Pentathlon Canada Long Term Athlete Development

Modern pentathlon is a multisport competition consisting of five sport disciplines – fencing, swimming, equestrian showjumping, running and pistol shooting – contested over the course of a single day in four distinct phases:

epee fencing in one-touch, 60-second bouts 200m freestyle swimming riding a course of jumps on an unfamiliar horse drawn at random Laser Run consisting of 4x800m interspersed with 4 rounds of 5-hit laser pistol shooting

Modern Pentathlon – sport history

Modern Pentathlon occupies a unique space in the history of the Olympic movement. Baron Pierre de Coubertin, founder of the modern Olympic Games, based this new multidisciplinary sport on, the most prestigious event of the ancient Olympic Games. The 'modern' pentathlon was conceived as a competition that would test both skills, endurance, and athletic versatility while also embodying the values and virtues of the ideal Olympic athlete.

This new sport made its Olympic debut at Stockholm 1912 and since then, has featured in every summer Olympic games. While the competition was limited to active military officers at first, by 1952 civilians were competing. Starting at Sydney 2000, a women's competition was added to the Olympic program. In between the Olympic years, the sport grew steadily and currently the Union Internationale de Modern Pentathlon (UIPM) encompasses over 100 national pentathlon federations as well as the burgeoning subsports of Modern Tetrathlon, Triathle, Biathle and Laser Run.

Although its roots are deep within Olympic history, the format of the modern pentathlon competition has always been dynamic and evolving. The sport is always looking at ways to innovate to become more exciting and appealing to both participants and spectators. Most recently, the UIPM has embraced laser shooting technology in order to make pistol shooting safe, affordable and more accessible to all.

Modern Pentathlon in 2018

Modern pentathlon is, simply put, more 'modern' now than ever. Today's world of globalization and technology has made multitaskers out of all of us and the ability to adapt to new formats, new skills and new challenges is highly prized. This is the educational and lifetime value of pentathlon – the athlete acquires new skills for fencing, shooting and riding while also training in the endurance sports of running and swimming. Along the way, the athlete learns to balance their training to optimize their results, practices self-discipline with the required skills and training, and also develops the empathy required to form partnerships with coaches, fellow athletes and also with horses.

The individual disciplines of modern pentathlon are lifetime sports for competition as well as for fitness and recreation. The UIPM and Pentathlon Canada competitions are for all age groups, from youth to masters, and for all levels of experience. In addition, the subsports of biathle (swim/run), triathle (swim/run/shoot), tetrathlon (swim/fence/laser run) and laser run (run/shoot) allow athletes to compete in various combinations of the individual disciplines to suit their personal strengths and

preferences.

Even at the most elite levels of modern pentathlon, the rewards come for being a generalist rather than a specialist. This is not a sport in which a rare physiology or singular ability or specific body type is required or desired for success. All types, temperaments, and shapes of people can succeed in and enjoy participating in modern pentathlon.

Pentathlon in Canada

Canada's participation in modern pentathlon dates back to 1970 when Hungarian immigrant and former international competitor Joe Bucko organized a training group in Sarnia, Ontario. Two years later, the nascent Canadian team qualified for the 1972 Munich Olympics. Since then, Canada has been a regular presence in the Olympic pentathlon competition. Since the addition of the women's competition to the Olympic program in 2000, Pentathlon Canada has been especially successful in fulfilling their quota spots for female pentathletes.

Growing and developing modern pentathlon in Canada

Due to modern pentathlon's multidisciplinary nature, prospective pentathletes can enter the sport through a variety of pathways, including from all of the individual sport disciplines – fencing, swimming, equestrian, running and shooting - as well as from other multisports, like biathlon, triathlon and Pony Club tetrathlon.

In terms of training, our pentathletes have the opportunity to improve and test their skills by training alongside athletes who compete only in the sport discipline. For example, a pentathlete will fence with fencing athletes as well as pentathletes, and also get coaching input for specialist fencing coaches and compete in fencing competitions. This allows pentathletes to train with the best available experts and training partners, which contributes to improved performances and outcomes in pentathlon competitions.

