Provincial Development Program

TRIATHLON ONTARIO ATHLETE DEVELOPMENT MATRIX

Triathlon ONTARIO

TEAM ONTARIO

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WHAT IS THE ATHLETE DEVELOPMENT MATRIX

WHAT IS AN ATHLETE DEVELOPMENT MATRIX?

The Athlete Development Matrix (ADM) is a framework that outlines the skills and personal attributes of athletes as they progress through each stage of development. Each pillar is of equal importance in the early development. Athletes who are successfull at the top levels of the sport have not just developed great physical capacity but also recognize the importance of the mental, social and community benefits that align with long term success.

Triathlon Ontario's ADM is a detailed document developed to help provide a framework for coaches, athletes and parents to ensure and understand what athletes should be able to do during each stage of Triathlon Canada's Long Term Athlete Development pathway and provide guidance to ensure athletes do not miss critical skills early in their development.

WHO IS IT FOR?

The Athlete Development Matrix is designed to help guide coaches, administrators, athletes and parents as they work together to develop the foundation in which Triathlon Ontario aligns it's various resources including coach certification, and best practices for athlete development and a directory of what skills an athlete should acquire as they progress through to the podium pathway.

It is important to note that the ADM is NOT a curriculum for success but rather a framework so developing athletes can maximize their potential at the highest levels of the sport. Athletes who have the determination, commitment and perseverance to be World Class triathletes need to learn the right skills at the right time.

PERFORMANCE PATHWAY

An athlete development matrix provides the best probability of success as the athlete matures and competes at ever increasing competitive levels. Triathlon Ontario's ADM lays out what an athlete should be able to do at each stage of their development and to ensure athletes do not miss out on developing critical skills during their advancement in the sport. Triathlon Ontario has based this matrix on the sports best practices and believes that a systematic, repeatable process ensures the best foundation for long term success in the sport. It has long been accepted that athletes need well developed and carefully managed performance pathway programs in order to excel in the highly competitive international arena. Having a great performance pathway system implies having an exceptional performance based environment with all the programs, support staff, facilities, equipment and KPI's are well established and functioning as a unit that needs to constantly learn and evolve to consistently strive to meet world leading standards.

As we develop our Performance Pathway we are in the pursuit of excellence. Our mission is to systematically develop, support and promote athletes to go on to achieve success at the International World Triathlon Level.

This framework will focus on developing more than just the physical aspects of triathlon. Physical capacity and exceptional skills are not enough to be successful in sport, success in any area of life also requires creativity, flexibility, self-control, self-discipline and tenacity. Our purpose in developing this ADM is to help contribute to developing the person and the athlete. We want to create independent learners and problem solvers, athletes capable of consistently making the right decisions at the right time, the ability to adjust to the environment around them in training, racing and travel.

It is very important to note that our ADM is a framework of development and not a curriculum. This distinction is important as we continue to build our performance culture. This exploration will support the athletes journey as they:

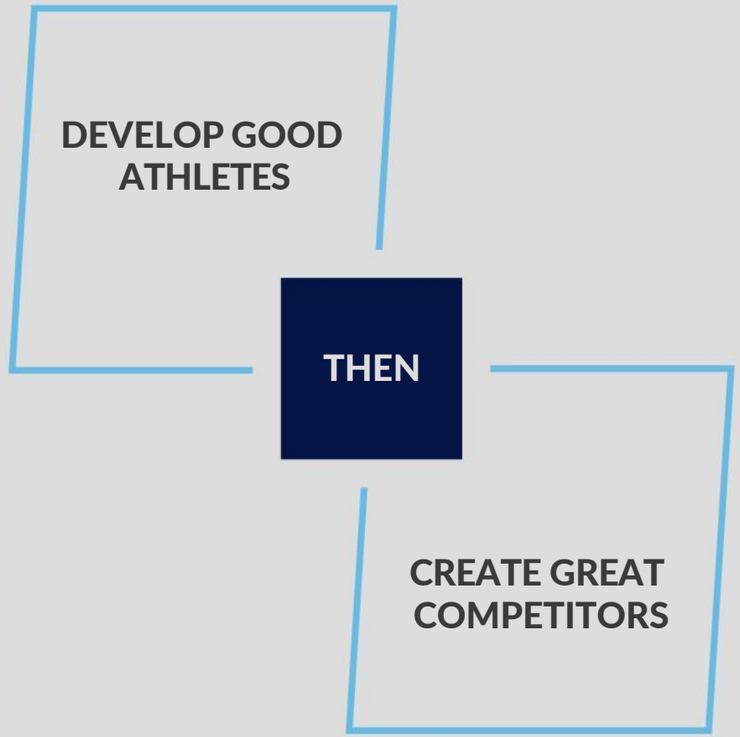
- learn to love training
- learn to make great decisions with proper information
- learn to take ownership of their journey
- learn to train with clarity and purpose
- learn to make the best decisions during competition
- learn to be able to perform on demand

We understand athletes will enter triathlon from numerous entry points with a variety of skill sets. This framework takes into account that an athlete may cross over into triathlon with skills from a one discipline at the REFINEMENT level however be at the INTRODUCTION level in other areas. The first step in our Pathway, is to have a constant focus of development throughout the Podium Pathway. Triathlon is a physical sport and there is no shortcut past innumerate hours of physical work; however athletes must also develop skill sets that allow them to mange the inevitable setbacks, learn to manage travel, injury prevention and a host of things as an athlete they will need to address. The broadening of our focus of holistic development will better prepare Ontario triathletes and para-triathletes to excel in the highly competitive world of elite triathlon.

We are in the pursuit of excellence. Excellence is the process of developing, refining and mastering key elements of long term success. Excellence in triathlon does not come easy and does not come early, we believe excellence is in part built within our training systems . Through those systems we can develop athletes who will be able to meet the demands of racing on any course in all conditions, against all competition.

Regardless of the path that a triathlete takes, or at what stage a triathlete leaves the podium pathway, the goal is that all triathletes end up in the Sport for Life stage taking one or more of three roles:

- Racing competitively in local or regional events, long distance, and World Triathlon AG events.
- Taking part in triathlon by becoming a coach, race official, race director, volunteer, or board member.
- Training for triathlon for fun and fitness and remaining active for life.



PROGRESSION TOWARD EXCELLENCE

To guide athletes, parents and coaches, each stage of the ADM is broken into Four Segments:

- Life Skills
- Technical –Tactical
- Psychological -Emotional
- Physical Capacity

We identify the skill sets or personal attributes to be developed during each Stage of Development

- Introduction
- Acquisition
- Consolidation
- Refinement.

