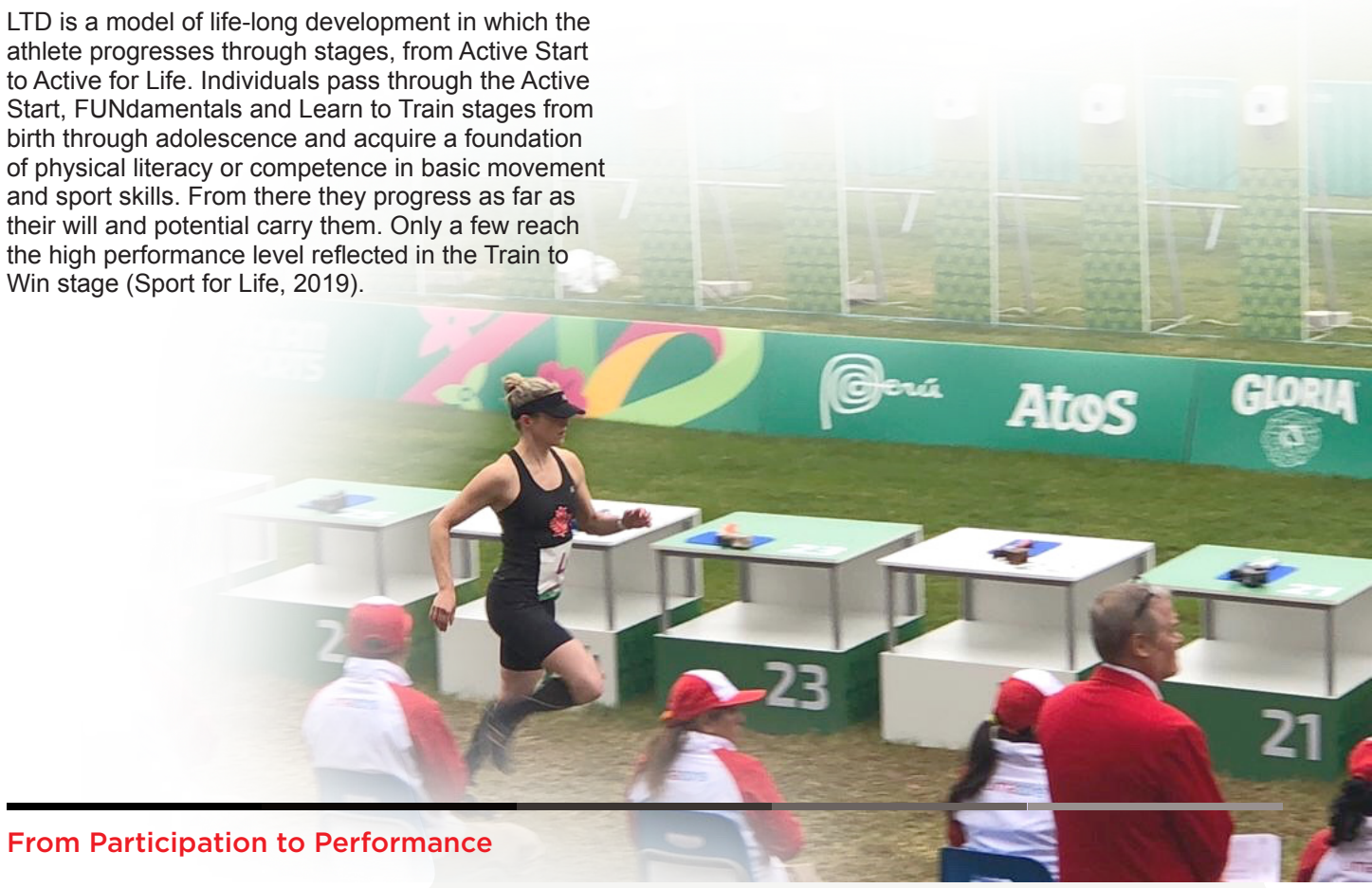
- Long-Term Development in Sport and Physical Activity 3.0.

## What is the best way for an athlete to develop?

Long-Term Development is a development framework designed to answer that question. LTD is a new wave in athlete development, based on the integration of sport science research with experience in working with athletes and coaches to develop a comprehensive set of development principles. LTD takes the concept of periodization (the integration of competition, training, recovery, nutrition, and other elements of preparation to create a long-term training plan) to the next level, by integrating preparation over an entire career or lifetime, and considering the holistic development of the individual as well as his/her development as a player. Today, every Canadian sport organisation is using LTD as the basis for their long-term planning. More information can be found in the document *Canadian Sport for Life*, as well as other LTD resource papers published by the Canadian Sport Centres and available at [www.ltad.ca](http://www.ltad.ca).

LTD is a model of life-long development in which the athlete progresses through stages, from Active Start to Active for Life. Individuals pass through the Active Start, FUNdamentals and Learn to Train stages from birth through adolescence and acquire a foundation of physical literacy or competence in basic movement and sport skills. From there they progress as far as their will and potential carry them. Only a few reach the high performance level reflected in the Train to Win stage (Sport for Life, 2019).

The Modern Pentathlon model has seven stages, which take athletes from learning the foundational skills of tetrathlon (fence, swim, laser-run), to the complete five-event skills of pentathlon, through to participation for life. Embedded in those stages are multiple entry points for which athletes transitioning from an individual sport pathway can join an adapted pathway to optimise their pentathlon abilities, pursue high performance sport, and then move to the Active for Life stage. There are also coinciding 'exit points;' moments where a pentathlete will opt to specialise in an individual event, integrating into another NSO's pathway, toward its high performance level. In every case, individuals are moving toward the Active for Life stage regardless of the competitive level reached.





## The Athlete Development Matrix: Four Pillars

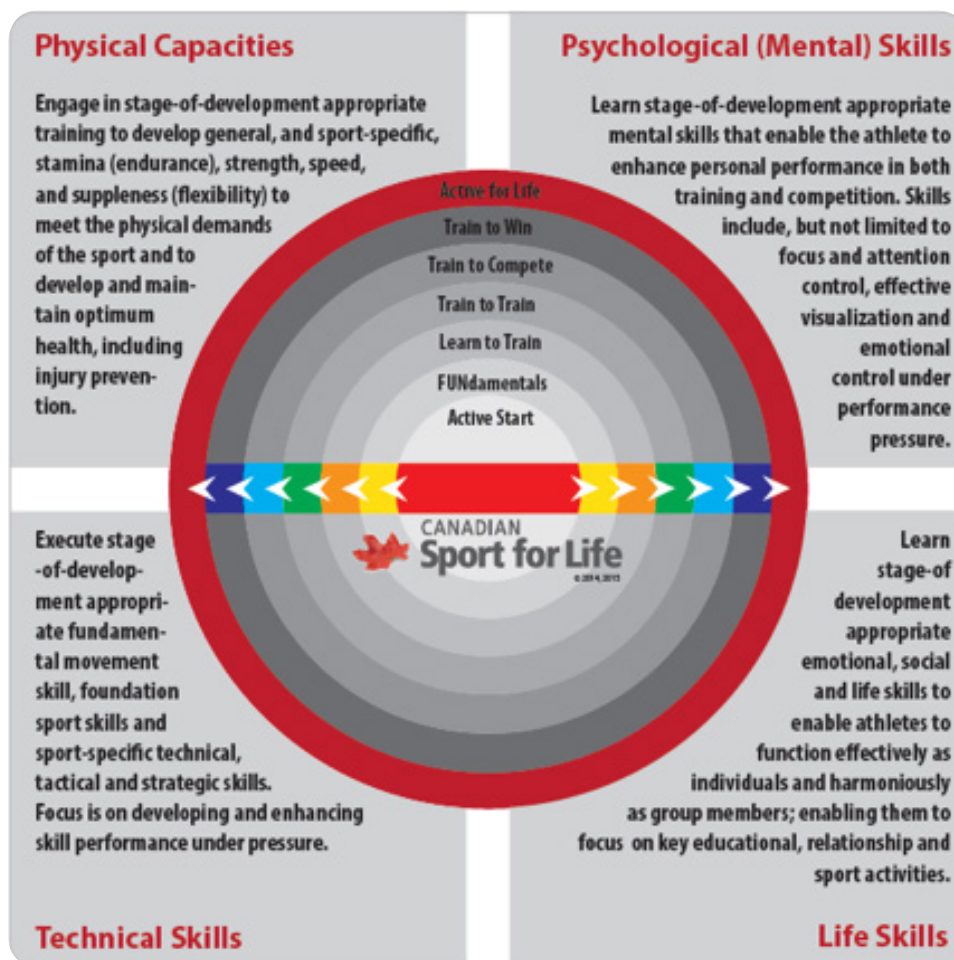
The foundation of the LTD framework is an Athlete Development Matrix (ADM). The ADM defines the developmental stages of athletes in a sport, and the progression of development activity in each stage. Pentathlon Canada's ADM is based on 4 pillars (*The Athlete Development Matrix, Sport for Life Version 1.1* November 2016):

- **Physical Capacities:** The development of stamina, strength, speed, suppleness (flexibility) appropriate to the stage of development of the athlete, and undertaken when the body is best able to respond to the training stimulus. This also includes the development of ancillary skills, such as warm-up, cool-down, nutrition, hydration, rest, and recovery.
- **Technical (skill) and Tactical Competencies:** The learning of basic human movements, fundamental movement skills, foundation sport skills, and the whole range of sport-specific skills required to reach the highest level of performance. These are

sometimes called psycho-motor or just sport skills. This component also includes the tactics and strategy of sports in general, and eventually the tactics and strategy specific to the sport of choice and event or position in which the athlete specializes.

- **Mental (psychological) Skills:** The development of sport psychology skills, appropriate to the stage of development of the athlete.
- **Life Skills,** including social, and emotional skills: Development of the skills required for successful growth to become a confident, self-sufficient individual capable of effective, independent, and harmonious group action, in the pursuit of individual or team sport participation and performance.

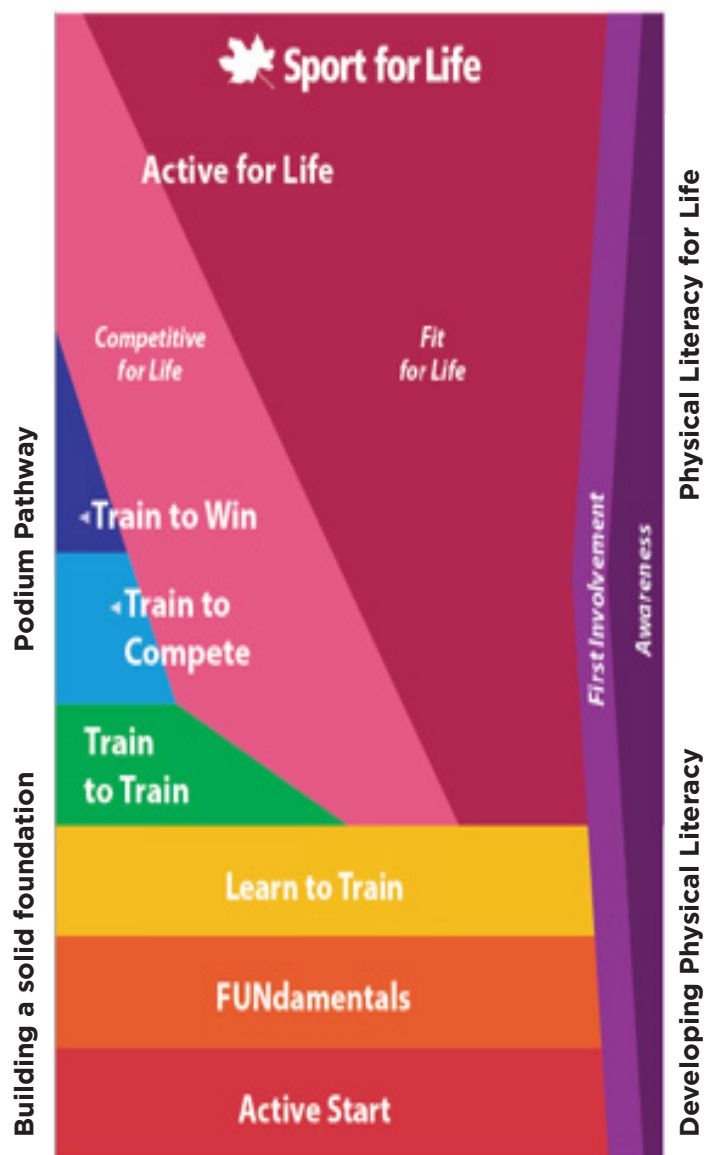
The ADM describes the training, competition, recovery and other elements to develop these capacities and skills stage-by-stage. It appears as an appendix to this document.



## Stage-Appropriate Development

The stage-based approach of LTD is based on athlete growth and development, using biological and developmental markers in the earlier stages, and sport performance markers in the later stages. This enables a progressive approach to training and competition based on developmental age, ensuring young athletes develop the right abilities at the right times.

This graphic shows how the stages fit together into a pathway of sport participation. The early stages are about the development of physical literacy and a love of movement. Awareness and First Involvement represent the gateway to sport and the importance of positive early experiences. The earliest stage, Active Start, begins at birth: in this stage the focus is on healthy growth and development with lots of physical movement and experimentation. In the FUNdamentals stage the child continues to develop physical literacy and learns the basics of sport. In the Learn to Train stage the young athlete becomes involved in organized sport programs, but continues to develop physical literacy through diversified sport and activity experiences through to the onset of puberty and the growth spurt (Peak Height Velocity, or PHV). After PHV the young athlete may continue into the Excellence Stages - Train to Train, Train to Compete and Train to Win - which are defined by sport development and performance. Alternately, and at any time, s/he may become Active for Life, which includes "Fit for Life" (active living, possibly including recreational sport) and "Competitive for Life" (for example, competitive Masters sport participation).



(Long-Term Development in Sport and Physical Activity 3.0, Sport for Life)





### Key Factors of Long-Term Development in Sport and Physical Activity 3.0

PERSONAL FACTORS	ORGANISATIONAL FACTORS	SYSTEM FACTORS
<i>Factors affecting individual development, supported by parents, teachers, instructors and coaches.</i>	<i>The set of factors that create the local environment for development, supported by schools, clubs, leagues, PTSOs and NSOs.</i>	<i>The factors that create the national environment for development, supported by PTSOs, NSOs, MSOs, and governments.</i>
<p>Physical Literacy: <i>Foundation for sport success and life-long engagement.</i></p> <p>Quality Environments: <i>Enhanced learning and training environments from an early age.</i></p> <p>Developmental Age: <i>Individual stage of growth and development determines training, competition and recovery programs.</i></p> <p>Sensitive Periods: <i>Times when training various skills and capacities has the greatest effect</i></p> <p>Predisposition: <i>For many reasons (genetic, epigenetic and social) athletes have a “best sport”. Sampling many sports can help athletes find their “best sport.”</i></p> <p>Excellence Takes Time: <i>Success cannot be rushed. Athletes can take 8-12 years to master a sport.</i></p> <p>For Life: <i>Consider effects on personal development over a lifetime.</i></p>	<p>Framework: <i>Updating the sport-specific LTD to include the latest knowledge.</i></p> <p>Governance: <i>Embed LTD in plans, policies, rules, development and education.</i></p> <p>Awareness and First Involvement: <i>Everyone, including Athletes With a Disability, need to be aware of opportunities and welcomed to a quality environment.</i></p> <p>Different Activities (have different demands and pathways): <i>Acrobatic, kinesthetic, standard, late specialisation and transfer sports have their own demands and athlete pathways.</i></p> <p>Appropriate Specialisation: <i>Specialisation has a proper timing based on individual development and sport-specific demands.</i></p> <p>Periodization: <i>Periodized plans connect LTD stage to sport development requirements.</i></p> <p>Competition: <i>Meaningful, quality, properly timed, and focussed on athlete needs.</i></p> <p>Transitions: <i>Into, between, and from sport- talent is lost when transitions are unplanned.</i></p>	<p>Collaboration: <i>Improved collaboration across the system supporting optimal development.</i></p> <p>System Alignment: <i>Align terminology, content and practices across the sport system to reduce confusion.</i></p> <p>Welcoming: <i>Diversity is a reality and participant-centred programs are a necessity</i></p> <p>Diversification: <i>The system as a whole must support multi-activity and multi-sport participation.</i></p> <p>Long-Term Development: <i>Systems, processes, metrics (e.g. rankings) must reward Long-Term Development not short-term wins.</i></p> <p>Continuous Improvement: <i>LTD frameworks continuously evolve to incorporate new knowledge.</i></p> <p>Evidence Based: <i>Assessment, monitoring, and research support Long-Term Development.</i></p>





## What Are the Implications of LTD for Pentathlon?

Modern Pentathlon is unique among sports given its multifaceted nature and the varying pathways that lead into the sport. It is a sport that offers an opportunity to develop physical literacy from a young age, a sport for life where all individuals can participate according to their preference, and a sport with a defined pathway leading to high performance. Athletes peak at a later age in Pentathlon than some other sports, yet there are key development windows critical to reaching an elite level. This is one alluring aspect of pentathlon; there are several different paths leading to the elite level, but the main ingredients are essential regardless of the path taken. This places special responsibilities on coaches to navigate athlete planning, adapt to individual development timelines, and invest in the design of a cohesive training and competition plan.