To this end, Pentathlon Canada has partnered with five COC-member NSFs – Athletics Canada, Swimming Canada, Equestrian Canada, Shooting Federation of Canada and Canadian Fencing Federation – to provide technical expertise and competition enrichment opportunities for pentathletes. This multisport network allows our athletes – from youth to grassroots to elite to masters - to modify and augment their training as individually necessary to fully optimize their outcomes in national and international pentathlon competition.

Long Term Athletic Development (LTAD)

Canada's Sport Policy roadmap, first adopted in 2005 and amended in 2012, links a plan for Long Term Athlete Development (LTAD) with the concept of Sport For Life (SP4L). According to this policy,

Long-Term Athlete Development (LTAD) is typically a 10- to 12-year process that optimizes physical, technical, tactical (including decision making) and mental preparation, as well as the supporting ancillary capacities. Within Long-Term Athlete Development is quadrennial planning; this refers to the four-year Olympic and Paralympic cycle for elite athletes, and the

annual plan, which is based upon identified periods of athletic preparation, competition and the transition into the next calendar plan.

For the purposes of this document, we will limit our discussion of LTAD and SP4L to how it will be implemented by Pentathlon Canada. The full text of the Sport Canada resource publication can be downloaded here and addresses a much wider range of topics including sport policy, impact statements and links to other Canadian Sport For Life publications.

The 7 Stages of LTAD for modern pentathlon in Canada

[Note: Ages are sport-specific and based on national and international normative data, which represents the average score for a certain factor across various levels of performance (height, weight, etc.)]

- Stage 1: Active Start (0-6 years)
- Stage 2: FUNdamentals (girls 6-8, boys 6-9)
- Stage 3: Learn to Train (girls 8-11, boys 9-12)
- Stage 4: Train to Train (girls 11-15, boys 12-16)
- Stage 5: Train to Compete (girls 15-21, boys 16-23)
- Stage 6: Train to Win (girls 18+, boys 19+)
- Stage 7: Active for Life (any age participant)

Stage 1: Active start (0-6 years)

SP4L	Pentathlon Canada
Development of general movement skills	Pentathlon Canada does not have a specific training program for this age group. However, the following activities are recommended with proper parental supervision:
Not sedentary for more than 60 minutes except when sleeping	 Swimming: basic water safety and swimming skills, developing comfort in a water environment
Some organized physical activity	Equestrian: developing familiarity with and comfort around equines, basic riding and horse handling, Pony Club membership if accessible
Exploration of risk and limits in safe environments	Running: active sports and play
Active movement environment combined with well-structured gymnastics and swimming programs	Fencing: not recommended for children at this stage
Daily physical activity with an emphasis on fun	Shooting: not recommended for children at this stage.

Training to competition ratio: No specific ratios – all activity based on developing physical literacy and child's passion to play and participate

Suggested competitions: none at this level of engagement; however if desired

- participation with parental supervision in swimming (with flotation accessories if needed) and running activities like children's fun runs
- emphasis is on *enjoyment and experience*, not results or metrics

Stage 2: FUNdamentals (girls 6-8, boys 6-9)

SP4L	Pentathlon Canada
Overall movement skills	At this stage, children may have access to a provincial modern pentathlon club and train according to the club's schedule
Integrated mental, cognitive and emotional development	Swimming: youth swim club 1-3x/week, emphasis on improving skills and technique
ABCs of athleticism: agility, balance, coordination and speed	 Fencing: introductory/beginner group programs, emphasizing proper technique (grip, arm position) and footwork, 1- 2x/week
ABCs of athletics: running, jumping, throwing and wheeling for wheelchair sports	• Equestrian: riding lessons to develop basic skills, Pony Club activities if available and competition for appropriate age and skills, 1-3x/week
Develop strength through use of own body weight exercises	• Running: active sports and play, warm-up protocols before fencing and other sports, 1-3x/week (inclusive with other activities)
Introduce simple rules of fair play and ethics of sport	Shooting: laser pistol safety, static shooting using two hands, learning basic principles of aim, 1x/week
Well-structured programs without periodization	Development of strength and agility through swimming dryland exercises and fencing warm-up drills
Daily physical activity, still emphasizing fun	

Training to competition ratio: All activities FUN-based including some structured competition