These skills and competencies refer to the technical, tactical, physical, mental, and emotional development of athletes. In the early years, athletes are acquiring triathlon skills across a range of competencies. Triathlon Ontario recognizes that there will be outliers and variations and progress will not be linear, however, coach education and athlete development is built around the philosophy that bypassing the critical stages of development whether it be physical, emotional or technical / tactical results in GAPS that will negatively effect, long term performance and success in triathlon at the highest levels.

PROJECT OVERVIEW POINTS

- A cohesive and comprehensive framework for athlete and coach development for triathlon in Ontario
- An PSO led and collaborative document to guide the development of the sport from entry level, development and retention.
- Scope: youth, junior and podium pathway Olympic/Paralympic athletes.
- Intended to inform National partners, Provincial Triathlon Organizations, coaches, athletes, parents, clubs, officials, and other interested partners.
- An overview of a triathlon development pathway, while allowing for variation in individual maturation and entry to the sport.
- Triathletes are supported along their journey primarily by their parents and coaches in collaboration with their Provincial Triathlon Organization (PSO) and Triathlon Canada (NSO), so that they have the best opportunity to achieve their potential.
- There are multiple pathways to achieve success,
- Balanced development in sport and physical activity means paying attention to more than just skills and physical capacities.
- Development occurs across a range of domains including physical, technical, tactical, psychological, and life skills.
- During this period we should take a holistic view of athlete development considering school, social system, and sport.

HOW IS THE ATHLETE DEVELOPMENT MATRIX (ADM) USED?

The athlete development matrix is a framework based on the belief that an athlete does not learn a skill just once, developing skills includes progressing from a simple skill to more complex skills..

The ADM can be used to teach fundamental skills and then the progressions that follow. This frame work also allows coaches and athletes to recognize when an athlete can and should progress and provides coaching cues and demonstrations to provide a reference for movement patterns, progressions and corrective suggestions. In addition the ADM covers life skills, physical and mental health, nutrition and injury management.

THE FOUR STAGES OF DEVELOPMENT

Athletes will enter the pathway into triathlon at different times with an already established set of skills in some disciplines but may not have much experience in other disciplines. Triathlon Ontario recognizes we can not follow a chronological model of development. As you use this matrix you will find the development pathway structured in four different phases. Each phase can be used independently for each discipline.

INTRODUCTION
The Introduction phase, athletes set the ground work for future competition and success. Emphasis is placed on developing fundamental skills and motor patterns in each discipline and developing a love for training. Focus is on creating a positive, safe and supportive training environment that fosters a passion for learning, personal growth, accepting new challenges and allowing athletes to mature and grow at their own pace. Programs should build resilience, positive mind set and instill a passion for an active lifestyle.

ACQUISITION
The Acquisition phase introduces a targeted and specialized training approach. Athletes skill development and performance metrics begin to be tracked and training goals developed using Triathlon Canada's GMP and DPE as benchmarks for progression, with the understanding that the demands of the sport are a balance of speed and efficiency. Training is tailored to enhance specific skills and laying the ground work for competitive performance, pushing boundaries and establishing proper processes and objectives.

CONSOLIDATION
The Consolidation phase represents the point in the development pathway where performance becomes a priority. Athletes are preparing for competition at the highest levels of the sport. The athletes development is characterized by physical conditioning, fundamental skill sets are embedded in the athletes "skill vocabulary" and are being tested under fatigue and under pressure, a deep understanding of race tactics and strategies is being developed, there is a focus on performance on demand and maintaining peak fitness.

REFINEMENT
At the refinement stage athletes have entered Triathlon Canada's Podium Pathway. At this stage the objective is high performance and athletes need to be capable of consistent performances at the highest level of the sport. The focus for these athletes shifts from mastering skills in training to being able to execute consistently, on demand, under varying circumstances and environments. Skill mastery, knowledge & independent thinking underpins consistent high performance results and provides athletes with the best chance for their best results.

THE FOUR PILLARS

The Athlete Development Matrix also includes 4 pillars that combine to make up a truly holistic development matrix. These pillars combine to encapsulate the whole athlete and all are important areas to develop to provide athletes the best chance at success as they move through the sport system.

LIFE SKILLS
Successful athletes are first and foremost successful people. By creating an environment that is centered on proper stage of-development appropriate emotional, social and life skills that enable athletes to function effectively as individuals and harmoniously as group members; enabling them to focus on key educational, relationship and sport activities and create a sport-life balance including time management and personal needs planning.

TECHNICAL / TACTICAL
Developing a large vocabulary of skill sets, allows athletes to make better more effective tactical decisions during competition. Programs should be athlete centred with a focus on stage of-development appropriate sport-specific technical, tactical and strategic decision making skills. While incorporating a focus on developing and enhancing skill performance under pressure and fatigue.

PSYCHOLOGICAL (MENTAL / EMOTIONAL) SKILLS
Every training session can include appropriate mental performance skill development that enables the athlete to enhance personal performance in both training and competition. Critical skills such as Perseverance, Persistence, Patience, Reflection and being Coachable provide athletes with the opportunity to learn through failure and success. These learned traits provide athletes with the tools to improve focus and attention control, develop effective visualization and emotional control and performance readiness.

PHYSICAL CAPACITY
Create programming that is stage-of-development appropriate to develop general, and sport specific, stamina (endurance), strength (functional and competition), speed and range of motion to meet the physical demands of the sport. Progressive and well managed programs reduce injury potential and provide athletes with increased vocabulary of movement skills and maintain optimum health while maximizing performance gains.

TRIATHLON CANADA LTAD 3.0 AT A GLANCE

TRIATHLON CANADA STAGE	SPORT CANADA STAGE	KEY CONCEPTS	TRIATHLON ONTARIO STAGE	KEY CONCEPTS	LEVEL OF COMPETITION
Active Start	Active Start	Awareness and Fun	**Active Start**	Exploration of fitness and fun activities including swimming, outdoor play, biking in controlled areas, activities that allow for social interactions and structured and unstructured play.	N/A
Swim, Bike, Run Essentials	Fundamentals	Whole Body movements, intro to sport for fun and fitness	**Swim, Bike, Run Essentials**	Kids continue to develop fundamental movement skills and are introduced to triathlon through structured practice and unstructured games. Games are fun and inclusive, appropriate for the level of fitness and are designed to promote the child's confidence and participation.	N/A
Introduction	Learn to Train	Learning Skills: physical, mental, emotional aspects of sport skill development, being coachable	**Introduction**	The journey into triathlon begins with the Introduction phase, athletes set the ground work for future competition and success. Emphasis is placed on developing the fundamental skills and motor patterns in each discipline and developing a love for training. Focus is on creating a positive, safe and supportive training environment that fosters a passion for learning, personal growth, accepting new challenges and allowing athletes to mature and grow at their own pace. All athletes should be treated equally. Athletes will experience success and failure, failures should be seen as teaching moments and accepted and recognized as part of experimenting and learning. Programs should build resilience, positive mind set and instil a passion for an active lifestyle.	Provincial, Regional & National Draft Legal Series
Acquisition	Train to Train	Building the engine, skill development	**Acquisition**	Athletes entering the Acquisition phase are introduced to more targeted and specialized training approach. Athletes skill development and performance metrics begin to be tracked and training goals developed. Coaches will use Triathlon Canada's GMP and Ratified times as benchmarks for progression, with the understanding that the demands of the sport are a balance of speed and efficiency. Coaches tailor training to enhance specific skills while laying the ground work for competitive performance at all levels. This phase is a balance between pushing boundaries and establishing proper processes and objectives.	National DL Championships Canada Summer Games Junior Conti Cup Junior Worlds