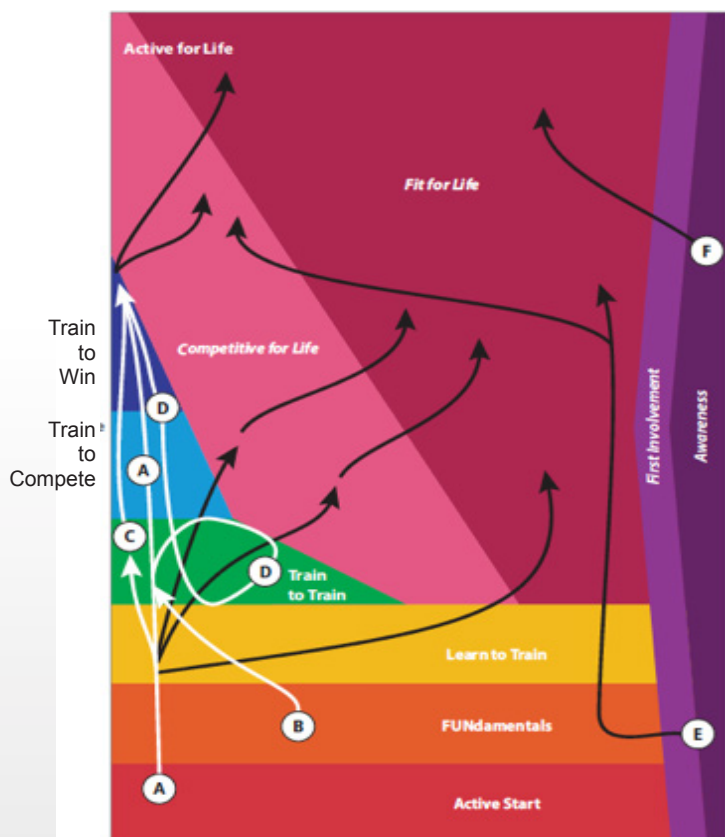
## Many Pathways

Individual pathways in sport are unique and often vary greatly. While all begin with awareness, first involvement and learning the fundamentals, entry to a sport may begin at different ages and from different backgrounds, and may progress at different rates.

In this diagram, Participant A may stay in one of their first sports from entry through to high performance. Participant B starts in a different sport, and finds their sport in adolescence. Participant C starts with A, has early success, then moves to another sport before returning later. Participant D transfers late, has to go back through stages of development, and then advances to high performance. Participant E is involved in many sports early but doesn't pursue any into the Train to Train stage - instead they become Active for Life. Finally, Participant F takes up sport later in life and remains Active for Life.

The lessons are that all participants should be supported along their journey and have opportunities no matter their background; that "success" in the form of high performance may be the result of different paths; that sport organisations need to provide for different paths and late entry possibilities; and that all participants should become Active for Life, rather than leaving sport.

It is common to enter pentathlon from another sport. This framework is built on that idea: that there are many paths to success. Reaching the top level requires a clear structure nurturing appropriate skill development from an early stage, either in pentathlon or another sport that allows for a later transition.



(Long-Term Development in Sport and Physical Activity 3.0, Sport for Life)

### Growing in Pentathlon (early entry)

The early stages of participation in pentathlon are oriented around the development of foundational movement abilities that prepare individuals for an active and healthy life. Considering the many variables inherent in a multi-sport and the range in abilities of athletes of the same chronological age, early entry participants focus on skill development and a positive sport experience above all else. Over time performance becomes increasingly important.

A premature emphasis on specific skill development and competition can negatively impact young participants, preventing them from progressing in the sport or remaining active in general. Success in pentathlon, in both a health context and performance context, requires careful program design with an appropriate mix of fun, challenge and competition that results in a love for sport.

### Transitioning to Pentathlon

Modern Pentathlon is a late developing endurance sport with a spectrum of contrasting skills. Developing into a mature performer requires many years and is dependent upon a significant number of interconnected components. The later an athlete enters pentathlon from another sport, the higher the level of transferable competency they must bring from their initial sport(s). The timing of entry to Modern Pentathlon's excellence pathway will vary according to the sport the athlete is transitioning from. Each sport has its own set of skills and abilities to adapt on entry. The ideal age range, dependent on previous sport exposure, is 12 - 15 years of age, as the athlete has a complement of developed abilities, while still being adaptable to new skill-building and training routines.

The transition from sports such as equestrian and fencing can be more difficult as the development of early-stage pentathlon skills are less likely to have been initiated. For example, the ability to competently complete a 360-degree rotational jump, to balance on one foot with one's eyes closed, or to float in water are largely determined by exposure to these movements pre-PHV. There are sensitive periods to developing suppleness and proprioception, particular-

ly in technical sports, that when missed, are difficult to accrue later. Interestingly, fencing is the sport for which an athlete can begin training at the latest stage (of the five disciplines) and reach an elite level, as it affords an element of creativity and freedom correlating to success. Swimming, shooting and running stand in contrast to fencing, as training must follow specific constructs and be taught according to a correct methodology. The skill transfer from swimming to pentathlon is quite natural, and therefore can be delayed further (i.e., in rare instances, as late as age 20). Transitioning from swimming is the most common scenario leading to future elite performers, evidenced by many former National Team athletes who have gone on to have successful pentathlon careers. Swimming teaches body awareness, develops flexibility, and establishes a mindset that thrives on hard work, routine and resilience. Athletes such as Sheila Taormina (USA), a 4 x 200m swimming Olympic gold medalist (1996), then a World Champion ITU triathlete (2000 and 2004 Olympics), who completed her career as a pentathlete at the 2008 Olympic Games, perhaps best highlights the advantage of early swim skills that are then transferred into other disciplines.





A late-entry athlete will need to acquire the fundamental skills that were not previously developed, though they will not pass through the *Early Years* stages given their physical maturity is beyond that period of development. Such athletes have the benefit of greater cognitive and learning capacities on their side. These skills can be learned later in life, but it is more difficult, and the athlete's ultimate proficiency may be lower. This is only a consideration for athletes aiming for high performance in the excellence pathway; later-stage transitions are possible for athletes aspiring to participate in domestic competitions, entering the Active for Life stages of Fit for Life and Competitive for Life.

Enhanced physical literacy makes it easier to transfer from one sport to another, thus continuing participation for the joy of sport or with an aim to reach an elite level. Individuals who develop physical literacy in early stages are better adapted to transitioning into pentathlon, while also having more options available to them when transitioning out of the pentathlon performance pathway.

### Adjusting for Entry-Point and Balancing Training Plans

Each of the five Pentathlon disciplines can be classified as either a 'deal-maker' or a 'deal-breaker.' A deal-maker is a discipline where proficiency is required to perform at a high level in pentathlon. In effect, winning is not possible unless these skills are at a very high level. A deal-breaker is a discipline where competence is required, however the result is less likely to determine who wins a pentathlon competition. Fencing and Laser-Run are deal-maker disciplines. An athlete must earn a high fencing score (55 – 70% victories) to compete for a podium position. Laser-run is the determinant discipline in pentathlon, whereas the culminating phase, there are multiple exchanges of position with the possibility to move significantly up or down in the ranking. The swim and equestrian disciplines are different in that an athlete will not win a competition due an outstanding performance in either phase. These are disciplines where competency is absolutely required to set the athlete up for success on the day, and where a poor performance removes the athlete from contention. As a result, training plans and managing the arc of an athlete's progress must take into consideration how to appropriately invest in each stage, at the right time of development. In many ways, this captures both the complexity and magic of pentathlon.

**Kara Grant** (Olympian – 2004, 2008). Kara Grant was introduced to pentathlon through horseback riding and Pony Club Tetrathlon which added shooting to her existing riding, running and swimming skills. Kara and her team mate Monica Pinette were the first two Canadian women to represent Canada at the Olympic Games and they helped pave the way for the next generation of Canadian athletes.



*Modern pentathlon taught me resilience in the face of adversity. It introduced me to the world and showed me human kindness and cultural diversity. My experiences in competition and in training also contributed to the development of a growth mindset that has helped shape each stage of my life.*

- Kara Grant

### Development Sub-Sports and Pathways

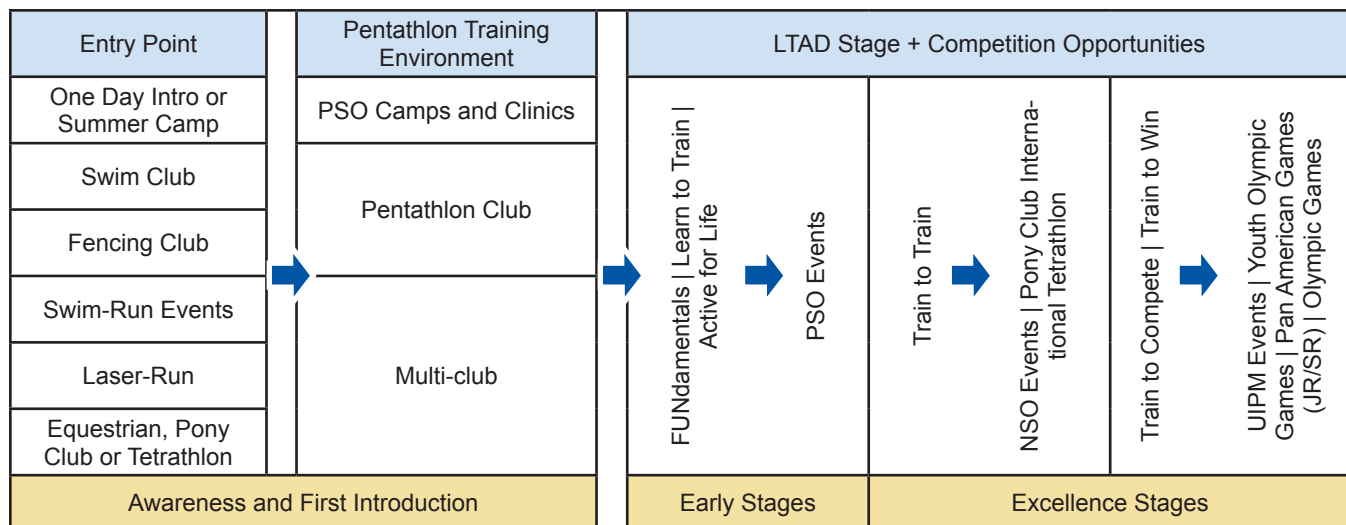
The UIPM Sports Pyramid captures the five sub-sports of the pentathlon family, which depending on the system a country (or province, region, club) utilises, have varying importance in progressing toward the complete pentathlon skillset. These sub-sports each have a particular audience, unique to the culture and community they are practiced in. The pyramid has provided a versatile approach for individuals to experience pentathlon in a variety of environments. In Canada, Pentathlon Team, Laser-Run, World School

Biathlon, and Biathle/Triathle have not typically been focal points. The geographic nature of our country and the traditional sports youth participate in have shaped a pathway oriented most often around the four events of swim, fence and laser-run (tetrathlon), as opposed to the other sub-sports. This simply means that Canadians are more likely to initially participate via the tetrathlon or pentathlon structure, rather than the other sub-sports.



The development pathway graphic conveys the typical manner through which pentathletes begin and continue through the sport. As noted above, it encapsulates the top two positions within the UIPM Sport Pyramid, generally progressing athletes from a single sport into a four-event or five-event pentathlon environment. Entry points most often are introductory events, the individual sports of swimming, fencing, laser-run and equestrian, or swim-run events. Introductory events such as summer camps for youth, or run-swim community competitions for all age groups and abilities, provide a locally-based opportunity to initiate in pentathlon. Swimming in particular is a strong foundational sport, as it builds many of the long-term skills required for proficiency in pentathlon. Uniquely in Canada, and several other Commonwealth na-

tions, Pony Club's Tetrathlon has provided a sound and reliable introduction to pentathlon. Pony Club Tetrathlon incorporates swimming, running, shooting, and riding. The riding disciplines vary somewhat by country. In Canada, it includes a show jumping and cross country phase. Pony Club Tetrathlon was developed in Great Britain in 1969 as a means to retain more boys in riding. Several of Canada's elite pentathletes began in Pony Club Tetrathlon. Perhaps the most notable Pony Clubber is Sydney 2000 Olympic Games bronze medallist Kate Allenby (Great Britain). Swim-run events and laser-run events are also an effective means to reach participants who are active within a context of pentathlon, and are interested to develop further skills in a fun environment.



### Transitioning from Pentathlon

While the entry point and transition into modern pentathlon are crucial considerations in the LTD design, the exit point is also an important moment in the athlete's pathway. The Modern Pentathlon pathway builds a solid foundation of skills. At each stage of progression toward the high performance level, fewer athletes tend to participate. This occurs for several reasons; reaching one's physical potential for success, a transition in focus to academics or career, or a focus on specializing in an individual sport. It is critical in this transition that the opportunity to continue involvement exists in the Active for Life stage (Fit for Life and Competitive for Life). Such individuals remain involved in the community, participate in training at a reduced level, and may focus on Masters competitions (domestic or international).

Just as a strength of pentathlon lies in the versatility of skills it builds in the developmental stages, it also prepares individuals for transition to the excellence pathway in other sports. This is a special aspect of pentathlon and a testament to the physical literacy skills it embeds. Canadian athletes that have transitioned into the excellence pathway include:

**Kim Savory**, nee Eagles (Olympian – 2000). After her start in modern pentathlon as a youth, Kim transitioned to shooting sport, competing in the 10m air and 25m .22 calibre events. She is a 1999 Pan American Games gold medalist and a five-time Commonwealth Games medalist.



*I started in swim club and Pony Club, which got me into Tetrathlon and Pentathlon. This was how I learned to shoot. I discovered I have a hidden talent for shooting, and was the world's worst runner, so started working more on shooting to make up extra points and eventually branched off just to shooting.*

- Kim Savory



**Tik Maynard** (Pan American Games – 2007). Following the 2007 Pan American Games, Tik transitioned to Equestrian (Eventing) and established himself as one of Canada's leading athletes and trainers.



*Modern Pentathlon taught me time-management, body awareness, and hard work. It took me to different places and cultures. It piqued my interest in sports psychology. And it brought me closer to my current passion: understanding horse psychology.*

- Tik Maynard

**Laurie Shong** (Olympian – 1992, 1996, 2000). Laurie was the first Canadian to qualify for the same Olympics in two sports (Barcelona 1992, Modern Pentathlon & Fencing). He then competed in two more Olympics in Fencing.