Suggested competition: for upper age ranges only

- club and provincial pentathlon competitions
- individual sport competitions in swimming, fencing and equestrian
- Pony Club rallies if applicable
- children's fun runs or track/games days

Stage 3: Learn to Train (girls 8-11, boys 9-12)

SP4L	Pentathlon Canada
Overall sport skills development	• Swimming: swim club membership, 1-3x/week, emphasis on technique, local swim meets when available
Major skill learning stage: all basic sport skills should be learned before entering puberty or the Train to Train stage	 Fencing: beginner programs progressing to fencing club participation, emphasis on technique and footwork, private coaching 1x week if available, club and local tournaments
Integrated mental, cognitive and emotional development	• Equestrian: riding lessons/sessions 1- 3xweek, jumping low obstacles if ready, continued progress in Pony Club and in horsemanship skills
Introduction to mental preparation	• Running: warm-up for other sports, short group runs when possible, varied distances and sprints, introduction to Laser Run,1-3x/week
Develop strength through use of own body weight, adding medicine ball and Swiss ball	Shooting: developing skill and technique, older athletes (12) progressing toward one-handed pistol shooting, introducing Laser Run via games and short running/shooting drills
Introduce ancillary capacities	Introduction to performance analysis – review and understanding
Further identification and development of talents	Emphasis on self-organization and preparedness for training sessions and competitions
Single or double periodization	Introduction to mental preparation – visualizations, goal-setting
Sport-specific training three times per week; participation in other sports three times per week	

Training to competition ratio: 70% training to 30% competition-specific training and actual competition

Suggested competitions:

- club/provincial pentathlon competitions
- at upper age range *if desired*, Pentathlon Canada National Championships
- UIPM subsports: biathle, triathle, laser run
- club/provincial swimming meets in age group

- club/provincial fencing competitions in age group
 local riding competitions, including jumping *if ready*; Pony Club tetrathlon

Stage 4: Train to Train (girls 11-15, boys 12-16)

SP4L		Pentathlon Canada
• S	Sport-specific skill development	• Swimming: swim club 3-5x/week, focusing on freestyle
S	Major fitness development stage: aerobic, peed and trength	Fencing: club training 2-3x/week, private lessons 1-2x/week, focus on technique and footwork, bouting with experienced fencers, reviewing/developing strategy and tactics
v a	The onset of the growth spurt, peak height relocity (PHV) (the fastest rate of growth after growth decelerates) and the onset of menarche are the biological markers	Equestrian: riding 2-3x/week, lessons 1-2x week, jumping if/when ready, developing more refined use of seat and leg
• E	Build the physical and mental engine	• Running: school or club cross-country, training with youth/development club, 3-5x/week running sessions, integrated with shooting 1x/week
	ntegrated mental, cognitive and emotional levelopment	• Shooting: one-handed grip, dry-fire exercises and short sessions at home 4-5x/week, integrated with running 1-3x week
• I1	ntroduce free weights	• Laser Run specific: total shooting time < 80 seconds, 1-3x week group training with drills
• [Develop ancillary capacities	Additional: drylands for swimming; dynamic warm-up for running/fencing
	Frequent musculoskeletal evaluations luring growth spurt	Continuation of mental skills: visualizations, goal-setting, competition preparation
• T	Talent identification and selection	Periodization for Canadian National Championships
• S	Single or double periodization	Possible second periodization for subsport (biathle, triathle, laser run) championships or youth international/continental
	Sport-specific training six - nine times per veek, including complementary sports	

Training to competition ratio: 60% training to 40% competition-specific training and actual competition

Suggested competitions:

- club/provincial pentathlon competitions
- Pentathlon Canada National Championships
- NORCECA (continental) youth competition
- UIPM subsports: biathle, triathle, laser run
- club/provincial swim meets in age group
- club/provincial fencing competitions in age group
- Pony Club tetrathlon
- riding competitions including jumping if ready
- school/club XC or track running with age group

Stage 5: Train to Compete (girls 15-21, boys 16-23)