TRIATHLON CANADA STAGE	SPORT CANADA STAGE	KEY CONCEPTS	TRIATHLON ONTARIO STAGE	KEY CONCEPTS	LEVEL OF COMPETITION
Consolidation	Train to compete	Learning how to race, developing self mastery with intensity	**Consolidation**	The Consolidation Phase represents the point in the development pathway where consistent performance starts to become the priority. Athletes are preparing for competition at the International level and competing for start list positions at the highest levels of the sport. Development is characterized by physical conditioning, fundamental skill sets are embedded in the athletes performance and are being perfected under race conditions. Athlete's are developing a deep understanding of race tactics and strategies and learning how to execute them in competition. A focus of performance on demand is being developed in addition to maintaining peak fitness.	National DL Champions Top 8 U23 Conti Cup Top 16 U23 World Championships World Cup
Refinement	Train to Win	Consistently performs skills in the highest level of competition	**Refinement**	As athletes reach the refinement stage it is accepted that they entered Triathlon Canada's Podium Pathway. At this stage the objective is high performance and athletes are capable of consistent performances at the highest level of the sport. The focus for these athletes shifts from mastering skills in training to being able to execute consistently, on demand, under varying circumstances and environments. Skill mastery, knowledge & independent thinking underpin consistent high performance results and provides athletes with the best chance for their best results	Provincial, Regional & National Draft Legal Series
Integration	Active for Life	Enjoyment at any level for personal goals and values	**Integration**	Continued participation and involvement in the sport through competition, volunteering, officiating, club official or administrator, coaching or community support for local activities.	N/A

ACTIVE START

ABOUT THE ACTIVE START STAGE

From birth to about age 6, kids develop a foundation for lifelong physical activity, or physical literacy. This includes unstructured daily physical activity which helps individuals move through space and develop an inherent understanding of, and joy for, movement and active play. Focus is on developing locomotor, object manipulation and balance skills on land, water, ice/snow and in the air in a variety of movements. Provide challenges with both successes and failures to help develop better confidence.

PRACTICE TIME

Kids start to understand that success means giving best effort and having fun. Kids need parents to love, support, and believe in them, regardless of how they perform. This positive support will allow them to separate personal value from success and failure in sport.

STRUCTURED AND UNSTRUCTURED PLAY

No formal triathlon skills are taught at this stage. Encourage exploration of risks and limits in a safe environment, including outdoor play in nature. Create mini challenges to extend children's comfort range. Ensure activities are fun and allow for social connectedness. Kids can be in a variety of structured and unstructured play and activity at this stage and getting a start in swim lessons and other activities initiated by a parent/guardian.

Triathlon Ontario has a systematic, repeatable plan for developing athletes once they enter the sport. In sport this is referred to as Long Term Athlete Development (LTAD) This means

- Teaching the right skills at the right time
- Developing speed, strength and endurance appropriately
- Athletes competing at a suitable level and progression

ACTIVE START BASICS

- Create a safe and stimulating environment, in controlled areas where kids can develop positive social and communication skills
- Provide organized fun physical activities for 30-60minutes
- Include unstructured play routines, games and challenges.
- Use a wide range of equipment or play items.
- Emphasize fundamental movement skills, agility, balance, coordination, eye hand movements and speed.
- Keep it fun, simple and engaging. Create a positive experience that encourages enjoyment in physical activity and being active

EQUIPMENT

Run bikes (leg propelled bikes without cranks and pedals) offer the best start to early riders, as they teach balance and control and are a lot of fun! Helmets must be worn to decrease risk of head injury and adults should always role model safety by wearing a helmet.

EVENT FOCUS

No formal events at this age

FUNDAMENTALS

ABOUT THE FUNDAMENTALS STAGE

In the FUNdamentalsstage kids continue to develop fundamental movement patterns (physical literacy) and are introduced to the disciplines in triathlon (swim, bike, run) through structured and unstructured play.

Programs should provide a safe, fun, inclusive and developmentally appropriate physical activity that provides experiences that promote the development of the child's confidence, enjoyment and desire to participate in swimming, biking and running.

At this point in an athletes development practice time should be limited to enhancing FMS, (Functional Movement Skills), introducing the rules of the sport, and combining two sports in succession (ie: bike then run) such as setting up transition area, running with their bikes etc.

This stage should not include any intense training.

Level of competition at this stage is focused on participation in local events for fun and experience.

PSYCHOLOGICAL

- Ensure a positive learning environment, that rewards effort and trying new things
- Develop executive function through games and activities that require rapid changes in focus (cognitive flexibility)
- Requires varied and multiple pieces of information (working memory)
- Use of movement upon signals (inhibition control)
- Practices listening to their body to help understand emotions and how physical activity makes them feel

LIFE SKILLS

- Understands the relationship between effort and results
- Takes turns during activities, cooperates with others
- Can be part of a team, will lead and will follow others lead
- Is empathetic towards others who maybe / or do things differently
- Understands that fluids and food are crucial to energy production
- Understands the importance of following rules and instructions

PHYSICAL CAPACITY

- Programs should focus on teaching core movement mechanics that help develop confidence and enjoyment
- Programs should develop coordination, control of movements, speed, stamina, strength
- All activities should promote inclusion and fun
- This stage is critical in developing athleticism and a passion for lifelong activity

TECHNICAL

Swimming – athlete can float on front and back, can swim underwater, understands traffic flow in lane swims.

Cycling – athlete can ride in a straight line, can mount and dismount their bike at slow speeds keeping control, is able to ride safely in a group, can ride and execute hand signals (turns, stopping).

Running – Is learning proper run form drills, has good static balance on each leg, can hop on a single leg, is able to execute run games for 7-10min

Transitions – can rack bike on their own, can setup transition area for T1 & T2, is able to run safely with their bike, knows where their bike is racked.

INTRODUCTION PHASE

The journey into triathlon begins with the INTRODUCTION PHASE, athletes set the ground work for future International competition .