*When I was younger I started as a swimmer. Being an Olympic swimmer was my goal and my coach at the time got my family into pentathlon. When I was 15 years old I was a dual athlete. Modern Pentathlon was my first love but I was able to do both sports separately. Pentathlon gave me the skill of mental toughness from shooting which really translated into fencing. The other thing was the one touch in Pentathlon. Our focus had to be very high and you couldn't take a bout off. In fencing you can take a chance here and there but in Pentathlon it was knowing your strength and the weakness of your opponent, and exploiting it. I contribute a lot of my fencing success to pentathlon. The physical side especially, since being in the top shape, I felt I could beat anyone endurance-wise in fencing.*

- Laurie Shong





## Pentathlon's LTD Framework - Stage by Stage

To reach their potential and goals, an athlete needs the right training and preparation, the right competitive opportunities, the right equipment, and the right nutrition, rest and regeneration...all at the right times. The Long-Term Development framework defines guidelines for stage-by-stage development from entry into the sport, through to high performance and/or active participation for life.

The LTD framework is a summary of key training and performance goals for athletes. This assumes sufficient infrastructure and support is provided; in other words, without adequate coaching, proper competition opportunities, and other key elements, athletes cannot expect to meet all the training and performance goals in the LTD framework. To support our coaches and athletes and achieve our goals for pentathlon we must build an integrated, coordinated system supporting our athletes "from playground to podium" and to lifelong involvement.

Athletes are individuals. The LTD framework consists of *guidelines*, and athletes, coaches, leaders and parents must be flexible in application to ensure that LTD enhances Modern Pentathlon as an experience

and a sport for all participants. All athletes need individualized programs and evaluation by a certified coach with an understanding of Long-Term Development. A common planning theme in pentathlon is the adaptation of training programs within groups, given the likelihood that while the athletes are of an overall similar ability, there is considerable variation in discipline-specific competencies. This requires planning that meets the needs of both the group and the individual. Guidelines should never be used to select or reject athletes.

It is our hope and expectation that, as a result of developing and sharing this framework, *leaders and parents* will know how to make decisions that benefit the development of athletes, *coaches* will have a common guide for the design of annual plans and programs, and *athletes* will have the guidance and support they need to excel and to participate for a lifetime.

The following pages provide a description of key development considerations for each LTD stage. This is based on a more detailed Athlete Development Matrix which can be found in the Appendix.



## Early Stages: Building the Athlete

*In the early stages of LTD, the focus is on developing the physical literacy of the child and, in the Learn to Train stage, on developing sport skills through progressive participation in a number of sports.*

### Active Start Stage

(Age 0 - 6 years)

*Focus: Daily physical activity and physical literacy*

*Division: No competition in this stage*

#### The Participant

- From age 0 to 6 years old, a child is a “learning machine” full of curiosity and always on the move. Brain connections are being made and the body is growing rapidly.
- The child has a short attention span and needs lots of variety and frequent breaks.
- Social play with other children develops gradually, but the child loves to imitate and play with parents.
- Limited ability to grasp concepts like sport rules but lots of imagination to create their own games.

#### Development

- The child is building the foundation for future success in skill development and creating neural connections across multiple pathways in the brain particularly when rhythmic activities are used.
- Physical activity enhances development of brain function, coordination, social skills, gross motor skills, emotional development, leadership and imagination. It helps children to build confidence and develop positive self-esteem.
- Activity also helps build strong bones and muscles, improves flexibility, develops good posture, improves fitness, promotes a healthy body weight, reduces stress and improves sleep.

#### The Coach

- Parents, family, and teachers are the “coaches” at this stage.
- Allow lots of room for exploration and risk-taking in a safe environment.
- Promote physical activity and healthy eating as a family activity. Role modeling is very important.
- Provide short-duration, rapidly changing activities with lots of breaks. Let the child’s attention span and interest dictate the activity.

#### The Program

- Daily activity: minimum 30 minutes/day for toddlers and 60 minutes/day for preschoolers.
- FUN activities on land, in water and air, and sliding on snow and ice.
- Encourage running, with stops, starts and changes in direction.
- Catching and throwing games using a wide range of soft objects, and balls of different sizes. Start with two hands then progress to using left and right hands to catch and throw.
- Balance, jump, slither like a snake, and roll like a rolling pin. Use hands, feet and other body parts to balance, push and jump. Ride a tricycle or bike. Learn to swim.
- Modified fencing (plastic epees) where we can see smiles and hear laughter.



### FUNDamentals Stage

(Age 6 - 9 years)

Focus: Multi-activity participation

Division: Modified pentathlon competition

#### The Participant

- From age 6 to 9 years old, a child learns to participate in group activities. S/he expects to be directed by parents, teachers or coaches and loves to follow, but due to short attention span and judgmental nature, can quickly become frustrated or lose interest.
- S/he likes to show off skills and be the center of attention. Participation in sport can be a source of pride as long as success is praised and reinforced.

#### Development

- The first period of accelerated adaptation to speed (unloaded - body segment movement speed) occurs at age 6-8 for girls and age 7-9 for boys.
- Suppleness (flexibility) is also very trainable.
- Anaerobic capacity is low, as is the ability to regulate temperature in extreme hot or cold environments.
- Attention span is short: children are enthusiastic and want to be in action.
- Skill learning is through verbal, visual, and physical means. Demonstrations and guided trial works far better than explanation alone.
- Strong sense of fairness emerges. Children understand basic sport rules, ethics and concepts.



#### The Coach

- Parents, family, and teachers are the early “coaches”. Later, in structured sport programs, coaches should be Community Sport-Initiation certified.
- Approach: structured play in fun, safe environments and a minimal emphasis on competition.
- Focus on building-blocks of later performance: ABC’s (Agility, Balance, Coordination, Speed), RJT’s (Run, Jump, Throw) through a wide range of fun activities.

#### The Program

- Daily physical activity: unstructured play daily plus a minimum 30 minutes/day, 5x/week of structured activity including school PE.
- Multiple, fun sport activities on land, in water and air, and sliding on snow and ice.
- Use of modified sports and equipment to ensure the child can control the game.
- Consolidate fundamental movement skills and begin to apply in sport settings. Emphasize catching, throwing, hitting, running and other games.
- Work on speed (linear, lateral, multi-directional, arm/hand, leg/foot, etc) with game-based activities under 5 seconds long.
- Develop strength through games using their own body weight, medicine ball, Swiss ball, etc.
- Pentathlon-related activities: let the child experiment with concepts of balance and center of gravity. Running path-finding games and running sports like soccer. Swimming games and fun mini-races. Target games (throwing, introduction to lasers, etc.). Exposure to horses and riding if possible.



### Learn to Train Stage

(Age 8/9 F/M to onset of PHV)  
Focus: Multisport development  
Division: Skill-focused competition

#### The Athlete

- Entering organized sport; may include pentathlon activities for the first time.
- May be interested due to participation in school, participation of a parent or family member, or other reasons.
- May be apprehensive, curious to “see how he/she does”...needs encouragement and reinforcement through success.
- May be entering a summer camp, PSO camp or club.

#### Development

- Optimal period for Skill development is age 8-11 in girls, 9-12 in boys. Fine motor and coordinated movements can develop quickly. The emphasis is on transferring fundamental movement skills to fundamental sport skills, and building sport skills.
- Prior windows were Speed and Suppleness: continue to build on motor speed and flexibility through a variety of activities.
- Strength is developed through use of own-body-weight activities, medicine balls, etc.
- Stamina is developed through running and swimming games and relays.
- Abstract thinking and attention span are still developing. Lengthy explanations and complex concepts are difficult to grasp.
- At this age children are becoming more self-aware and self-conscious. Peer approval is important. They may like to be part of a team and “show off” their success and skills to peers.

#### The Coach

- NCCP Community Sport-Initiation coach in sports of Fencing, Swimming or Athletics.
- Approach: Use games-based training - allow the athlete to experiment with movement concepts (e.g. center of gravity - what is the most stable position for aiming and hitting accuracy?) in games and simple simulations.
- Use games to develop multiple competencies (e.g. skills, speed, stamina) but avoid complex tactics, highly repetitive drills, and high intensity physical training.

#### The Program

- **Overall:** Athlete should be involved in multiple other sport/physical activities for multilateral development.
- **Pentathlon-specific program:** 22 - 26 weeks, 2 – 3x/week, often running from mid-Fall to mid-Spring. Seasonal program coordinated with those of other sports.
- **Physical:** Develop ABC’S: Agility, Balance, Co-ordination and Speed
- **Technical:** Learn basic concepts of fencing attack and defense, swim skills (technique, efficiency), the shooting process and comfortable running.
- **Tactical:** Thinking of how to build an advantage.
- **Psychological:** Develop passion for improvement through fun, success mastering basics
- **Theoretical:** Basic understanding of UIPM swim, fence and laser-run rules.
- **Life skills:** Cooperation, emotional management, sportspersonship.
- **Competition:** “Festival” environment, modified rules/conditions – 1+ events per year.



## Competition in Pentathlon: Early Stage Development

*Competition is a good servant, but a poor master.*

- Sport for Life

Athletes and coaches prepare (train) for success in competition. Consequently, the competition structure in use, meaning the format of competitions, rules, schedule, athlete eligibility, divisions, etc. will dictate how athletes prepare and develop over time. In this case competition is the master. In many sports the competition structure wasn't deliberately designed, but evolved over time to reflect culture, tradition, international rules, local organizational factors (e.g. access to facilities, volunteers, climate), and the wants and needs of many stakeholders inside and outside the sport.

This challenge may be even more relevant in pentathlon, where in the early stages athletes often participate in several different sports that may have conflicting competition systems. However, to make competition a "good servant", it needs to be used intentionally, for development. Coaches, parents and athletes should follow principles of meaningful competition:

**Meaningful competitions are structured to reinforce the development of Long-Term Development stage-specific skills and abilities.** The expected level of performance matches the skill level of the competitor. Rules and equipment are modified as needed to ensure competitors are able to develop within their abilities. Competitors are able to perform and test the skills they have learned and practiced in the training environment.

**Meaningful competitions lead to results that are relatively close and not predictable.** Competitors are matched with others of a similar level of ability and are challenged to be the best they can be at that moment in time. **They believe they have a chance for success and remain fully engaged throughout the competition.**

**Meaningful competition is athlete-centred, coach-led and system-supported.** Coaches are responsible for maximising the value of the competition by intentional selection of competitions and setting appropriate competition goals matched to the stage and ability of the athlete. The sport system, including sport organisations, event organisers, coaches, officials and others, is responsible for defining competition formats, rules, schedules, and eligibility to support the objectives of meaningful competition. Competition should contribute to the positive development of all athletes.

If competition is to be a good servant rather than a poor master, competitions should reflect the goals for each developmental stage, including reinforcement of social, psychological and physical development objectives. In the early stages, enjoyment of the sport and the development of good skills are the most important goals. Later, in the excellence stages the format of competitions should help the athlete develop fitness, focus and competition abilities. Every competition should have a specific purpose tied to the athlete's stage, whether it is to develop tactical skills, to practice for a major competition, or to perform at a Championship event. Here are some tips:








### In the *early stages*:

- Introduce competition only when the athlete has developed sound basic skills.
- Emphasize demonstrating skills in competition, not winning.
- Avoid comparing results to other athletes. Instead, compare to previous performances- look for improvement and consistency.
- Avoid excessive, expensive travel to national competitions until the athlete is ready (i.e. until later in the Train to Train stage).

### In the *excellence stages*:

- Select competitions based on specific criteria: development of skills and tactics, trying a higher level of competition for learning, or trying a different event for the first time.
- At first select only a few events per season where performance and ranking matter. Increase the emphasis on performance progressively. Utilize non-focus events to add quality to the training plan and prepare for future competition-specific situations (that may be difficult to learn outside of a competition setting).
- Later (Train to Compete) the emphasis is on refining event preparation and tactical skills, developed through participation in many national and some international events. This athlete may compete even more than a Train to Win athlete.
- Constant monitoring to ensure there is enough time for recovery and training between competitions in the plan.

This table shows competition modifications in the individual disciplines at the FUNdamentals, L2T, T2T and Active for Life stages, as recommended by Pentathlon Canada:

				
	FUNDAMENTALS	LEARN TO TRAIN	TRAIN TO TRAIN	ACTIVE FOR LIFE
<b>Fence</b>	U9 - When possible, size 2 epees.	U11/U13 - When possible, size 2 epees.	No accommodations.	No accommodations.
<b>Swim</b>	Accommodation for in-water start when appropriate.	No accommodations.	No accommodations.	Accommodation for in-water start when appropriate.
<b>Equestrian</b>	Not critical. If incorporated, courses are adapted (by ability) to: <ul style="list-style-type: none"> <li>- Lead-line;</li> <li>- Poles and cavaletti;</li> <li>- Au concours</li> </ul>		When appropriate to athlete ability, provide the opportunity to ride au concours (i.e. ride the course, but no score is earned.).	When appropriate courses are adapted (by ability) to: <ul style="list-style-type: none"> <li>- Lead-line;</li> <li>- Poles and cavaletti.</li> </ul>
<b>Laser Run</b>	U9 – two hand shoot. U9 – 5m distance.	U11 - 5m distance. U11/U13 – two hand shoot.	No accommodations	No accommodations

## Excellence Stages: Toward the Podium

*In the excellence stages the athlete is focused on success in Modern Pentathlon - developing and refining the physical, mental, technical, tactical and life skills to reach the podium.*





### Train to Train Stage

(From onset of PHV)  
Focus: Transitioning to Pentathlon

#### The Athlete

- Has made a commitment to participate in Modern Pentathlon, or in one or more foundation sports (swimming, running, equestrian) and wants to try MP.
- Is prepared to train hard and compete in structured programs.
- Is likely experiencing many life challenges in adolescence, including school, family and work, which may detract from commitment to sport. Growth spurt may also lead to temporary loss of performance.
- Wants to feel successful and accepted.

#### Development

- Rapid physical, mental and emotional changes in this phase.
- Optimal period for Stamina begins at growth spurt: usually age 11-15 in girls, 12-16 in boys. Make aerobic training a priority after the growth spurt while maintaining or further developing levels of skill, speed, strength, and flexibility.
- Emphasize flexibility training given rapid growth during this stage.
- There are 2 periods of accelerated adaptation to strength training for females: the first occurs immediately after PHV and the second begins with the onset of menarche. For males, there is 1 period and it begins 12 to 18 months after PHV.
- Abstract thinking and future-planning skills develop later in the stage.
- Adolescents are highly influenced by their peers and want to be independent and make their own decisions.

#### The Coach

- NCCP Competition-Introduction and UIPM CCP Level 1 or 2 certified coach working in a club environment.
- Approach: Introduce a more structured, higher-volume program. Use games and decision-based training to develop multiple competencies (e.g. skills, speed, stamina). Expect the athlete to learn through experimenting and thinking, not just repetition. Emphasize building a strong foundation of core skills.
- Coach to increasingly interact with various stakeholders (parents, clubs, school, etc.).
- Careful periodization of the five disciplines within the program. This requires a careful balance of education and life priorities, while avoiding overload.
- Reinforce the athlete's feeling of competence and success through progressive exposure to competition. Avoid temptation to push too hard, too soon, especially with early-maturing athletes.

#### The Program

- **Overall:** Continue involvement in other sports, but reduce to 2 main focuses.
- **Pentathlon-specific program:** 30 - 34 weeks, 8 - 10 sessions/week, ideally running from early-Fall to mid-Spring. Periodized seasonal program coordinated with other sports.
- **Physical:** Consolidate ABC'S: Agility, Balance, Coordination and Speed. Progress Aerobic and Strength capacities.
- **Technical:** Consolidate core skills through repetition. Introduce new skills regularly so repertoire and comfort expand.
- **Tactical:** Introduce tactical principles: basic analysis of field of play and competitors..
- **Psychological:** Foster combative mentality and perseverance.
- **Theoretical:** Develop understanding of the language, protocol and structure of pentathlon.
- **Life skills:** Respect for sport, opponent, self.
- **Competition:** Regional and Provincial competition; introduce National later in stage. Build success through selected competitive experience.