SP4L	Pentathlon Canada
Sport-, event-, Sport-, event-, position- specific physical conditioning position- specific technical tactical preparation	Swimming: swim club 3-5x/week, local and provincial swim meets
Sport-, event-, position-specific technical and playing skills under competitive conditions	• Fencing: club training 3x/week with footwork, agility and technique drills, private lessons 1-3x week, national level CFF competition
Integrated mental, cognitive and emotional development	Equestrian: riding 2-3x/week, proficiency over 90cm-1.00m jumping courses on a variety of horse types, jumping instruction either in group or private, local jumping competitions, achieve UIPM riding certification at upper range
Advanced mental preparation	• Running: age-appropriate/development track or running club, XC and road racing, quality sessions (interval, tempo, track) 3x week, easy runs 3x week. Integrate laser shooting 2-3x week.
Optimize ancillary capacities	• Shooting: dry fire exercises and short static sessions 6x/week, integrate with running drills in group setting 1-3x/week
Specialization	• Laser Run specific: total shooting time <60 seconds, group training 1-3x week with drills
Single, double or triple periodization	Additional: drylands and weights for swimming as per swim club, hip and core strength sessions 2x/week.
Sport-specific technical, tactical and fitness training 9-12 times per week	Achieve NT standard of 1200W/1300M overall score
	Mental skills: visualizations, managing competition emotions, managing communication and organization during competitions
	Periodization for athlete's key competitions, which might include world championships, continental championships, Pan Am Games, Olympic Games, UIPM subsport world championships

Training to competition ratio: 40% training to 60% competition-specific training and actual competition

Suggested competitions:

- club/provincial/national pentathlon competitions
- consider North American, NORCECA and international competitions if athlete has competitive metrics for those levels
- UIPM subsports: triathle, laser run (biathle is less relevant at this level)
- swim meets as needed to gain experience and maintain 200m freestyle times
- XC/track/road racing (5k) as needed to improve or monitor metrics
- showjumping competitions (1.00-1.20m classes) when possible
- provincial/national/North American Cup fencing competitions

Performance goals

- progress to SwimOntario 'C' standard for ages 17+ for 200m freestyle swimming: 2:22
 W/2:11M LC
- when swim is *confirmed* at those times (or under), then the athlete should *train to maintain* in swimming with overall program emphasis on improving laser run and fencing scores
- age group continental championships
- age group world championships, goal is to progress to final
- ages 18+: achievement of National Team Standard of overall score of 1200 (women) or 1300 (men) pentathlon score

Stage 6: Train to Win (girls 18+, boys 19+)

SP4L	Pentathlon Canada
Maintenance or improvement of physical capacities	• Swimming: maintenance program after achieving consistency at 2:22/2:11 for 200m LC freestyle, recommended 3-4x/week depending on individual need
Further development of technical, tactical and playing skills	Fencing: private lessons 3-4x week, national and North American Cup competitions, regular bouting with quality fencers
Modelling all possible aspects of competition in training	• Equestrian: riding sessions 2-3x week, jumping instruction 1x/week
Frequent preventative breaks	• Running: elite or sub-elite running club, 3 quality sessions/week (intervals, track, tempo) and 3-4 additional distance runs. Integrate 1-2 laser run trainings, preferably with group.
Maximize ancillary capacities	Shooting: daily dry fire exercises and short static sessions; laser run specific practice with drills and running 1-2x week
Performance on demand	Additional: free weights/gym strength 2x week, with individual customization.
•	 Mental skills: continued visualization and self-preparation; work with a sports psychologist if available
Single, double, triple or multiple periodization	Achieve/renew NT standard of 1200W/1300M pts
Sport-specific technical, tactical and fitness training 9-15 times per week	Periodization for World Cup season followed by second periodization for World Championships (Junior or Senior, depending on age) and/or for priority quad competitions like Pan Am Games and Olympic Games

Training to competition ratio: 25% training to 75% competition-specific training and actual competition

Suggested competitions: (note: some of these are by selection or qualification only)

- Canadian provincial and national championships (mandatory)
- Continental championships

- International open competitions (earn points for world ranking)
- World Cups
- World Championships
- Pan American Games
- Olympic Games

Performance goals:

[At this stage, if a pentathlete's overall performance will benefit most from intense temporarly focus on a single discipline such as fencing, that pentathlete might opt for maintenance training in the other disciplines for up to an entire season while aiming to master skill and technique in fencing. Training plans will always be adjusted with the goal of improving the athlete's overall pentathlon scoring capability.]