Emphasis is placed on developing the fundamental movement skills and motor patterns in each discipline and to develop a love for the training. Focus is on creating an positive, safe and supportive training environment that fosters a passion for learning, personal growth, accepting new challenges and allowing athletes to mature and grow at their own pace.

All athletes should be treated equally, athletes will experience success and failures, failures should be seen as teaching moments, accepted and recognized as part of experimenting and learning. Programs should build resilience, a positive mind set, and instil a passion for an active lifestyle.

KEY COMPONENTS:

Physical Literacy: *Introducing basic techniques and movements. Developing balance, agility and coordination.*
Psychological: *Building Resilience and a positive mindset*
Life Skills: *Instilling a passion for active living, life balance and a growth mindset.*

LIFE SKILLS

Nutrition, injury/time management, sleep, self awareness

- Athlete understands link between recovery and injury or illness, reports injury concerns to coach immediately, takes regular days off
- Athlete demonstrates confidence in trying new activities and drills. Is fully engaged in the training process.
- Athlete understands importance of sleep for recovery is developing good sleep habits
- Athlete brings proper recovery food and drink to all practices and competitions
- Athlete understands basic exercise physiology and the relationships between training stress, recovery and adaptation
- Athlete is on time for training sessions with all equipment in proper working order, is patient and listens to instruction
- Training environment supports athletes development of perseverance, patience and resilience. It is understood these traits are leaned traits and crucial to long term development
- Athlete develops habits around race preparation like making an equipment list, packing equipment the night before
- Athlete is open to train/play with others and does not create or initiate exclusive groups within the training group
- Athletes begin to reflect on training, logging workouts, adding comments in a training log
- Athletes are aware of travel time to competitions and plan hydration, nutrition and entertainment accordingly

TECHNICAL & TACTICAL

Training & competition planning, skills, execution, reflection

- Athlete learning to ‘be present” during competitions and training developing the ability to notice the race environment and competition
- Athletes understands entrances and exits (open water swims) protocols that balance speed and energy cost
- Athlete has a sense of urgency into and out of transitions
- Athlete is developing a pacing strategy
- Athlete has (or is developing) body awareness on land and in water, can identify and discuss correct / incorrect movement patterns and discuss issues with their coach. Can master new (movement)skills in a reasonable amount of time.
- Athlete will plan race strategy and debrief with their coach and will identify positive and negative aspects of the race and race plan execution
- Athlete is learning to use Rate of Perceived Exertion (RPE) as part of their training process
- Athlete and coach choose proper level of competition, understands use of points systems

CANADIAN TRIATHLON TRIVIA

Les McDonald (British-Canadian) was instrumental in bringing the sport of triathlon into the Olympics. Les was ITU President from 1989 -2008, and was the first to bring drafting into the sport of triathlon making the sport more viewer friendly for fans and TV. Under Les’s leadership triathlon became the first sport to make race distances and financial awards equal for both men and woman and championed woman's leadership roles in sport at all levels.

KEY PERFORMANCE INDICATORS

LEVEL OF COMPETITION

- Provincial Draft Legal Series
- Regional Draft Legal Races
- National Draft Legal Races
- Local Non Draft Legal Racing

DAILY PERFORMANCE ENVIRONMENT

- NCCP Competitive Stream Triathlon Certified Coach
- Coach in attendance for minimum 50% training sessions
- Annual Periodized Training program
- Tracking and reflection on training
- Identify and address performance GAPS

PERFORMANCE BENCHMARKS

Swim

- Speed 50m - 35-40sec(F) 36 - 39sec (M)
- Speed Endur. 200m 2:48- 2:56(F) 2:37-2:48(M)
- AE Capacity 400m 5:44-5:58(F) 5:20-5:52

Bike

- Agility Course < 65sec (F) < 60sec (M)

Run

- Speed 400m – 87-93 sec (F) - 85 - 79sec (M)
- Ae Capacity 3000m – 11:01-10:07(F) 9:52 – 9:03 (M)

PSYCHOLOGICAL

Mental & Emotional health, Performance Readiness

At this stage Mental Skills and strategies can be introduced in group settings to develop the understanding of mental performance skill sets. Coaches treat everyone equally and respectfully

CONFIDENCE & PRESENCE

- Positive attitude
- Introduction to Mental Skills such as visualization
- Encouraged to ask questions

GRIT

- Is Motivated
- Is setting Goals
- Is developing a passion for an active lifestyle

RESILIANCE (Mental toughness)

- Persistently pursues goals
- Determined/confident when facing challenges
- Is adaptable
- Learns from mistakes

FOCUS & EMOTIONAL REGULATION

- Attentive, listens to instructions
- Arousal/ emotional control

TEAM PLAYER

- Develops positive relationships
- Developing good communication skills

GOLD MEDAL PROFILE – SPORT PSYCHOLOGY

Mental Performance - the capacity to use cognitive processes [e.g perception, reasoning, decision-making] and mental/self-regulation competencies [e.g., motivation, confidence, resilience, communication] to perform and reach goals in a constantly changing environment; (Durand-Bush & Van Slingerland, 2021)

Competencies - measurable patterns of knowledge, skill, abilities, behaviors, and other characteristics that individuals need to successfully perform their roles, functions, or tasks;(Rodriguez et al., 2002)