### Train to Compete Stage

(7+ years in sport, selection based on sport criteria)  
Focus: mastering competition

#### The Athlete

- Is serious about pursuing excellence in Modern Pentathlon.
- Is prepared to train hard and focus on competitive success.
- Is likely experiencing life challenges in balancing school, family, personal relationships and work, which must be managed to remain committed to sport.
- Self-image becomes defined, including sport as a major element in identity.
- Looks ahead to next steps in sport success e.g. National Team, while managing potential setbacks such as injury or balancing priorities, resulting in frustration.
- Needs to build a support network including family, coach, sport science and health care to sustain a sport career.

#### Development

- Major opportunity for strength and power development.
- Maintain or further develop skill, speed, stamina and flexibility.
- Capacity for significant increase in volume and intensity of training.
- Abstract thinking and goal-setting skills well-developed; can think ahead tactically, and in terms of planning for personal development.
- Strong sense of independence and wants to make own decisions, yet continues to desire external support and identity with peer group.

#### The Coach

- NCCP Competition-Development and UIPM CCP Level 3 certified coach working in a club and/or training centre environment.
- Approach: Introduce a year-round, high-volume and intensity program, that supports a multi-year plan.
- Decision-based training is used to transfer skills and fitness to competitive situations. Use competition simulations and training competitions to build competition skills. Insist the athlete learn through experimentation and analysis.
- Reinforce competence and success through progressive exposure to competition.
- Rest and recovery are vital. Avoid over-reaching, over-training and over-competing to protect against injury.

#### The Program

- **Overall:** Move to year-round, high volume and intensity training. Focus on volume.
- **Pentathlon-specific program:** 40 - 44 weeks, 13 - 15 sessions/week, ideally running from early-Fall to early-Summer. Periodized annual program with single or double peaks. Introduce tapering/peaking strategies.
- **Physical:** Optimize strength, speed and power. Build maximal capacity.
- **Technical:** Master core skills and develop variations in competitive situations.
- **Tactical:** Develop personal strategy/tactics based on individual strengths.
- **Psychological:** Develop peak performance: goal-setting, desire, sacrifice.
- **Theoretical:** Understand basis of athletic performance.
- **Life skills:** Develop independence.
- **Competition:** Continental Youth and Junior World Championships, Junior Pan American Games.





### Train to Win Stage

(7+ years in sport, selection based on sport criteria)  
Focus: mastery and performance

#### The Athlete

- Totally committed to pursuing excellence in Modern Pentathlon.
- Has been focused on competitive success and training hard for 7+ years. Is mastering all aspects of the sport and life as a high performance athlete.
- Has an active support network including family, coach, sport science and health care to help sustain a sport career. Is learning to manage stress, injury, and maintaining peak performance while balancing life demands.
- Is increasingly seen as a role model and is in demand to appear at various events.

#### Development

- Maintain or further develop skill, strength, speed, power, stamina and flexibility.
- Care must be taken to optimize volume and intensity of training to maintain peak performance while avoiding injury.
- Carefully periodized plan that considers individual variation in ability to cope with training volume, recovery needed, etc.
- Abstract thinking and goal-setting skills fully-developed. Able to analyze situations quickly and adapt or innovate.
- Is independent and self-directed, yet needs strong support to enable full focus on demands of sport.

#### The Coach

- NCCP Competition-Development or High Performance, and UIPM CCP Level 4 certified coach working in a club or National Team environment.
- Approach: Provides support, technical analysis and outside perspective to an established high performance athlete. Seeks competition opportunities and engages additional specialised expertise to fine-tune athletic performance.
- Build independence through athlete's participation in planning decisions and own control of day-to-day training.
- Monitor recovery carefully to avoid over-reaching, over-training and over-competing and protect against injury.

#### The Program

- **Overall:** Analyze, monitor and perfect performance. Focus on quality.
- **Pentathlon-specific program:** 46 - 48 weeks, 15 - 17 sessions/week, running from early-Fall to mid-Summer. Periodized annual program with multiple peaks.
- **Physical:** Optimize all physical qualities with emphasis on recovery.
- **Technical:** Perfecting strengths in simulated or modelled competitions. Innovating skills.
- **Tactical:** Study opponents while refining actions and reactions. Innovating tactics.
- **Psychological:** Prepare for the unexpected and overcome adversity.
- **Theoretical:** Understand and refine personal problem-solving, choices, decisions.
- **Life skills:** Becoming self-directed and in control at all times
- **Competition:** World Cups, World Championships, Pan American Games, Olympic Games.
- Participation in H.P. Camps, National Team program, performance testing.



## Periodization in Pentathlon: Train to Train and Beyond

Periodization is a central concept in planning training and competitions for the benefit of athlete development and performance outcomes. Periodization manipulates load, intensity and recovery, and prioritises different focuses within the phases of a training plan. This supports the desired adaptation of body and mind. Periodization allows for the division of workload into smaller, manageable blocks. It is the foundation of a training plan, as part of a larger perspective, supported by a development plan. An ancient form of periodization dates back to the origins of the ancient Olympic Games (776 BC) by Philostratus, who developed simple annual plans for the Greek Olympians. In modern times it was Leonid P. Matveyev, a Russian sport scientist, who published the first model, which was subsequently further developed by many other sport scientists. Periodization follows sport science evidence, while balancing sport-specific needs, and athlete-specific situations. Periodization's objective is to achieve developmental goals and ensure peak performance, by specifically structuring all training and competitive elements within an annual plan.

### Key Principles of Periodization

Takes into account:

- Competition selection and planning (targets, peaks)
- General commitments, constraints and workload of athletes (school, sport and social)
- Sport specific needs
- Athlete specific level and needs
- Gender specific
- Objectives (physical, technical, tactical, emotional)

Reflected in:

- A development plan
- An (annual) training plan
- The daily sessions for team and/or individuals







### Annual Training Plan

An annual training plan is a tool that structures and plans training over a season or year. It is essential to incorporate periodization. Generally, an annual training plan includes and maps out different phases.

Phase of training/competition	PREPARATORY		COMPETITIVE		TRANSITION
Sub-phases	General preparation	Specific preparation	Pre-competition	Competition	

The main phases are divided into sub-phases with a clear purpose. These phases are underpinned by manageable cycles of periodization. Periodization consists mostly of three types of cycles, usually split as the following:

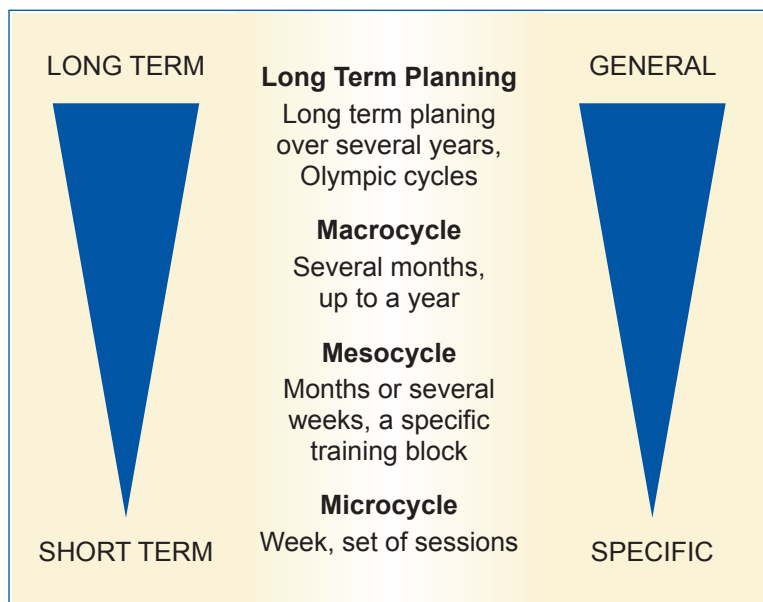
Annual Training Plan						
Macrocycles	Macro					
Mesocycles	Meso				Meso	
Microcycles sessions	Micro	Micro	Micro	Micro	Micro	Micro

Macrocycles typically include several months or up to a season or year. It includes several mesocycles.

A mesocycle refers to a particular training block. They integrate several consecutive microcycles. Mesocycles often focus on a specific goal (or sub-phase) and allow balancing load/ stress and recovery.

A microcycle is the smallest unit of periodization. Very often they form the week plan with its individual sessions.

Structured training into phases and cycles, stimulates physiological and psychological adaptations. It helps the coach to better plan and manage training and competitions, as well as steering an athlete's long-term development.



### Peaking

Peaking has the goal to optimise performance at the appropriate time. It is the result of careful sequencing and periodization of an athlete's annual training plan. Peaking or tapering (critical phase to achieve the peak) is a complex process of steering many factors. Mostly volume, intensity, frequency and recovery. By reducing the load and favouring more recovery and shorter, high intensity sessions, tapering or peaking results in a desired physical and psychological response of readiness.

### Periodization in Pentathlon

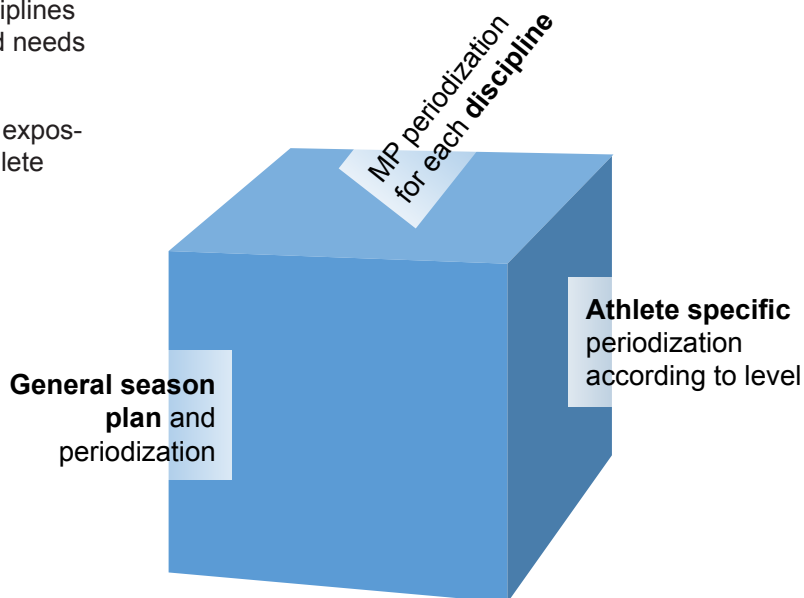
Periodization in pentathlon consists of and includes the same key points of periodization for structuring a season and affecting training in other sports. Structuring the year/season into phases and balancing load and recovery are crucial. However, periodization in pentathlon is more complex and has another dimension, because:

- Focus and volumes vary for each discipline through the season (and each discipline is periodized as well).
- Development (and learning) of several disciplines happens over years, at different stages and needs to be fit in appropriately.

As for all sports, the level and previous sports exposure need to be taken into account for each athlete individually.

For a successful development in pentathlon, it is crucial to take into account the following three dimensions and periodize the training accordingly:

- Annual/season plan with preparatory, competition and transition phases.
- Discipline specific season planning and periodization.
- Athlete's level and capability for each discipline.



### Pentathlon Annual Training Plan

Early-stage athletes do not need a periodized annual plan. Children in the Active Start and FUNdamentals stages do not need training plans at all, and in the Learn to Train stage simple activity scheduling to prevent excessive sport participation is appropriate. In the Train to Train stage and beyond, a progressive approach beginning with seasonal periodization, and working toward more complex year-long periodization, is recommended.

Annual training plan considerations for successful long-term development:

1. Annual/season plan contains preparatory, competition and transition phases

As for any sport the season is mapped out (or longer cycles), and objectives set on what and when to achieve. By structuring the season into phases and sub-phases it is possible to periodize accordingly. Designing an annual plan starts 'at the end, and works backward to the beginning.'

2. Integrate discipline-specific season planning and periodization

Each discipline follows its own periodization, given by the fact that each discipline has preparatory and competition phases. Not all disciplines can have the same focus and heavy load at the same time. Further, some heavy training in one of the disciplines might influence and hinder successful development and progress in another (a contradictory training effect). As such a staggered approach should be taken in both introducing a new discipline to an athlete and integrating each discipline into the annual plan. Each discipline will vary through the season according to the yearly training plan. For instance, in the general preparation

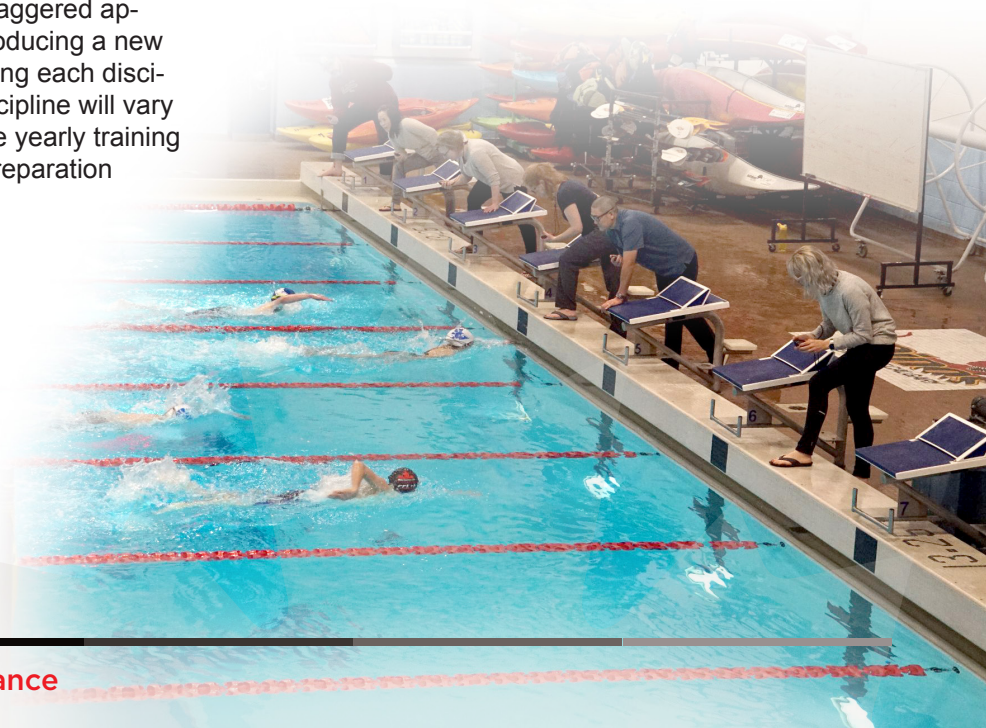
phase in the Fall, fencing training will be weighted more heavily on new skill introduction in a lesson environment as opposed to bouting; whereas general strength and conditioning preparation has a strong focus in swimming and running. Later in the season, free fencing/bouting has priority and results in a bigger specific load, which requires a reduction of the swimming and running load.

Training camps may have a specific focus and result in different periodization. Mesocycles are very useful to periodize pentathlon, as microcycles do not allow enough adaptation and recovery to switch the focus from one discipline to another.

3. Customise to an athlete's level and capability for each discipline

Athlete specific periodization, according to the individual ability is critical to acquire new skills. Acquiring new skills – or in pentathlon, even new disciplines – needs to be planned long term. As an example, a beginner athlete (in the Learn to Train stage) may only ride in a camp setting (five or more days of dedicated lessons), whereas high performance athletes will have purposefully planned training camps with a fencing or equestrian focus. Volumes will vary based on previous sport exposure and experience.