- increase overall pentathlon score to international podium score of 1330W/1430M. This will be mapped out according to an athlete's individual strengths, weaknesses and areas in which improvements (as defined by pentathlon points value) are most likely
- World Cup competitions athlete should be capable of making final and top 25% result in final
- continental championships athlete should have medal potential
- Olympic qualification via either Pan Am Games or PWR ranking list

Stage 7: Active for Life (any age participant)

1. Competitive for Life

SP4L	Pentathlon Canada
Minimum of 60 minutes moderate daily activity or 30 minutes of intense activity for adults	Participation as desired at masters swim club
Transfer from one sport to another	Participation at fencing club; veteran's fencing competition
Move from highly competitive sport to lifelong competitive sport including age group competition	Continue to ride horses regularly,
Embrace an active lifestyle by participating in organized sport that may be unfamiliar	Subsports of biathle/triathle/laser run
Compete at a high level in age-group competitions such as Masters Games	Masters divisions at Pentathlon Canada competitions
	UIPM masters world championships – held every two years.

Fit for Life

SP4L	Pentathlon Canada
Minimum of 60 minutes moderate daily activity or 30 minutes of intense activity for adults	Same as Competitive for Life
Move from competitive sport to recreational activities	
Move to sport careers or volunteering	Volunteering or coaching at youth clubs
Maintain an active lifestyle by continuing to participate in organized or non- organized physical activity	
Become active by participating in non- organized sport or physical activity that may be unfamiliar	

Sport and Physical Activity Leaders *

SP4L	Pentathlon Canada
Move from competitive sport to volunteering as coaches, officials or administrators	Pentathlon Canada welcomes alumni and new masters athletes to all of its activities, as athletes and volunteers
Upon retiring from competitive sport, move to sport- related careers such as coaching, officiating, sport administration, small business enterprises or media	Pentathlon Canada hosts UIPM coaching certification courses to get more certified coaches in Canada at all levels
Use experience, whether from previous involvement or education, to help ensure a positive environment for participants	Pentathlon Canada hosts UIPM techinical officials courses to get our members licensed as officials

Training to competition ratio: based on the individual's desire

Suggested competitions:

- Canadian club, provincial, and national masters pentathlon competition
- Veterans fencing competitions
- UIPM subsports: biathle/triathle/laser run
- UIPM masters world championships

Coach education pathway

In 2017, the UIPM rolled out its coach certification program, consisting of Levels 1, 2 and 3. In July 2017, Canada hosted one of the first Level 1 courses, certifying 13 students as coaches for Level 1. Pentathlon Canada will continue to provide UIPM coach education and certification for all of our interested members.

Sport partnerships and technical adviser network

Our extensive international experience and observation informs us that pentathlon training for international podium success is optimized by matching each individual pentathlete to a team of individual discipline coaches that best suit their needs.

To that end, Pentathlon Canada has formed partnerships with the Canadian Fencing Federation, Equestrian Canada, Athletics Canada, Swimming Canada and the Shooting federation of Canada to provide expert technical guidance and coaching for our modern pentathletes. We feel that these relationships with experts in the individual disciplines will play a key role in the international success of our athletes.

The role of the national team coaches for modern pentathlon is to (1) provide input and support for the athletes' individual coaching plans; (2) support the athlete in suggesting appropriate competitions that will keep them on the pathway to success; (3) manage all aspects of competition organization, including on the field of play and (4) develop a safe, supportive and mutually respectful relationship with the athlete that enables them to flourish in their sporting career as well as in their general well-being.

Growth/development phases and pentathlon training

Pentathlon Canada recognizes the physical and cognitive developmental phases outlined in SP4L. Due to pentathlon's interdisciplinary, multisport nature, athletes are able to shift their focus and training emphasis based on where they are in their growth phases. For example, an athlete in an optimal strength period could focus on swimming during that phase to get maximum training benefit. During a skills acquisition phase, the athlete could do maintenance training in swimming and pursue more intense training in fencing and riding. In a speed or stamina phase, the athlete could focus on running and/or swimming. Thus, an athlete can use the sport's multidisciplinary nature to correlate to and complement their growth phases.