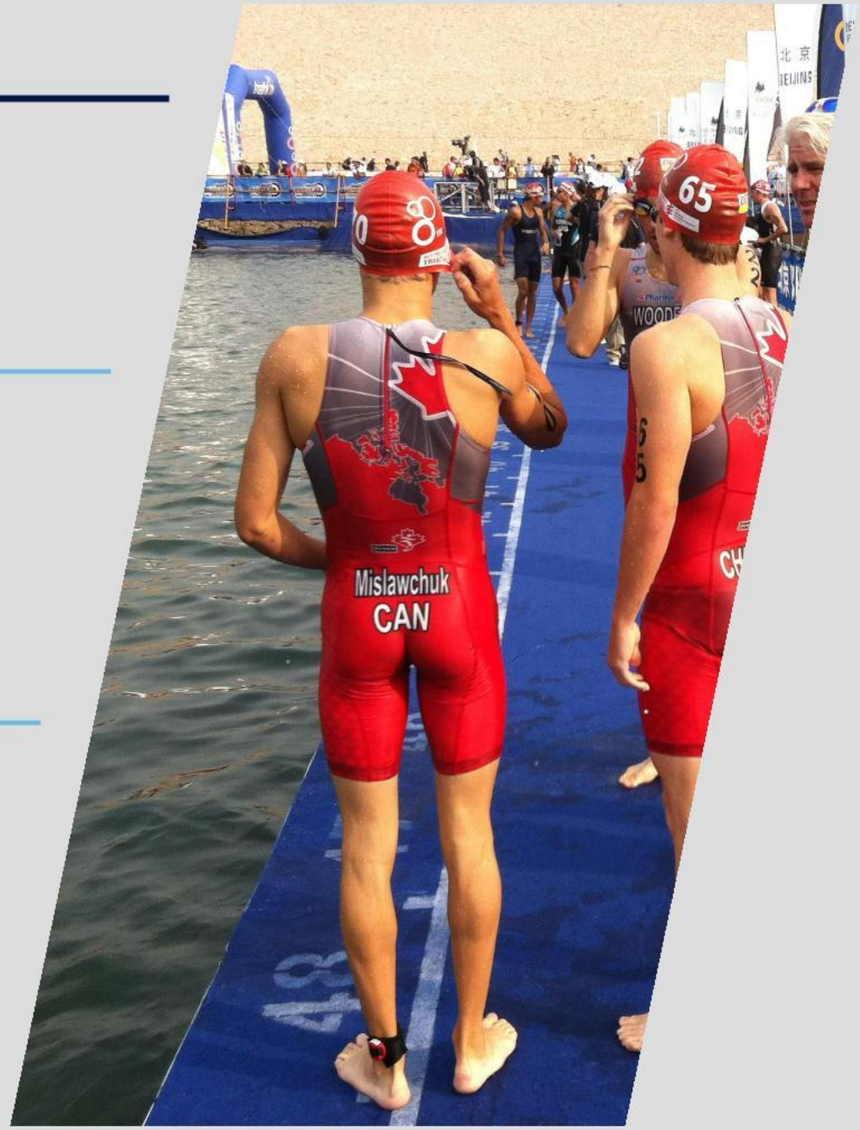
Mental Health - a state of psychological, social, and emotional well-being in which individuals feel, think, and act in ways that enable them to enjoy life, realize their true potential, cope with the normal daily stresses of life, work effectively, and contribute to society; (World Health Organization, 2018).

Source: Natalie Durand-Bush, Joseph Baker, Frank van den Berg, Véronique Richard& Gordon A. Bloom (2023) The Gold Medal Profile for Sport Psychology (GMP-SP), Journal of Applied Sport Psychology, 35:4, 547-570, DOI: 10.1080/10413200.2022.2055224

SWIM SKILLS

SUB SET OF SKILLS

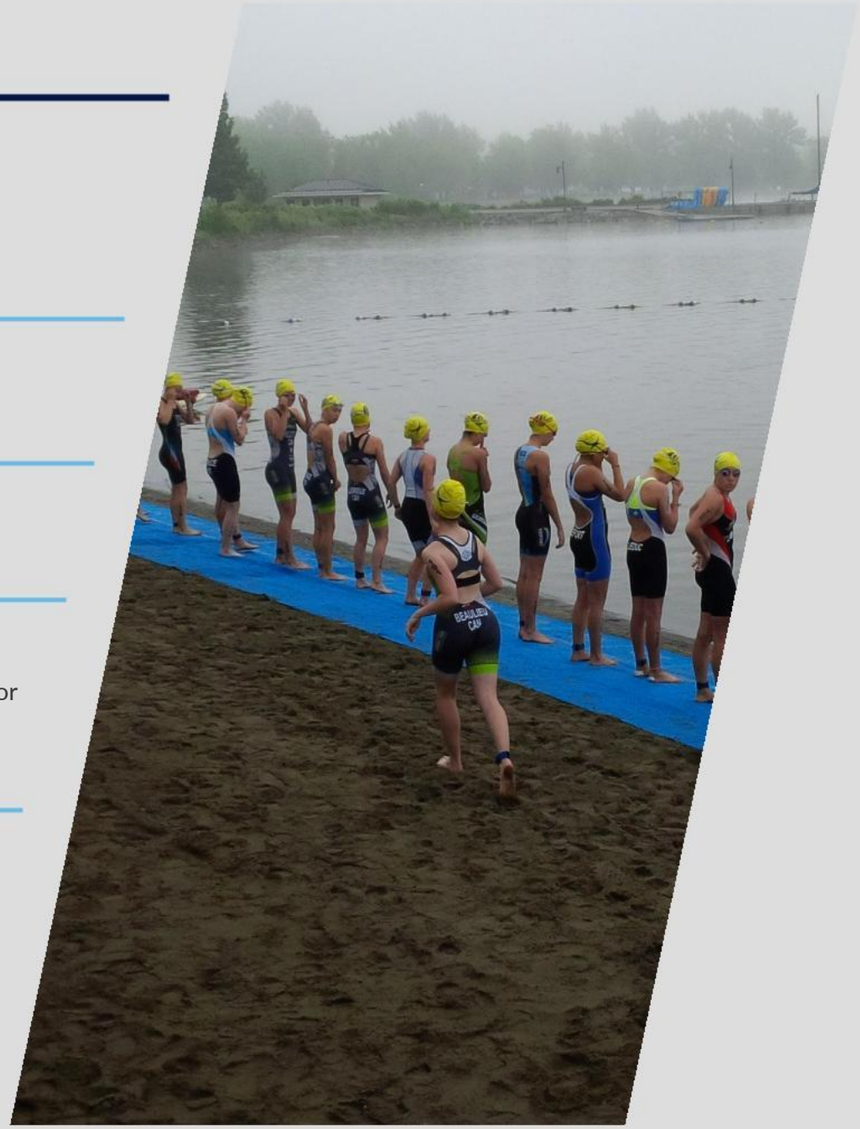
Breathing	• Does not hold their breath • Can Breath to both sides • Creates pattern when breathing • Head is stable upon rotation • Breathing is timed properly
Balance and Rotation	• Neck and Spine are in alignment • Rotation is driven by the hips (hips, shoulder, chin) • Hip rotation is “linked” with the catch • Hip Rotation is evident with each stroke (non breathing strokes) • Hips are high in the water (breaking surface with rotation) • Lower back is flat (head, shoulders, hips in a straight line) • Core is stable and engaged
Catch, Pull, Recovery	• Hand enters the water in front of the shoulder • Hand is relaxed, palm facing down, fingers enter first • Hand is at armpit depth to begin catch • Scapula extends off rib cage (engaging lats) • Elbow is stable, wrist under elbow fingers pointing down • Arm moves as one unit, accelerates through the stroke • Recovery is shoulder driven, wrist and elbow in alignment as the arm passes the shoulder