Considering a 3D periodization approach and balancing accordingly, is key for success.





## Active for Life: Beyond the Podium

### Active for Life/Competitive for Life Stage

(Enter any time after PHV)

Focus: many options

#### The Athlete

- This athlete may be younger, moving out of the Learn to Train stage and seeking ongoing participation in the sport, or ending a high performance career.
- Wants to maintain physical fitness and enjoy the fun of sport, in either a competitive or non-competitive setting.
- Is leading a busy life including school or work, and family. Sport is not top-priority.
- Has a lot to offer whether as a participant, coach, official, or leader.

#### Development

- Age-dependent. May be continuing to develop physically if aged 16-21.
- After age 25+/- some physical abilities decline gradually but can be maintained with training. This is often compensated for by superior tactical sense and mental strength.
- Development as a coach, a mentor, an organiser is just beginning – supporting lifelong learning should be a goal of every sport organisation.

#### The Coach

- If the participant wants to continue competing, the coach may be a NCCP Competition-Introduction coach working in a club environment.
- Approach: A structured, but lower-volume program. Give the participant opportunities to learn and grow through designing and leading activities and experimenting with other disciplines. Emphasize maintaining fitness through regular activity.
- Encourage the participant to try coaching, officiating or other leadership roles in the sport. Offer support and encouragement.

#### The Program

- *Overall:* Continue involvement in other sport/ physical activities focusing on several enjoyable sports.
- *Pentathlon-specific program:* Seasonal program as desired by athlete, coordinated with other sport activities.
- *Physical:* Maintain key physical abilities- suppleness, speed, strength, stamina.
- *Technical:* Maintain and refine core skills. Provide opportunities to learn new skills.
- *Tactical:* Maintain personal strategy/tactics based on individual strengths.
- *Psychological:* Mentally stronger for life- employ the lessons of sport and life.
- *Theoretical:* Life-long learning.
- *Life skills:* Reflecting on the experience of sport and finding ways to give back.
- *Competition:* As desired- Regional, Provincial or National competition.



## Athletes with a Disability and Pentathlon

Para-pentathlon is in its infancy in Canada, and its growth is an important objective. Pentathlon Canada continues to develop ways for persons with a disability to train and compete. There is a great opportunity here, and much work to do. The UIPM Para-Pentathlon Working Group and Para-Pentathlon Commission have been analyzing technical and classification requirements of five UIPM Sports – Laser Run, Biathlon, Triathlon, Tetrathlon and Modern Pentathlon – with the aim of establishing a development strategy for UIPM Para-Sports.

In 2017, UIPM Congress adopted the UIPM Para-Sport Regulations 2017. The document covers general classification rules and procedures and defines sport classes. The first sport UIPM will introduce is Para Laser Run and the first class to be introduced at the elite level is LR1 (standing category including lower-limb amputees and athletes with disabilities having a similar impact on performance). The regulations are available at [https://www.uipmworld.org/sites/default/files/uipm\\_para-sport\\_regulations\\_v3\\_0.pdf](https://www.uipmworld.org/sites/default/files/uipm_para-sport_regulations_v3_0.pdf)

Para-sport opportunities exist in many of the Modern Pentathlon sports, including Athletics, Swimming, Shooting, Fencing and Equestrian. Pentathlon Canada is working with these sport organisations to develop a Canadian model for Para-pentathlon. Currently, training and competition environments are adapted so that athletes with a physical disability can easily partake. This approach requires flexibility given the

natural variety of athlete-abilities, where participation in one or more elements may not be realistic. Domestically, Pentathlon Canada has had the most success thus far with wheelchair athletes who fence according to FIE rules, and laser-run using a sport chair (while shooting according to UIPM rules).

To develop and grow this domain of pentathlon, clubs are encouraged to offer adapted programs, and coaches are encouraged to enhance their knowledge base through NCCP and UIPM education. The Coaching Association of Canada offers an eLearning Module, [Coaching Athletes with a Disability](#), which addresses appropriate program planning and adaptation.





## Building Pentathlon in Canada

No framework makes a difference until it is put into action.

In the development of this framework, a number of key issues for Modern Pentathlon in Canada were identified. By taking the following steps, we can build a sport based on an integrated athlete development system which provides support to all participants from entry into the sport through to Active for Life.

### First priority: **Coaching**

- 1 Develop a Pentathlon coach education program within the National Coaching Certification Program.
- 2 Increase the number of trained coaches at all levels, and ensure they have a solid understanding of LTD.
- 3 Improve communication and cooperation between coaches. Hold annual coach training/development seminars in each province, and support coach development via outside conferences (e.g. CAC Sport Leadership, Sport for Life Summit).

### Second priority: **Leaders**

- 4 Develop and deliver an expanded officials development program.
- 5 Create more leadership training opportunities in cooperation with provincial associations.
- 6 Host regular conferences and NSO-PSO President's meetings to focus on development issues and identify and recruit new leaders.

### Third priority: **Organisations**

- 7 Integrate athlete development (i.e. the LTD framework) into all aspects of organisation such that Pentathlon is truly "athlete centred". For example, consider how athlete development can be integrated into governance (e.g. committee structures), strategic and operational plans, budgets, policies and procedures.
- 8 Provide standardised policies, standards and agreements on the Pentathlon Canada web site. Explore creation of NSO-PSO agreements to help coordinate efforts and delineate clear responsibilities in the area of athlete development.

### Fourth priority: **Competitions**

- 9 Review and modify the format of competitions as needed to ensure appropriate progression for all athlete stages.
- 10 Educate coaches on the appropriate use of different levels of competition to meet athlete development goals.
- 11 Standardise stage-appropriate national and provincial championship formats such that each has a development consistent with the level/stage of eligible athletes.
- 12 Plan and develop modified competitions and formats accessible to athletes with a disability.





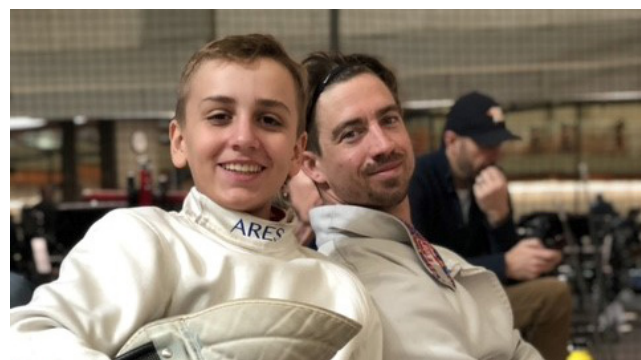
### The Way Ahead

Modern Pentathlon has a long and proud history in Canada. As we look to the future, we see sustainable growth, increased participation, and excellence in competition.

Pentathlon's LTD framework is an essential tool in achieving that future vision. By building an integrated development system that emphasizes the progressive, seamless development of athletes- that is, by being athlete-centred, coach-driven and system-supported - we can reach our goals. There is no doubt this will require hard work, dedication and a willingness to change and cooperate. Just as each athlete and coach must remain patient, understanding that there are no shortcuts to success, our leaders must take the long-term view. But with a clear pathway in place, we will succeed.

When the *system* provides adequate support, *and* the athlete attains the key competencies in each stage

including previous, foundation stages, then the athlete is able, within his or her own limitations, to reach the highest level of performance. Everyone – parents, coaches, clubs, associations – has to get it right for the athlete to reach his or her full potential. By following the LTD framework model and participating as both athletes, coaches and builders, we can create a system that allows every Canadian that potential.



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## Glossary

**ABC'S** Agility, Balance, Coordination, Speed (movement literacies).

**Abstract Thinking** Thinking about processes, objects and events that may or may not have real world representation.

**Adaptation** refers to a response to a stimulus or a series of stimuli that induces functional and/or morphological changes in the organism. Naturally, the level or degree of adaptation is dependent upon the genetic endowment of an individual. However, the general trends or patterns of adaptation are identified by physiological research, and guidelines are clearly delineated of the various adaptation processes, such as adaptation to muscular endurance or maximum strength.

**Adolescence** is a difficult period to define in terms of the time of its onset and termination. During this period, most bodily systems become adult both structurally and functionally. Structurally, adolescence begins with an acceleration in the rate of growth in stature, which marks the onset of the adolescent growth spurt. The rate of stature growth reaches a peak, begins a slower or decelerative phase, and finally terminates with the attainment of adult stature. Functionally, adolescence is usually viewed in terms of sexual maturation, which begins with changes in the neuroendocrine system prior to overt physical changes and terminates with the attainment of mature reproductive function

**Aerobic Endurance** Ability to exercise for long durations using aerobic energy systems.

**Aiming/Hitting** Hitting a target with an object.

**Agility** The ability to move quickly in three dimensions while remaining in control of the movement.

**Athlete Development Matrix (ADM)** describes the skills and attributes of athletes progressing through the stages of the Long-Term Development Framework. The generic Sport for Life Athlete Development Matrix (ADM) guides organizations to create a focused, sport-specific matrix of skills and attributes that optimize athlete development. This establishes the background knowledge to inform program design, coaching programs and materials, and effective competition systems.

**Balance** Ability to remain upright while moving. Includes static balance and balancing while moving or gliding.

**Childhood** ordinarily spans the end of infancy — the first birthday — to the start of adolescence and is characterized by relatively steady progress in growth and maturation and rapid progress in neuro-muscular or motor development. It is often divided into early childhood, which includes pre-school children aged 1 to 5 years, and late childhood, which includes elementary school-age children, aged 6 through to the onset of adolescence.

**Chronological age** refers to “the number of years and days elapsed since birth.” Growth, development, and maturation operate in a time framework; that is, the child’s chronological age. Children of the same chronological age can differ by several years in their level of biological maturation. The integrated nature of growth and maturation is achieved by the interaction of genes, hormones, nutrients, and the physical and psychosocial environments in which the individual lives. This complex interaction regulates the child’s growth, neuromuscular maturation, sexual maturation, and general physical metamorphosis during the first two decades of life.

**Coordination** Moving several parts of the body serially or simultaneously to achieve movement.

**Core Strength and Stability** Strength of the core muscles of the trunk, including chest, back and abdomen, which provide an “anchor” for the effective use of arm and leg muscles.

**Fine Motor Skills** Movements controlled by small muscles, e.g. hand or finger movements.

**Goal Setting** The ability to set targets for future behaviours or outcomes.

**Gross Motor Skills** Large movements of the limbs and body using multiple joints and muscle groups.

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



**Memory** Ability to retain and recall instructions, information, and experiences.

**Mental Models** Ability to understand and manipulate mental models of real-world processes.

**Periodization** A training program broken down into phases (periods) to promote progressive development.

**PHV or Peak Height Velocity** the maximum rate of growth in stature during growth spurt. The age of maximum velocity of growth is called the age at PHV.

**Peak strength velocity (PSV)** is the maximum rate of increase in strength during the 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 age at PWV.

**Physical Literacy** The competence of an individual in a wide range of physical activities, and the confidence and motivation to remain active for life which comes with that competence; a foundation for all sport development.

**Puberty** refers to the stage of maturation during which an individual becomes sexually mature and able to reproduce.

**Readiness** refers to the child's level of growth, maturity, and development that enables him or her to perform tasks and meet demands through training and competition. Readiness and sensitive periods of trainability during growth and development of young athletes signal the correct time for using certain stimuli to achieve optimum adaptation in skills, physical capacities, and competition.

**Sensitive (or Enhanced) periods of development** refers to a point in the development of a specific ability when training has an optimal effect on development. The same experience, introduced at an earlier or later time, has less effect on later skill acquisition.

**Skeletal age** refers to the maturity of the skeleton and is determined by the degree of ossification of the bone structure. It can be used as a way of accurately determining Developmental Age, but requires the use of sophisticated instruments (X-ray, MRI etc.)

**Speed 1** Speed increases due to improvements in neuromuscular coordination. Generally, this is a development of low-load or unloaded speed of limb movement.

**Speed 2** Speed increases due to improvements in energy systems, anaerobic alactic and lactic. Generally, this is a development of loaded or strength-dependent speed.

**Strength 1** Strength increases due primarily to increases in neuromuscular coordination, not muscle fiber growth. This can occur before or after puberty.

**Strength 2** Strength increases due primarily to increases in lean muscle mass- hypertrophy. This occurs post-puberty.

**Strength-endurance** Muscular strength and endurance, allowing repeated static or dynamic muscular contractions with reduced levels of fatigue.

**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.

**Visual Acuity** Ability to discriminate edges and see objects at various distances.







### Appendix A - Modern Pentathlon LTD Model

Pentathlon Canada Long Term Development Model Overview																			
Age	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22+	23+	
LTD Phase	FUNdamentals				Learn to Train - F			Train to Train - F			Train to Compete					Train to Win			
					Learn to Train - M			Train to Train - M											
Window of Trainability	Physical Literacy					Aerobic - F							Strength - F						
							Aerobic - M						Strength - M						
							Anaerobic - F												
									Anaerobic - M										
										Speed - F									
											Speed - M								
							Skills												
Supplemess																			
Category	U9			U11		U13		U15		U17		U19		Junior			Senior		
Delivery and Supports	Club Team																		
								Provincial Team											
										Development Team and National Team									
	School and Community Programs												Canadian Sport Centres/Institutes						
Main Competition Venues	Club					Provincial			Provincial and National				National and International						
						Provincial Games (Individual Events)			Canada Games (Individual Events)										
Competition Focus	Intraclub Mini-Pent				Club Events			Provincial and National Championships			U17 and U19 Continental Championships U17 and U19 World Championships Youth Olympic Games		Junior World Championships Junior Pan American Games		Major Championships Major Games				
Coaching Program	NCCP Instructor Beginner UIPM CCP L1				NCCP Comp Intro UIPM CCP L4							NCCP Comp Dev UIPM CCP L3					NCCP Comp HP NCCP ACD UIPM CCP L4		