SWIM SKILLS

SUB SET OF SKILLS

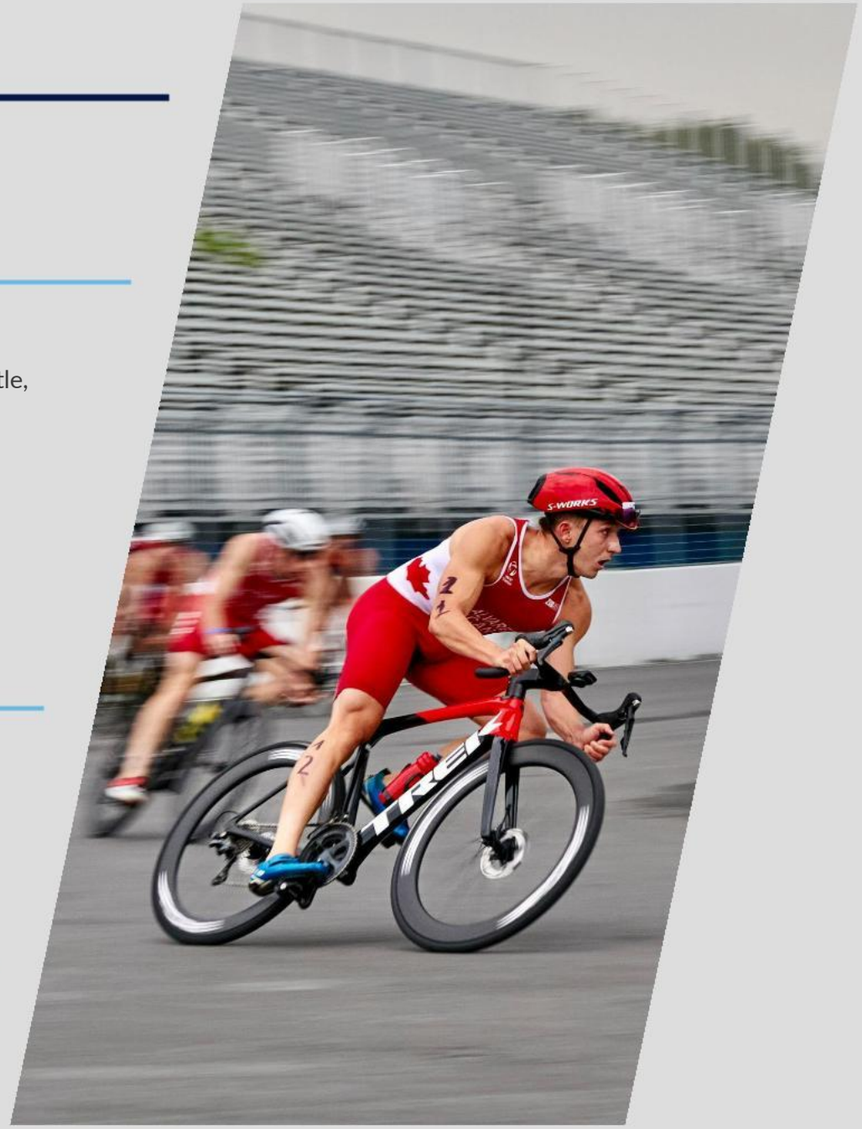
Kicking	• Knees are relaxed • Legs remain behind hips • Kick is initiated by the glutes • Helps establish balance and rotation and / or propulsion
Distance Per Stroke	• Athlete is introduced to distance per stroke concepts • Sets targets for a maximum number of strokes per length to improve swim efficiency
6 beat & 2 Beat Kicking	• Athlete is introduced to different kicking rhythms • 2 beat kick, can lower swim heart rates and help with establishing rhythm
Aerobic Capacity	• Athlete is increasing total swim volume per session / week • Athlete is introduced to various breathing patterns (bi-lateral breathing, breathing every 5th or 7th stroke) • Is beginning to maintain consistency in pace and stroke count
Muscular Endurance & Sport Specific Strength	• Athlete is introduced to pull bouys, bands, paddles and other resisted swim equipment (sponges, parachutes when appropriate) • Athlete is developing a pull dominate swim style



CYCLING SKILLS

SUB SET OF SKILLS

Body / Riding Position	• Hip, Knee, ankle alignment • Hips are stable on the saddle (no rocking or bouncing) while pedaling • Upper body is “quiet”, stable and relaxed
Balance & Bike Handling	• Maintains a smooth pedal stroke thru a range of cadences (0-120rpm) • Keeps bike steady & controlled when riding with one hand (safety signals, retrieving water bottle, feeding) • Is able to clip in / out without looking, bike is under control • Completes water bottle pickups / set downs on both sides • Rides smoothly using tops or drops (hand placement) • Can maintain race position while riding with single leg/arm • Can perform a clean front wheel and rear wheel “hop” • Efficient seated and standing riding position
Braking & Gear selection (shifting)	• Proper use of both front and back when braking • Executes emergency braking procedures (shifts weight backward off saddle) • Maintains control when braking on dynamic surfaces (gravel, wet, grit, cobbles) • Understands gearing & gear selection how to use big and small ring • Understands the negative effect of chain offset



CYCLING SKILLS

SUB SET OF SKILLS

Riding, Group Riding	• Is able to ride in a straight line with one or two hands • Athlete can ride comfortably in a pace line and hold a wheel in a controlled area (parking lot) • Athlete maintains proper riding position when riding in a line group or chain gang • Is comfortable riding side by side
Mounts / Dismounts	• Athlete can mount and dismount bike maintaining forward motion advancing from walking to running • Mounts on non drive train side of the bike • Maintains control of the bike when mounting and dismounting
Cornering	• Can identify the four points of a corner (braking, entry, apex, exit) • Can perform left and right turns holding the safest and fastest line • Navigates corners safely and smoothly (inside pedal position)
Bike Fit	• Athlete has a basic bike fit done by knowledgeable coach or bike fit expert
Bike Maintenance	• Athlete can identify different parts of the bike (hub, stem, derailleur etc) • Athlete performs A.B.C check before rides • Athlete can change a tube and pump up tires • Athlete can perform preventive maintenance like cleaning & lubing drive train

RUN SKILLS

SUB SET OF SKILLS

Posture	• Upright and relaxed, straight spine and neck aligned • Engaged core, maintain a stable posture, no leaning forward (slouching) or backward • Relaxed shoulders, looking forward chin parallel to the ground • Arms relaxed elbows bent (90< degrees), arms swing naturally, elbows drive backward • No over rotation through the hips
Hip and Pelvis Stability	• Hips remain “high” and stable upon foot impact (hips do not drop side to side) • Pelvis remains in a neutral position (no anterior or posterior tilt)
Foot Strike / Ground Contact	• Foot is in dorsiflex position upon contact (stable platform, pre loading the Achilles) • Foot contact is slightly in front of centre mass (hip) and foot contact is mid foot • Minimal ground contact results in increased power per stride • Action is in front of body not behind
Recovery Phase	• Knee drives forward and up upon toe off (heel up, toe up, knee up) • Hip flexion of 40 degrees engages posterior muscles (glutes, hamstrings) • Bottom of foot should be pointing back not up • Leg should not extend backward upon toe off (kicking back)
Cadence	• Cadence should be around 180 steps per minute (90 RPM) • All run sessions should be done at competition cadence to enhance muscle memory and train rhythm (force production) • Increased cadence is generally a result of reduced ground contact time