### Appendix B - Modern Pentathlon LTD Stage Matrix

MODERN PENTATHLON Early stages	ACTIVE START Age 0 - 6 0 - 1 years in sport	FUNDAMENTALS Age 6 - 8/9 0 - 3 years in sport	LEARN TO TRAIN Age 8/9 - 11/12 2 - 5 years in sport	ACTIVE FOR LIFE Any age after growth spurt
The Big Picture: Key Objectives For This Stage	<ul style="list-style-type: none"> <li>"Develop physical literacy" – explore movement and build basic movement skills through a wide variety of unstructured fun physical activities on land, in water, and sliding on snow and ice.</li> </ul>	<ul style="list-style-type: none"> <li>"Develop physical literacy" Participants take basic movement skills and adapt them to sport, while learning basic sport concepts of rules and competition.</li> <li>Learn basic sport skills through fun participation in multiple sport activities.</li> </ul>	<ul style="list-style-type: none"> <li>"Develop skills" - Participants build on the physical literacy base.</li> <li>Introduction to a basic sport training program.</li> <li>Major emphasis on acquiring and developing skills.</li> <li>Participation in multiple sports including swimming, X-C running, and target sports.</li> </ul>	<ul style="list-style-type: none"> <li>"Maintain activity, give back"</li> <li>Maintain fitness through year-round activity.</li> <li>Participate in multiple sports.</li> <li>Look for leadership opportunities e.g. coaching, officiating</li> </ul>
Pentathlon-Specific Objectives	<ul style="list-style-type: none"> <li>No sport-specific objectives.</li> </ul>	<ul style="list-style-type: none"> <li>Develop a love of sport in multiple activities.</li> <li>Develop hand-eye coordination through fun activities.</li> <li>Development of coordination and participation in target sport activities.</li> </ul>	<ul style="list-style-type: none"> <li>Develop new skills in progressively challenging situations.</li> <li>Main focus is <u>skill development</u>, not competition. Emphasize skill-related performance metrics and personal improvement.</li> <li>Access to pentathlon-specific and/ or target sport-specific coaching</li> <li>Initial fun competitions: tetrathlon, swim, fence.</li> </ul>	<ul style="list-style-type: none"> <li>Develop and maintain good skills as appropriate to personal goals.</li> <li>Focus on motivating and FUN activities</li> <li>Access to equipment, facilities, and sport programs.</li> <li>Access to coach if desired</li> </ul>
Physical Development	<ul style="list-style-type: none"> <li>Daily activity: minimum 30 minutes/day for toddlers and 60 minutes/day for preschoolers.</li> <li>FUN activities on land, in water and air, and sliding on snow and ice.</li> <li>Encourage running, with stops, starts and changes in direction.</li> </ul>	<ul style="list-style-type: none"> <li>Physical literacy: further development of basic movement skills including locomotor, object control and balance and agility skills.</li> <li>Coordination, speed, power and endurance through FUN and games.</li> <li>Strength: Introduction to core strength and stability through fun games.</li> <li>Warm up/cool down: Introduce the concept.</li> <li>First sensitive period for speed training (girls; 6-8 years old, boys; 7-9 years old). This includes short explosive actions, agility and speed movement exercises.</li> <li>The optimal window of trainability for suppleness or flexibility is 6-10 years old.</li> </ul>	<ul style="list-style-type: none"> <li>Be aware of and monitor maturation which may occur at different rates.</li> <li>Do not emphasize speed, power or endurance; develop them only through FUN and games</li> <li>Introduction to concept of warm up/cool down</li> </ul>	<ul style="list-style-type: none"> <li>Maintain and develop strength, speed, endurance as appropriate to personal goals.</li> <li>Participate in multiple sports and activities.</li> </ul>
General Technical (Skill) Development	<ul style="list-style-type: none"> <li>Catching and throwing games. Start with two hands then progress to using left and right hands to catch and throw.</li> <li>Balance, jump, slither like a snake, and roll like a rolling pin. Use hands, feet and other body parts to balance, push and jump. Ride a tricycle or bike.</li> </ul>	<ul style="list-style-type: none"> <li>Physical literacy: develop basic movements skills (locomotor, object control, balance and agility).</li> <li>Basic speed, power and endurance through FUN and games.</li> </ul>	See Specific Technical Skill Development	



MODERN PENTATHLON Early stages	ACTIVE START Age 0 - 6 0 - 1 years in sport	FUNDAMENTALS Age 6 - 8/9 0 - 3 years in sport	LEARN TO TRAIN Age 8/9 - 11/12 2 - 5 years in sport	ACTIVE FOR LIFE Any age after growth spurt
Specific Technical (Skill) – Fence	<ul style="list-style-type: none"> <li>Hold the mini epee.</li> <li>En garde.</li> <li>Salute opponent and referee.</li> <li>Footwork; advance and retreat.</li> <li>Simple lunge.</li> </ul>	<ul style="list-style-type: none"> <li>Hold the mini or full size epee.</li> <li>Guard position.</li> <li>Footwork combinations.</li> <li>Simple offense; extension and lunge (direct and with disengage).</li> <li>Parries six and four.</li> <li>Six and four engagements.</li> <li>Remise offense.</li> </ul>	<ul style="list-style-type: none"> <li>Redoubling lunge, static hops, more complex footwork combinations.</li> <li>Eight engagement.</li> <li>Beat four.</li> <li>Counter-offense to the body.</li> <li>Semi-circular (eight) parrie.</li> <li>Remise and reprise offense.</li> </ul>	<ul style="list-style-type: none"> <li>As appropriate for the needs and interest of the athlete.</li> </ul>
Specific Technical (Skill) – Swim	<ul style="list-style-type: none"> <li>Introduction to the water.</li> <li>Floating.</li> <li>While utilizing supports (instructor or floating equipment), experiment with kick, back float, scull.</li> <li>Water entries.</li> <li>Basic learn to swim.</li> </ul>	<ul style="list-style-type: none"> <li>Basic swimming skills – all strokes, turns, starts.</li> <li>Develop an early sense of 'feel for the water.'</li> <li>Provide knowledge of the basic use of swimming equipment.</li> <li>General, overall development.</li> <li>Physical literacy</li> <li>Speed, power, and endurance through FUN and games</li> <li>Introduction of kicking in all strokes</li> </ul>	<ul style="list-style-type: none"> <li>Further development and consistent demonstration of all swimming skills.</li> <li>Progressively refined swimming skills – streamline, strokes, turns, starts, underwater skills.</li> <li>Body control, stable movement patterns and a confirmed sense of 'feel for the water.'</li> <li>Development of sculling abilities.</li> <li>Proficient kicking in all four strokes.</li> <li>Awareness of depth in water following dive or turn.</li> </ul>	
Specific Technical (Skill) – Ride	<ul style="list-style-type: none"> <li>Develop basic movement skills.</li> <li>If possible, some exposure to an equine environment.</li> <li>Basic horse-management skills; brushing, feeding treats such as carrots, cleaning up.</li> <li>Introduce proper etiquette, care and caution around horses.</li> </ul>	<ul style="list-style-type: none"> <li>Intro to horsemanship.</li> <li>Horse familiarization and introduction to riding.</li> <li>Develop foundational riding skills and a positive attitude around horses and peers.</li> <li>Mount in a correct and safe manner.</li> <li>Basic seat and position; shoulders back, heels down, eyes up.</li> <li>Safely walk with and without stirrups.</li> <li>Begin to establish stability and balance.</li> </ul>	<ul style="list-style-type: none"> <li>Develop horsemanship and an understanding of horse behaviour.</li> <li>Continue to develop basic skills for position and use of aids.</li> <li>Basic seat and position at walk and trot.</li> <li>Trot with stirrups.</li> <li>Up and down transitions; halt, walk, trot.</li> <li>Rising and seated trot.</li> <li>Correct use of diagonals.</li> <li>Able to hold two-point in walk and while trotting over rails.</li> <li>Consistent use of seat, leg and voice aids.</li> </ul>	





MODERN PENTATHLON Early stages	ACTIVE START Age 0 - 6 0 - 1 years in sport	FUNDAMENTALS Age 6 - 8/9 0 - 3 years in sport	LEARN TO TRAIN Age 8/9 - 11/12 2 - 5 years in sport	ACTIVE FOR LIFE Any age after growth spurt
Specific Technical (Skill) – Laser Run	<ul style="list-style-type: none"> <li>Learn to hop from one foot to another laterally and forward/backward.</li> <li>Learn to two-foot jump while rotating.</li> <li>Learn to run.</li> <li>Learn to manage a task while running; throwing a ball at a target, and continue.</li> <li>Learn to coordinate arm and leg movement.</li> </ul>	<ul style="list-style-type: none"> <li>Two-hand hold, with chest pointed toward the target, feet parallel, shoulder width.</li> <li>Comfortable hold of handle, with non-dominant hand overlapping dominant hand.</li> <li>Trigger positioned correctly on 'pad' of the dominant hand's pointer finger.</li> <li>Front sight is 'picked up' just above the table and held for duration of raise until after shot is released.</li> <li>Concept of aiming (alignment of front and back sight), on blank target and white wall is established.</li> <li>Concept of focusing on the front sight is understood.</li> <li>Concept of positioning front sight inside rear sights evenly is understood (equal light on each side).</li> <li>Concept of aiming on the target, while aligning the sights is understood.</li> <li>Ability to reload on table with limited extra movement (laser remains held in non-dominant hand).</li> </ul>	<ul style="list-style-type: none"> <li>Two-hand hold, with equal weighting per side.</li> <li>Laser is level.</li> <li>Maintain correct aiming picture, under different circumstances (increased heart rate, noise, stress).</li> <li>Raise is straight from approximately 45° downward angle to the horizontal place, at the centre of the target.</li> <li>Single-hand hold is introduced.</li> <li>Athlete is competent making minor sight adjustments.</li> <li>Athlete regularly reviews and takes time to adjust position to find natural alignment.</li> <li>Laser moves approximately straight from table to centre of target.</li> <li>Breathing follows a regular pattern, with mostly appropriate timing (2 - 3 per shot)..</li> <li>Coordination of trigger squeeze with sight picture and breathing is increasingly consistent.</li> <li>'Follow through' accompanies each shot.</li> </ul>	
Tactical Development	<ul style="list-style-type: none"> <li>None in this stage.</li> </ul>	<ul style="list-style-type: none"> <li>Learn basic concepts and rules of competition and racing.</li> <li>Develop a basic understanding of pacing.</li> <li>Introduction of the concept of fair play (ethics).</li> <li>Watch Pentathlon to develop an initial understanding of sport.</li> </ul>	<ul style="list-style-type: none"> <li>More advanced concepts and rules of competition.</li> <li>Understanding of fairplay is well understood.</li> <li>Refine basic tactics: pacing and competition plan. I.e. 'My swim and laser-run race plan is XYZ,' or 'When fencing, I will use this skill.'</li> </ul>	<ul style="list-style-type: none"> <li>As appropriate to the level of participation (as desired).</li> </ul>
Mental Skills Development	<ul style="list-style-type: none"> <li>None in this stage.</li> </ul>	<ul style="list-style-type: none"> <li>Managing relationships and conflict.</li> <li>Managing feedback and failure.</li> <li>Develop positive language as part of their sport routine. I.e. 'I like to running,' 'I enjoy the feeling of trying to swim fast,' 'Fencing with my friends is fun'</li> </ul>	<ul style="list-style-type: none"> <li>Managing emotions and more complex peer relationships.</li> <li>Observe advanced athletes and envision mimicking their movement and behaviour.</li> <li>Development of focus (building attention span).</li> <li>Integrating positive affirmations in parallel with a growing awareness of self-image.</li> <li>Accept and integrate practices of cooperation and teamwork.</li> <li>Development of desired routines and valuing process.</li> </ul>	<ul style="list-style-type: none"> <li>As appropriate to the level of participation (as desired).</li> </ul>



MODERN PENTATHLON Early stages	ACTIVE START Age 0 - 6 0 - 1 years in sport	FUNDAMENTALS Age 6 - 8/9 0 - 3 years in sport	LEARN TO TRAIN Age 8/9 - 11/12 2- 5 years in sport	ACTIVE FOR LIFE Any age after growth spurt
Supports	<ul style="list-style-type: none"> <li>These are the "sampling" years. Support the child to participate in many kinds of activity including many kinds of sport.</li> <li>Allow lots of room for exploration and risk-taking in a safe environment.</li> <li>Promote physical activity and healthy eating as a family activity. Role modeling is very important.</li> <li>Provide short-duration, rapidly changing activities with lots of breaks. Let the child's attention span and interest dictate the activity.</li> </ul>	<ul style="list-style-type: none"> <li>Continue to support "sampling" participation in many kinds of activity including many kinds of sport.</li> <li>Look for coaches who are National Coaching Certification Program trained.</li> <li>Support skills, skills, skills. Let the child learn through experimentation, not drills.</li> <li>Emphasize fun, friendships, and honest effort in your child's sport experiences.</li> <li>Remember children can be far apart in maturation: don't compare to others.</li> </ul>	<ul style="list-style-type: none"> <li>Continue to support "sampling" participation in many kinds of activity including many kinds of sport.</li> <li>Look for coaches who are National Coaching Certification Program certified.</li> <li>Try not to signal that winning is important; don't ask "how did you do?" but instead emphasize fun, friendships, and honest effort.</li> </ul>	<ul style="list-style-type: none"> <li>Supporting all kinds of sport activity and interests, including learning to coach or officiate.</li> <li>Supporting non-competitive sport interests.</li> </ul>





### Training Program

MODERN PENTATHLON Early stages		ACTIVE START Age 0 - 6 0 - 1 years in sport	FUNDAMENTALS Age 6 - 8/9 0 - 3 years in sport	LEARN TO TRAIN Age 8/9 - 11/12 2 - 5 years in sport
GENERAL STRUCTURE (PRE-PHV)		<p>In this early stage of development, it is important that youth are exposed to a variety of sport programs. Objectives within this period are only distantly related to pentathlon. The focus is on developing comfort and confidence in a variety of settings. In experiencing sport in many different forms, participants build physical, cognitive and emotional skills necessary for life, sport and perhaps in the future, pentathlon. An individual's motor pathways are established through this multi-sport approach, by stimulating the central nervous system. Focus should orient around the ABCs (agility, balance, coordination). The following sports are recommended:</p> <ul style="list-style-type: none"> <li>• Ball and team sports (coordination, running)</li> <li>• Gymnastics (proprioception, balance, coordination)</li> <li>• Swimming (strength, coordination, cardiovascular)</li> <li>• Summer and winter sports (varying environments)</li> </ul>		<ul style="list-style-type: none"> <li>• Swim, fence and LR workouts are 45 - 75 minutes in duration. Ideally athletes train two consecutive sessions, so total weekly pentathlon activity is 3 days.</li> <li>• A workout with two disciplines being trained ideally has a technical focus and a physical focus, with the technical training preceding. I.e. a fencing lesson, then a swim practice.</li> <li>• Swimming should be the predominant discipline trained.</li> </ul>
		<ul style="list-style-type: none"> <li>• Workouts are 30 - 60 minutes in duration and focus is on developing physical literacy. Each pentathlon sport is a unique domain for learning, and emphasis is on participants confidently engaging in different environments. Participation occurs in concert with other multi-sport exposure activities.</li> <li>• Swimming should be the predominant discipline trained.</li> </ul>		
ANNUAL STRUCTURE		6-week seasonal programs, summer camps and introductory programs, in conjunction with several other sport exposure experiences.	12 - 20-week seasonal programs, summer camps and introductory programs, in conjunction with other sport exposure experiences.	25 - 35 weeks per year
WEEKLY STRUCTURE		Variable.	2 days 2 - 3 sessions Up to 4 hours by age 9	2 - 3 days 3 - 6 sessions 4 - 8 hours
ANNUAL HOURS	FENCE	Not applicable.	15 - 30 hours	40 - 60 hours
	SWIM		15 - 30 hours	40 - 60 hours
	EQUESTRIAN		0 hours (or integrated based on interest)	0 (or integrated based on interest)
	LR		10 - 20 hours	40 - 60 hours
	TOTAL		40 - 80 hours	120 - 180 hours





### Competition Framework

MODERN PENTATHLON Early stages	ACTIVE START Age 0 - 6 0 - 1 years in sport	FUNDAMENTALS Age 6 - 8/9 0 – 3 years in sport	LEARN TO TRAIN Age 8/9 – 11/12 2– 5 years in sport
GENERAL STRUCTURE	<ul style="list-style-type: none"> <li>No organized competition at this stage.</li> </ul>	<ul style="list-style-type: none"> <li>Competitions do not take a 'formal' structure and are oriented around fun, mini-games and individual progress rather than traditional competition and ranking.</li> </ul>	<ul style="list-style-type: none"> <li>Training and competition with others is useful for development in this stage. This may include club programs, training groups, camps, etc.</li> <li>Formal competition is incorporated in this stage. Informal competition remains within the annual plan (intra- and inter-club events).</li> <li>Competition is an 'extension' of training where the objective is to prioritize progress, implementing new skills and develop confidence. Results are not a focus.</li> <li>'Travel' events are incorporated into yearly plan for the first time (within province or territory); club competitions and provincial events.</li> <li>Two local and one travel event are appropriate in the season.</li> <li>Beyond pentathlon events, competing in local fencing tournaments is beneficial.</li> </ul>
COMPETITIONS	<ul style="list-style-type: none"> <li>No organized competition at this stage.</li> </ul>	<ul style="list-style-type: none"> <li>There is limited competition in this stage.</li> <li>Typically 'mini-meet' format within cohort.</li> <li>Limited introduction to competition in other sports if desired and appropriate.</li> <li>Late in stage may enter club or regional fun competitions.</li> </ul>	<ul style="list-style-type: none"> <li>Introduce regular competition if desired and appropriate to athlete: <ul style="list-style-type: none"> <li>Club, regional, provincial races leading to Provincial Championships and Games.</li> </ul> </li> </ul>
TRAINING TO COMPETITION RATIOS	<ul style="list-style-type: none"> <li>Not applicable.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable.</li> </ul>	<ul style="list-style-type: none"> <li>8 – 12 weeks training to one competition.</li> </ul>
PERIODIZATION	<ul style="list-style-type: none"> <li>Not applicable.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable.</li> </ul>	<ul style="list-style-type: none"> <li>Single or double peak, by end of stage.</li> </ul>



### Recommended Training Emphasis by Previous Sport

	Age	6 – 8/9	8/9 - 11/12	11/12 - 15
	LTD Stage	FUNDamentals	Learn to Train	Train to Train
Entry from Swimming	Training Sessions/week	Basic development Physical Literacy	Swim – 2 Fence – 2 + 1 physical literacy session Laser Run – 1-2	Swim – 2-3 Fence – 2 + 1 lesson Laser Run – 2 + 1 technical session Equestrian – 1-2/month

	Age	6 – 8/9	8/9 - 11/12	11/12 - 15
	LTD Stage	FUNDamentals	Learn to Train	Train to Train
Entry from Equestrian (Show Jumping or Eventing)	Training Sessions/week	Basic development Physical Literacy	Swim – 2-3 Fence – 2 + 1 physical literacy session Laser Run – 1-2	Swim – 3-4 Fence – 2 + 1 lesson Laser Run – 2 + 1 technical session Equestrian – 1/month

	Age	6 – 8/9	8/9 - 11/12	11/12 - 15
	LTD Stage	FUNDamentals	Learn to Train	Train to Train
Entry from Fencing (Epee or Foil)	Training Sessions/week	Basic development Physical Literacy	Swim – 2-3 Fence – 2 Laser Run – 1-2	Swim – 3-4 Fence – 1 + 1 lesson Laser Run – 2 + 1 technical session Equestrian – 1-2/month

	Age	6 – 8/9	8/9 - 11/12	11/12 - 15
	LTD Stage	FUNDamentals	Learn to Train	Train to Train
Entry from Running (Middle distance)	Training Sessions/week	Basic development Physical Literacy	Swim – 2-3 Fence – 2 + 1 physical literacy session Laser Run – 1-2	Swim – 3-4 Fence – 2 + 1 lesson Laser Run – 1 + 1 technical session Equestrian – 1-2/month



MODERN PENTATHLON Excellence stages	TRAIN to TRAIN From PHV onset (Female; 11 years, Male; 12 years) 3 – 6 years in sport	TRAIN TO COMPETE After PHV (16-20 years+) 5 - 7+ years in sport	TRAIN TO WIN Age 21+ 8+ years in sport
THE BIG PICTURE: KEY OBJECTIVES FOR THIS STAGE	<ul style="list-style-type: none"> <li>Develop an overall understanding of pentathlon competition.</li> <li>"Build the engine."</li> <li>Structured Pentathlon training program. Build fitness by practicing skills in race and game situations.</li> <li>Continue to develop excellent skills.</li> <li>Participate in multiple allied sports including swimming, X-C running, equestrian and target sports.</li> </ul>	<ul style="list-style-type: none"> <li>"Student of the sport" : Major focus on developing competition skills and refining competition tactics and abilities across events.</li> <li>Continuing to build physical abilities and use them effectively in competition.</li> <li>Continue to refine and perfect technical skills.</li> <li>Train for multi-day competitions (qualification, semi-final, final)..</li> <li>"Smart competition" : Major focus on using competition skills and refining competition tactics and abilities across events.</li> <li>Continuing to refine and perfect physical, technical and tactical skills.</li> <li>Refining mental skills for competition.</li> <li>Learn to manage sport and competition, as part of a balanced life with education, career and social needs.</li> </ul>	<ul style="list-style-type: none"> <li>"Performance on demand" – ability to perform at top level in high pressure competition situations despite setbacks.</li> <li>Perfect all physical abilities and recovery/regeneration.</li> <li>Refine and perfect technical and tactical skills.</li> <li>Perfecting mental skills for competition; learn to maintain performance.</li> <li>Balanced approach to life skills and competition.</li> <li>Schedule based on optimal environment for maximized specificity.</li> <li>Map performance against world standings and adapt training accordingly.</li> <li>Learn and adapt a performance system building and improving with self-reflection of one's performance and approach.</li> </ul>
PENTATHLON-SPECIFIC OBJECTIVES	<ul style="list-style-type: none"> <li>Refine skills in specific fencing, shooting (LR), and riding sessions.</li> <li>Main focus is <u>skill and physical development</u>, not competition. Emphasize skill and physical-related performance metrics and personal improvement.</li> <li>Emphasize "controllable" competition results such as personal best and good use of skills and tactics.</li> </ul>	<ul style="list-style-type: none"> <li>Increase emphasis on performance and work toward consistent results.</li> <li>More advanced tactical skills as well as mental/decision making skills are refined through competition.</li> <li>Development of autonomy and individual responsibility.</li> <li>Confirm physical event capabilities, while refining technical event abilities.</li> <li>Physical: strength development with a long term plan.</li> <li>Technical: focus on improving pentathlon skills in combination with competition situations.</li> </ul>	<ul style="list-style-type: none"> <li>Advanced tactical skills as well as mental/decision making skills are refined through competition.</li> <li>Work toward "performance on demand;" emphasis on consistent race results.</li> <li>Advanced competency in physical, technical, tactical skills across all events.</li> <li>Ability to consistently compete at a high level in varying conditions.</li> <li>Use elements such as splits, turnover, fencing data (action, time, space), video footage to help analyze results.</li> <li>Potentially adopt a leadership role within the team.</li> <li>Continuous development taking into consideration individual athlete's pentathlon strengths and weaknesses profile.</li> </ul>





MODERN PENTATHLON Excellence stages	TRAIN to TRAIN From PHV onset (Female; 11 years, Male; 12 years) 3 – 6 years in sport	TRAIN TO COMPETE After PHV (16-20 years+) 5 - 7+ years in sport	TRAIN TO WIN Age 21+ 8+ years in sport
PHYSICAL DEVELOPMENT	<ul style="list-style-type: none"> <li>Be aware of and monitor maturation which may occur at different rates.</li> <li>Use skill-building activities (see Technical Skills) to develop speed, power and endurance.</li> <li>Mix development through games with specific training.</li> <li>The optimal skill training window concludes at age 11 (girls) and age 12 (boys), so prioritization of technical skill is important.</li> <li>Stage for significant growth in aerobic capacity (girls; 11-13, boys; 12-14). This training is incorporated before athletes reach PHV.</li> <li>There is an increased, but secondary focus, on introducing anaerobic load in training (girls; 12-14, boys; 13-15).</li> <li>Aerobic power (VO2max) focus incorporated as growth rate declines.</li> <li>Increased core strength and stability, primarily through body weight exercises.</li> <li>Age 14-15 is a sensitive period for muscular changes, though it may take up to two years to translate into strength gains.</li> <li>The second sensitive window for speed training occurs now (girls; 11-13, boys; 13-16).</li> <li>Refine warm up/cool down routines.</li> <li>Pursue symmetrical development.</li> <li>Continue flexibility training.</li> </ul>	<ul style="list-style-type: none"> <li>The 5 S's of trainability remain central to development; Stamina (endurance), Strength, Speed, Skills and Suppleness.</li> <li>Comprehensive training capacity increases.</li> <li>Pre-hab routines are established specific to individual circumstances.</li> <li>Aerobic capacity is well established (breakpoint volume).</li> <li>Alactic power and capacity are a greater priority. Explosive power training is incorporated more often.</li> <li>Optimal window for strength development (girls; after PHV, boys; 12-18 months after PHV).</li> <li>Continue to develop core, spine and joint stability. Strength program increasingly utilizes free weights, medicine balls, resistance machines, etc.</li> <li>Warm-up and cooldown routines are structured and adapted per specific situations.</li> <li>Understanding and implementing adapted workload.</li> <li>Increased focus on tapering and peaking.</li> </ul>	<ul style="list-style-type: none"> <li>Maintenance and improvement of physical capacities, individualized to each athlete.</li> <li>Maintaining suppleness is increasingly important.</li> <li>Enhanced capacity to manage a greater training load.</li> <li>Continue to develop strength and stability, supporting alactic power development.</li> <li>Physical maturity allows for continual, modest, development of aerobic capacity and aerobic power.</li> <li>Consolidation of advanced skills.</li> <li>Perfect recovery and regeneration techniques.</li> <li>Optimum periodization and preparation, learning how to taper and peak for target competitions.</li> </ul>
SPECIFIC TECHNICAL (SKILL) – FENCE	<ul style="list-style-type: none"> <li>Repetition of repeatable movement patterns and sequences in footwork, line lessons and private lessons.</li> <li>Maintain form and moderate consistency as tempo increases.</li> <li>Counter offense to body and hand.</li> <li>Step-lunge and step-fleche with acceleration.</li> <li>Attack in return on guard.</li> <li>Attack in preparation.</li> <li>Parry six, four, eight are established. Parry two and prime are developing.</li> <li>Opposition six, four, eight in attack and defense are established.</li> <li>Introduction of feint-disengage concept, related to actions with blade and with absence of blade.</li> <li>Introduction of second-intention and compound actions.</li> <li>Basic decision-making skills on when to attack or defend are developed.</li> </ul>	<ul style="list-style-type: none"> <li>Train and apply the fundamental principles to score a touch: Defense (parry-riposte), Counter-Attack (using time), and Offensive attack.</li> <li>Train and apply pentathlon-specific fencing strategies.</li> <li>Correct execution of foundational skills in variable conditions.</li> <li>Parry two and prime are established.</li> <li>Beat four, six and two/eight are established as engagements and defensive actions.</li> <li>Counter attack is a firmly established action.</li> <li>More complex decision-making capacities (managing options and speed of initiation/ response).</li> <li>Attack in preparation and counter-time are increasingly incorporated into bout strategy.</li> <li>Consolidation of second-intention actions.</li> <li>Enhanced speed of execution.</li> <li>Focused problem-solving in unfamiliar situations.</li> </ul>	<ul style="list-style-type: none"> <li>All lines in attack and defense (opposition and parry) are firmly established (prime, second, four, six, seven and eight), while the athlete has identified three or fewer primary actions to utilize in competition.</li> <li>Circular, semi-circular and ceding parries are consolidated.</li> <li>Complex decision-making capacities, managing a multitude of options at competition-speed.</li> <li>Read and adapt strategies to various opponents.</li> <li>Consistently create the ideal scenario in each bout.</li> <li>Refinement of second-intention actions.</li> <li>Ability to moderate changes in tempo, and acceleration in attack, counter-attack and riposte is precise and consistent.</li> <li>Creative mindset leads to development of new actions.</li> </ul>



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SPECIFIC TECHNICAL (SKILL) – SWIM	<ul style="list-style-type: none"> <li>Further development and mastery of swimming skills.</li> <li>Continue kick development.</li> <li>Refine starts, turns and finishes.</li> <li>Work on stroke mechanics and symmetry.</li> </ul>	<ul style="list-style-type: none"> <li>Further refine feel for water - strokes, starts, turns and finishes</li> <li>Identify optimal alignment of body for lowest drag including when breathing.</li> <li>Mastery of freestyle stroke, starts, turns and finishes.</li> <li>Incorporation of non-free strokes for warm-up, cool down, and sometimes in main sets. Competency in backstroke to balance the effect of freestyle focus.</li> <li>Mastery of mechanics, including glide, stroke and kick, breathing action.</li> <li>Powerful dive and turns, with a strong breakout to surface.</li> <li>Establish physical foundation for fast swimming with good technique.</li> </ul>	<ul style="list-style-type: none"> <li>Approach built from a long term competitive schedule and annual training plan.</li> <li>Maintain mastery of freestyle stroke, starts, turns and finishes; mechanics, including glide, stroke and kick, breathing action and rhythm.</li> <li>Optimal alignment of body for lowest drag including when breathing.</li> <li>Consistency and control under varying race conditions.</li> <li>Automation of competition-specific skills.</li> <li>Focus on high power output to maximize swim capacity.</li> </ul>
SPECIFIC TECHNICAL (SKILL) – RIDE	<ul style="list-style-type: none"> <li>Improved understanding of stable management and horse care.</li> <li>Trot without stirrups.</li> <li>Maintain a half-seat at trot and canter.</li> <li>Control of horse at different gaits.</li> <li>Correct use of rising diagonals in trot.</li> <li>Maintain control and straightness over the course.</li> <li>Up and down transitions; halt, walk, trot, canter.</li> <li>Trot 15m and 20m circle, 3 loop serpentine.</li> <li>Maintain canter over extended distances and various tracks.</li> <li>Able to count canter strides.</li> <li>Balanced approach to an x-rail course at the trot, utilizing a mane release. Down transition to trot after each fence.</li> <li>Able to ride straight and maintain rhythm to a single fence at the canter.</li> </ul>	<ul style="list-style-type: none"> <li>Competent position in all gaits; developing balance and the establishment of an independent seat (half and full seat).</li> <li>Increased spatial awareness within varying arenas.</li> <li>Competent use of leg aids, outside rein, voice.</li> <li>Precise transitions.</li> <li>Canter a line of fences at a related distance, and identify if they were long or short.</li> <li>Able to affect impulsion, collection and extension in all three gaits.</li> <li>Demonstrate connection with the horse through correct carriage and softness to the bit.</li> <li>Integrate lateral work.</li> <li>Competently connect jumper course of 15 obstacles, while maintaining a rhythmic canter at a pace of 350 - 375 m/min.</li> </ul>	<ul style="list-style-type: none"> <li>Advanced control of pace, rhythm and track.</li> <li>Established ability to ride various horse-types successfully, under pressure and in the presence of various distractions.</li> <li>Mature decision-making abilities around approach to warmup and the jumper course.</li> <li>Established ability to analyze performance, and apply learnings to future courses.</li> <li>Thorough understanding of different horse-types.</li> <li>Develop ability to ride various courses and simulate competition in lessons.</li> </ul>