Photo courtesy of Kevin McKinnon

RUN SKILLS

SUB SET OF SKILLS

Upper Body	• Upper Body motion acts as a counter balance to lower body motion to support balance • Arm motion is driven by the elbow • Arm motion to far forward encourages over-striding • Shoulder rotation is in time with contra-lateral leg movement • Over rotation through the hips wastes energy and is commonly a result of a weak core
Pacing	• Athletes are working to understand proper pacing – negative splitting • Pace is being matched to effort ie) Rate of Perceived Exertion (RPE)
Sprinting	• Sprinting is part of regular training to develop rhythm, force application, speed development
Drills	• Form drills are implemented into training which emphasize proper posture, movement mechanics, core engagement and single leg stability
Strength	• Fundamental strength is developed through static exercises (squats, lunges etc) • Introduction to plyometric strength exercises • Run specific strength through hill repeats, resisted running

Provincial Development Program

AQUISTION PHASE

Athletes entering the Acquisition phase are introduced to a more targeted and specialized training approach.

Athletes skill development and performance metrics begin to be tracked against Triathlon Canadas GMP as benchmarks for athlete progression. Coaches understand that advancement in the sport is a balance of speed and efficiency and skill development progression plays an important role in long term success.

Coaches tailor training to enhance specific skills while laying the ground work for athletes to be competitive at all levels along the performance pathway. This phase is a balance between pushing boundaries and establishing proper long term processes and setting long term objectives

KEY COMPONENTS:

Specialized Training *– Targeted skill development & tactical training*
Strength & Conditioning *– Progressive programs to enhance overall & sport specific strength*
Competition Exposure *– Provincial and National Draft Legal events*

LIFE SKILLS

Nutrition, injury, time management, sleep, self awareness

- Athlete tracks missed training time understands that consistency in training over time is a key metric for success
- Reflects on training / competition and coach interactions and understand the importance of developing processes
- Understands their strengths & weaknesses, accepts learning is a process and takes time
- Does not fear or avoid challenges or new training concepts
- Has a sleep schedule and is pro-active in recovery techniques (massage, physio, stretching, compression)
- Athlete will communicate fatigue, soreness or concerns to coaching staff, recognizes performance is dependent on mental and physical health
- Is aware of the importance of balancing sport and other aspects of life, considers proper training environment if pursuing post secondary education
- Athlete is aware of the importance of proper nutrition, can cook meals, shop, identifies nutrition dense foods
- Challenges themselves, does not avoid hard things, is open minded, self disciplined
- Establishes routines, sets priorities, has good communication skills
- Problem solver and independent thinker
- Is taking some responsibility for their training program
- Athlete understands doping control rules, regulations and rights

TECHNICAL & TACTICAL

Training & competition planning, skills, execution, reflection

- Creates and debriefs detailed race plans with coach based on course recon. Plans include race tactics, positioning & contingencies, understanding that race debrief is an important learning opportunity
- Athlete is developing situational awareness and in race decision making based on circumstances, is testing different race strategies.
- Athlete has developed understanding of RPE and Time To Exhaustion (TTE), under race conditions, has a pacing strategy.
- Athlete understands importance of maintaining contact in transitions
- Athlete does course and competitor reconnaissance
- Athlete and Coach understand National and World Triathlon points system and NSO selection policies
- Athlete and coach understand the different levels of competition and DOF / QOF of the different regions

CANADIAN TRIATHLON TRIVIA

Canadian Simon Whitfield was the first person ever to win 2 Olympic medals in triathlon. Simon won Gold in 2000 and Silver in 2008, beating Bevan Dochertyby 7 seconds. Docherty won Silver in 2004 and Bronze in 2008.

KEY PERFORMANCE INDICATORS

LEVEL OF COMPETITION

- National Draft Legal Championships
- Canada Summer Games
- Junior Conti Cup
- Junior Worlds

DAILY PERFORMANCE ENVIRONMENT

- NCCP Competition Certified Triathlon Coach
- Coach in attendance for minimum 80% of training sessions
- Personalized Annual Training program
- Access to DPE – IST support
- Access to Year round training facilities
- Athlete accountability framework in place

PERFORMANCE BENCHMARKS

Swim

- Speed 50m = 33- 37sec (F)30 - 35sec (M)
- Speed Endur.200m = 2:20-2:40(F) 2:10-2:30(M)
- AE Capacity 400m = 5:25-5:47(F) 5:09-5:33(M)

Bike

- Dustbin test 3:05- 3:27 (F) 2:40-3:05 (M)

Run

- Speed 400m - 70 - 72.5sec (F) 65 - 72sec (M)
- Ae Capacity 3000m – 9:45 – 10:03(F) 9:00 – 9:36 (M)

PSYCHOLOGICAL

Mental & Emotional health, Performance Readiness

At this level Mental Performance strategies start to become more personalized and tailored to the individual.

CONFIDENCE & PRESENCE

- Handles situations well under pressure
- Understands failure creates learning opportunities

GRIT

- Developing passion & commitment
- Integrates mental training into practice
- Sets goals for training sessions

RESILIANCE (Mental toughness)

- Learns from mistakes, is open minded
- Can regulate emotions and remain composed

FOCUS & EMOTIONAL REGULATION

- Starts to identify performance GAPS/strengths
- Developing in race decision making skills
- Is more mindful, emotional regulation
- Course and competition recon

TEAM PLAYER

- Developing leadership skills
- Athlete coach relationship is built on mutual trust, respect & communication
- Starts to take accountability for their program
- Actively seeks feedback

MENTAL PERFORMANCE COMPETENCIES

FUNDAMENTAL
Motivation
Confidence
Resilience

SELF-REGULATION
Self-Awareness
Stress Management
Emotion & Arousal Regulation
Attentional Control

INTERPERSONAL
Athlete-Coach Relationship
Leadership
Teamwork
Communication

Fundamental Competencies serve as the foundation of the GMP-SP and should be developed and maintained to achieve consistent high-level performance.

- Athletes should identify and stay connected to the motives to pursue high performance sport
- Believe in their capability to improve and achieve success
- Persevere and rebound from inevitable setbacks and adversity

Self-Regulation Competencies

- Self-awareness is essential as it provides the capacity to manage themselves and adapt to their constantly changing environment.
- Regulate their attention, emotions, and arousal as these competencies impact learning and performance.