MODERN PENTATHLON Excellence stages	TRAIN to TRAIN From PHV onset (Female; 11 years, Male; 12 years) 3 – 6 years in sport	TRAIN TO COMPETE After PHV (16-20 years+) 5 - 7+ years in sport	TRAIN TO WIN Age 21+ 8+ years in sport
SPECIFIC TECHNICAL (SKILL) – LASER RUN	<ul style="list-style-type: none"> <li>Single-hand hold, with chest angled approximately 45° away from the target. Feet are parallel, also angled 45° away from the 'line,' with equal weighting in each foot.</li> <li>Front site is 'picked up' between 45° and 70° on raise.</li> <li>Ability to establish a consistent rhythm within a series inherent (2.75s - 3.50s).</li> <li>Athlete's sense of natural point of aim is established; an understanding of how foot positioning, posture, musculoskeletal tension affects laser raise and hold.</li> <li>Checks position automatically and adjust position effectively.</li> <li>Concept of front sight focus, with the centre of target in rear (unfocussed) is established.</li> <li>Perfect sight picture with less conscious effort.</li> <li>Shot is initiated by a trigger squeeze as opposed to trigger pull.</li> <li>1-2 breaths per shot, aligned with the shot cycle.</li> <li>Breath control pattern is smooth, but not necessarily automated.</li> <li>Follow through is an integrated component of every shot cycle.</li> <li>Athlete is competent making sight, trigger and handle adjustments.</li> </ul>	<ul style="list-style-type: none"> <li>On entering the range, foot placement is consistent each time.</li> <li>Athlete adapts to different range layouts and varying lighting.</li> <li>Front site is picked up between 60° and 70° from raise.</li> <li>Perfect sight picture is automated.</li> <li>Rhythm bandwidth narrows to 2.25s - 3.00s.</li> <li>Concept of increasing trigger pressure, as opposed to pulling, is established, such that the shot occurs fluidly.</li> <li>Reload process is efficient such that movement from shooting stance to mechanism and back to stance is straight.</li> <li>Non-shooting hand and arm fluidly move into position between shots rear hip, front hip, or front chest).</li> <li>Load, raise, squeeze, lower movement is refined.</li> <li>Checks position unconsciously, sometimes requiring positional change.</li> <li>Breath control is automated.</li> <li>Shot release is fully automated (one breath per shot cycle).</li> <li>Focus is almost exclusively on the athlete's process and external cues are generally ignored.</li> </ul>	<ul style="list-style-type: none"> <li>Front site is picked up between 60° and 80° from raise.</li> <li>Rhythm bandwidth narrows to 2.00s - 2.50s.</li> <li>Ability to hold perfect sight picture.</li> <li>Range entry and exit is seamless; same position, same rhythm, same rotation out.</li> <li>Load, raise, squeeze, lower movement is seamless.</li> <li>Positional changes are essentially not necessary.</li> <li>One breath per shot cycle consistently executed (inhale on raise, hold on squeeze, exhale on follow through and recovery).</li> <li>Learn to manage different competition scenarios.</li> <li>Focus is exclusively on the athlete's process and external cues are unnoticed.</li> </ul>
TACTICAL DEVELOPMENT	<ul style="list-style-type: none"> <li>Learn to understand the competition environment, and how to maximise it for one's development and success.</li> <li>Strong nutrition, hydration, energy and temperature management according to the competition schedule.</li> <li>Introduction of specific tactical preparation: <ul style="list-style-type: none"> <li>Analysing competitors before a fencing bout;</li> <li>Awareness of competitors' swim and run speed, and consider drafting or working together if possible.</li> <li>In the equestrian phase, to determine the safest approach to fence one, and a conservative track through the course.</li> </ul> </li> <li>Ability to observe and incorporate others' individual racing tactics.</li> </ul>	<ul style="list-style-type: none"> <li>Ability to manage energy and emotions for successive competition days (semi-final, final, relays).</li> <li>Development of ability to plan and assess competition.</li> <li>Development of ability to adapt to different competitive scenarios, different opponents and varying start times (according to the semi-final schedule).</li> <li>In the fence event, ability to adjust tactics specific to the 'type' of competitor.</li> <li>In the fence event, to best utilise position on strip and the use of the clock, favourable to athlete's strategy.</li> <li>In the fence event, to elicit a reaction from the opponent via footwork and feints.</li> <li>In the swim event, use the seed (or known) times of competitors in adjacent lanes to 'draft.'</li> <li>In the swim event, to adjust to lane variations (blocks, jets, T/walls, and ropes).</li> <li>In concert with their coach, determine adjustments to ride warmup to maximise horse performance.</li> <li>In the ride event, understand and moderate the track according to the horse's temperament and conformation.</li> <li>In the laser-run event, the ability to adjust laser raise according to stimulus level (basic to advanced).</li> <li>In the laser-run event, to draft when appropriate and appropriately time surges/break-aways.</li> <li>Awareness in laser-run event of placing, and minimum effort required to qualify to final.</li> </ul>	<ul style="list-style-type: none"> <li>Advanced knowledge of competitors.</li> <li>Development of personalised competition strategies.</li> <li>All possible aspects of performance are modelled in training.</li> <li>Focus on maximising personal strengths, while exploiting weaknesses of opponents (when applicable).</li> <li>In the swim event, to utilise adjacent competitors in order to positively affect one's race.</li> <li>In the fence event, ability to adjust tactics specific to competitors.</li> <li>In the fence event, the skill to create the ideal scenario specific to one's preferred action(s).</li> <li>In the riding event, to take greater responsibility for knowing and adapting to the drawn horse's characteristics (manage decisions regarding pace, rhythm and track).</li> <li>In the laser-run event, the ability to maintain focus exclusively in one's lane while shooting.</li> <li>On exit from range, able to determine one's approximate placing to moderate effort.</li> <li>Understand and manage subtle effects of light and wind changes on aiming point.</li> </ul>





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MENTAL SKILLS DEVELOPMENT	<ul style="list-style-type: none"> <li>Development of competition routines pre-race, post-race.</li> <li>Heightened self-awareness contributes to an increased self-esteem and self-image.</li> <li>Self-awareness includes ability to identify psychological, emotional, and environmental factors that affect performance in training and competition.</li> <li>Visualisation and arousal control become key mental skills.</li> <li>Process goal setting should occur routinely for target events and training objectives.</li> <li>Positive self-talk is introduced and incorporated.</li> <li>Organisational skills and time management skills are taught and emphasised.</li> </ul>	<ul style="list-style-type: none"> <li>Greater personal responsibility and involvement in decision-making.</li> <li>Focus on decision-making and understanding consequences in competition.</li> <li>Refining competition routines pre-race, post-race</li> <li>Life skills, team relations, managing distraction.</li> <li>Race plans are an important factor in performance.</li> <li>Goal setting includes short-term, long-term and dream goals.</li> <li>Goal setting encompasses the recognition of the sacrifices that must be made in other areas of one's life in order to succeed.</li> <li>Visualisation routines should become detailed, controlled, and incorporate all of the necessary senses operating while performing.</li> <li>Thought stopping, thought substitution, and cognitive restructuring should all be learned and implemented.</li> <li>Athlete has developed a sense of their Ideal Performance State (IPS).</li> </ul>	<ul style="list-style-type: none"> <li>Competition focus, decision-making.</li> <li>Athlete builds independent decision making capacities.</li> <li>Perfect competition routines pre-race, post-race</li> <li>Life skills, team relations, coping with adversity, time management.</li> <li>Self confidence becomes a habit in this stage.</li> <li>Mental skills of visualisation, self-talk, goals, and arousal control can be implemented as required.</li> <li>The athlete needs to trust the coping skill that they have developed to perform in high pressure situations.</li> <li>Able to concentrate for the complete phase of each competitive effort, and automate adaptation appropriate to the moment.</li> <li>Subconsciously/consciously manages arousal control levels to optimise performance.</li> <li>Adaptable to venue, type of competition and changes.</li> </ul>
SUPPORTS	<ul style="list-style-type: none"> <li>These are the "support" years. Parents help by assisting the athlete to get to practice and competitions, ensuring equipment is appropriate quality, and supporting the coaches' decisions.</li> <li>Look for National Coaching Certification Program certified coaches.</li> <li>The athlete is beginning to specialise by reducing the number of other sports- 1 or 2 at most.</li> <li>Don't add pressure by emphasising winning and performance. Remove pressure by letting athlete make their own decisions and support them by ensuring they have looked at all options and opportunities.</li> </ul>	<ul style="list-style-type: none"> <li>These are the "investment" years. The athlete is mature, capable of making own decisions and has specialised in Pentathlon.</li> <li>The athlete and their supporters invest by fully committing and taking every opportunity to develop and improve.</li> <li>Integrated support (sport science, sport medicine) through National Team Financial assistance and social/emotional support as needed.</li> </ul>	<ul style="list-style-type: none"> <li>These are the "investment" years. The athlete is mature, capable of making own decisions, and fully committed to excellence. High level support for the athlete includes: <ul style="list-style-type: none"> <li>Integrated support (sport science, sport medicine) through National Team.</li> <li>Access to mental health support.</li> <li>Financial assistance and social/emotional support as needed.</li> </ul> </li> </ul>



### Training Program

MODERN PENTATHLON Excellence stages		TRAIN to TRAIN From PHV onset (Female; 11 years, Male; 12 years) 3 – 6 years in sport	TRAIN TO COMPETE After PHV (16-20 years+) 5 - 7+ years in sport	TRAIN TO WIN Age 21+ 8+ years in sport
GENERAL STRUCTURE (PHV ONWARD)		<p>Specificity in workout structure is increasingly important in this stage.</p> <p>Session lengths:</p> <ul style="list-style-type: none"> <li>- Swim; 1 – 1.5 hours</li> <li>- Fence; 1 – 1.5 hours (bouting and group-skills) and 30 minutes (lessons)</li> <li>- LR; 1 hour (LR and run) and 30 minutes (precision shooting)</li> <li>- Equestrian; 1 hour lessons, plus pre- and post-ride management.</li> </ul>	<p>Sessions evolve to offer more competition-specific scenarios. Duration and intensity advance from T to T stage. Where capacity exists, priority should be placed on more sessions per week, rather than longer sessions.</p> <p>Session lengths:</p> <ul style="list-style-type: none"> <li>- Swim; 1 – 1.5 hours</li> <li>- Fence; 1.5 – 2 hours (bouting and group-skills), 30 – 45 min (lessons)</li> <li>- LR; 1 – 1.5 hours (LR and run) and 30 minutes (precision shooting)</li> <li>- Equestrian; 1 hour lessons.</li> </ul>	<p>Sessions are primarily oriented around the competitive skill-set required for competition.</p> <p>Session lengths:</p> <ul style="list-style-type: none"> <li>- Swim; 1 – 1.5 hours</li> <li>- Fence; 1.5 – 2 hours (bouting and group-skills), 20 - 30 min (lessons)</li> <li>- LR; 1 – 1.5 hours (LR and run) and 30 minutes (precision shooting)</li> <li>- Equestrian; 1 hour lessons.</li> </ul>
ANNUAL STRUCTURE		30 - 34 weeks per year	40 - 44 weeks per year	46 - 48 weeks per year
WEEKLY STRUCTURE		8 – 10 sessions 3 – 4 days 9 – 12 hours	13 – 15 sessions 5 – 6 days 15 – 18 hours	15+ sessions 6 days 20+ hours
		<ul style="list-style-type: none"> <li>• 323 - 357 training hours per year.</li> <li>• Longest daily training block 2.5 hours.</li> <li>• May participate in up to 1 - 2 other sports but is now specializing in Pentathlon.</li> </ul>	<ul style="list-style-type: none"> <li>• 690 - 720 training hours per year.</li> <li>• Longest daily training block 3 - 3.5 hours</li> <li>• Specializing in Pentathlon.</li> </ul>	<ul style="list-style-type: none"> <li>• 750+ training hours per year.</li> <li>• Longest daily training block 3.5 - 4 hours.</li> <li>• Longest sessions 2-3 hrs.</li> </ul>
BY HOURS	FENCE	114 – 126 hours	184 – 192 hours	250+ hours
	SWIM	114 – 126 hours	230 – 240 hours	210+ hours
	EQUESTRIAN	20 hours	92 – 96 hours	100+ hours
	LR	95 – 105 hours	184 – 192 hours	200+ hours
	TOTAL	323 – 357 hours	690 – 720 hours	760 - 900 hours
OTHER	FENCE	10,000 – 12,000 contacts (extension, lunge, riposte, counter-attack)	17,000 – 18,000 contacts (extension, lunge, fleche, riposte, counter-attack)	22,000 – 23,000 contacts (extension, lunge, riposte, counter-attack)
	SWIM	228 – 252 km	598 – 624 km	551 – 609 km
	LR	10,500 – 11,500 shots	13,500 – 14,500 shots	15,500 – 16,500 shots



### Competition Framework

MODERN PENTATHLON Excellence stages	TRAIN to TRAIN From PHV onset (Female; 11 years, Male; 12 years) 3 – 6 years in sport	TRAIN TO COMPETE After PHV (16-20 years+) 5 - 7+ years in sport	TRAIN TO WIN Age 21+ 8+ years in sport
GENERAL STRUCTURE	<ul style="list-style-type: none"> <li>• Competition bears an increasing importance in development and in framing the season plan.</li> <li>• However, the focus on results still remains secondary to skill development.</li> <li>• Competition presents a learning environment.</li> <li>• This is the stage that many athletes will determine if competition is an important component in their lives.</li> <li>• Competition selection is increasingly specific to individual athlete needs. I.e., not over-facing an athlete, or incorporating appropriate higher-level events for more adept athletes. The aim is approximate homogeneity within the field..</li> <li>• Four local and two travel events is an appropriate structure.</li> <li>• Major focus is the National Championships.</li> <li>• Potential first exposure to international competition.</li> <li>• Incorporating local and provincial fencing tournaments is beneficial.</li> </ul>	<ul style="list-style-type: none"> <li>• This stage prioritises performance to a greater extent and establishes the competitive skills required for success in latter stages.</li> <li>• Compete to learn and improve.</li> <li>• Competition selection serves specific purposes unique to each athlete; development/experience, reaching a point standard, qualification for a future event, or peaking.</li> <li>• Exposure to events that focus on specific progress are critical, along with appropriate implementation in the season. I.e., high calibre fencing tournaments, middle-distance run races, in concert with advanced pentathlon events in the latter stages of the season.</li> <li>• Despite the temptation, the objective of most events will not be a peak performance or to win, especially in the early stages of the season.</li> <li>• Athletes may compete in their age category, and incorporate U19 and Junior events, if appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>• This stage prioritises performance on demand. This is reflected by the consolidation of all skill domains, and resulting performances in line with the elite athletes of other nations.</li> <li>• Compete to perform and progress development.</li> <li>• Competition selection is based on the training cycle, repetitive exposure to world-leading athletes, event qualification, and peak performance at Major Games and Championships.</li> <li>• The objective at this stage is to win medals at UIPM Junior and Senior events.</li> <li>• An improving Pentathlon World Ranking (PWR) is an important, but secondary priority.</li> </ul>
COMPETI- TIONS	<ul style="list-style-type: none"> <li>• Club and Provincial Pentathlon/Fencing Events,</li> <li>• National Pentathlon Events,</li> <li>• Mature and advanced athletes may target U17 Continental and World Championships.</li> </ul>	<ul style="list-style-type: none"> <li>• Club and Provincial Pentathlon/Fencing Events,</li> <li>• National Pentathlon Events,</li> <li>• Fencing Nationals, NACs, Canada Games,</li> <li>• UIPM Continental and World Championships,</li> <li>• Junior Pan American Games,</li> <li>• Youth Olympic Games.</li> </ul>	<ul style="list-style-type: none"> <li>• Progressive incorporation of Open and World Cup events,</li> <li>• Priority events are the World Cup Final, Junior and Senior Pan American Games, Junior and Senior World Championships and Olympic Games.</li> </ul>
TRAINING TO COMPETITION RATIOS	<ul style="list-style-type: none"> <li>• 3 – 4 weeks training to one development competition (i.e., intra-club pentathlon or local fencing tournament).</li> <li>• 6 – 8 weeks training to one performance competition (i.e., Pentathlon Provincials).</li> </ul>	<ul style="list-style-type: none"> <li>• 3 – 4 weeks training to one development competition (i.e., provincial pentathlon events).</li> <li>• 12 – 16 weeks training to one performance competition (i.e., Pentathlon Nationals or a UIPM event).</li> </ul>	<ul style="list-style-type: none"> <li>• 12 – 24 weeks training to one performance competition (i.e., UIPM Championship or Games event).</li> </ul>
PERIODIZA- TION	<ul style="list-style-type: none"> <li>• Single periodization; 1 main competition with multiple sub peaks</li> </ul>	<ul style="list-style-type: none"> <li>• Double or triple peak.</li> </ul>	<ul style="list-style-type: none"> <li>• Single or multiple peak.</li> </ul>





# **Pentathlon Canada**

## **LONG-TERM DEVELOPMENT FRAMEWORK V 2.1**

**From Participation to Performance**

APRIL 2022

### WRITERS

Paul Jurbala, PhD

Joshua Riker-Fox, MBA, OLY

### GRAPHICS AND LAYOUT

John Luimes: [idesign@storm.ca](mailto:idesign@storm.ca)

### EDITORS, CONTRIBUTORS AND REVIEWERS

Philipp Waeffler, MA, OLY

### PHOTO CREDITS

Dave Holland

Gil Williams

Ken Chow

Nuno Goncalves

Pauline Vossen

Skylar Michaels

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