Interpersonal Competencies - athletes should develop high quality relationships, particularly with coaches with whom they spend the most time in training and competition environments (athlete-coach relationship). They should also be able to effectively communicate work as a team regardless of its size, and lead in positive and facilitative ways .

Source: Natalie Durand-Bush, Joseph Baker, Frank van den Berg, Véronique Richard& Gordon A. Bloom (2023) The Gold Medal Profile for Sport Psychology (GMP-SP), Journal of Applied Sport Psychology, 35:4, 547-570, DOI: 10.1080/10413200.2022.2055224

SWIM SKILLS

SUB SET OF SKILLS

Distance per Stroke / Stroke Rate	• Ability to hold a baseline DPS during increasing distances • Processes are established to track DPS at increasing distances and stroke rates (SR) • Focus on balancing speed and efficiency through consistent DPS through a variety of tactics • The ability to maintain rhythm at varying stroke rates • Beginning to develop SR for Front end (first 200m), mid and back end pacing • Hip rotation and catch remain linked as SR increases (timing, rhythm)
Swim Strength	• Developing specific swim strength through use of bands, pull-bouys and paddles • Ability to swim at different intensities with a use of mixed equipment • Developing a pull dominate swim style
Open Water Swimming	• Open water swimming (OWS) is a regular part of the training program • Proper sighting technique and process are embedded in OWS sessions • Different tactics for swimming around “cans” is introduced to OWS sessions • Beach starts, exits, wetsuit removal T1 entrance are a regular part of OWS sessions • Fresh and salt water OWS (when possible) • Wetsuit swimming is being introduced • Drafting techniques and swim contact, mass starts are part of OWS sessions
Race stages (swim)	• Training session begin to introduce Front end, mid race and back end tactics • Stroke rates and kicking styles are introduced • Start position tactics • In pack positioning • Priority to maintain contact out of T1

CYCLING SKILLS

SUB SET OF SKILLS

Balance and Control	• Maintains proper line through corner (left or right) on hoods or in drops • Is able to hold their line through a corner (holding a wheel) in line with others • Is able to ride in time trial or chain gang format • Is able to successfully complete a “stop & stand” • Can complete stationary bunny hops, is able to hop over small items (branch) while in motion
Cornering	• Cornering holding a wheel in line with other riders at race pace • Holds position in a group while cornering • Maximizes power production through corners • Able to ride through multiple corners (chicane’s)
Group Riding	• Is comfortable riding 3-4 riders across in larger groups (pack) • Can navigate through the group in a safe and effective manner • Will ride at the front of a group at race pace effort • Will take leadership role initiate attacks in a pack • Can manage speed in a pack through cadence and gearing, does not rely only on braking
Descending / Climbing	• Descends in the drops in a comfortable controlled manner • Can descend in a line of riders confident and controlled • Understands when to stand and when to remain seated in training and racing • Can climb effectively in a seated position • Can “track a line” when transitioning from seated to standing positions

CYCLING SKILLS

SUB SET OF SKILLS

Attacking / Defending	• Learning tactics to initiate attacks (proper position in pack, where on the course) • Position in a pack to defend against attacks • Ability to accelerate smoothly while holding their line in or out of the saddle • Will perform and or follow attacks in competition • Training includes fatigue resistance sets (repeated short max power repeats) • Anaerobic power reserve (APR) is a pillar of the training program
Situational Awareness	• Maintains optimal positioning in the pack and is prepared for attacks • Is aware of competitors positions, shoulder checks when moving • Shows good use of tactical skills, can “hide” when in a group • Observes movements within the pack to maximize position • Communicates clearly and consistently in the group
Mounts / Dismounts	• Mounts and dismounts with speed without breaking stride and holding a line • Is able to mount or dismount on either side (non drive train side preferred) depending on situation • Gets into and out of shoes effectively without losing a wheel or falling off the group • Consistently positions their dismount on the side of T2 their bike is racked
Transition Zone	• Developed a system for T1 setup, equipment placement, proper gear selection for exit • Knows exactly where bike is in T-Zone • Discards items properly in T2, remains calm and checks discarded equipment is in box • Bike remains under control when running
Bike Maintenance	• Performs basic maintenance (cleaning drive train) • Competently packs and unpacks bike (disassemble and reassemble) • Can tighten cables, replace brake pads, tape handle bars

RUN SKILLS

SUB SET OF SKILLS

Posture / Foot strike	• Proper posture and foot strike are maintained under all conditions and environments (fatigue, sprinting, hills)
Drills	• Fundamental movement drills have been perfected • Compound drills are introduced • Single leg stability and force drills are introduced
Bricks and Pacing	• Off the bike running (bricks) are part of the training program • Developing a rhythm off the bike quickly • Developing a pacing method best suited for their profile • Understands RPE and can use it in training and competition • Developing an understanding of Time to Exhaustion (TTE) at different RPE efforts
Run Speed and Economy	• Improved top end speed • Improving Run economy through increased volume, speed work, perfecting mechanics, strength training and functional ROM
Training Focus	• Athlete understands how to measure improvement. Process and performance • As run efficiency improves, Run volume increases • Run specific strength training is programmed (hills, resisted running) • Primary training goals are centered around race performance (absolute capacity vs race capacity)

CONSOLIDATION PHASE

The Consolidation Phase represents the point in the development pathway where consistent performance starts to become the priority. Athletes are preparing for competition at the International level and competing for start positions at the highest levels of the sport.

Development is characterized by physical conditioning, fundamental skill sets are embedded in the athletes performance and are being perfected under race conditions. Athlete's are developing a deep understanding of race tactics and strategies and learning how to execute them in competition. A focus of performance on demand is being developed in addition to maintaining peak fitness.

KEY COMPONENTS:

Competition Readiness: *Implements processes for competition, takes accountability for program, goal setting for training & competition, recording and reflecting*
Training Environment: *Chooses proper training environment to support International competition (coaches experience), executes sport specific skills under duress, training is specific to course configuration*
Psychological: *Decision making is purposeful, specific and analytic*

LIFE SKILLS

Nutrition, injury, time management, sleep, self awareness

- Athlete interacts with IST members to minimize injury, illness, is proactive in self care, schedules regular massages and blood work, sleep schedule
- Routines are established with a priority on performance, has positive habits and understands adjustments may be needed.
- Athlete has developed a long term life plan that includes sport, education and career
- Athlete knows the impact on performance of improper nutrition & hydration, understands micro and macro nutrients and impact on performance and recovery, is self sufficient.
- Athlete has a growth mindset and can learn new or more difficult skills, has the will to win and is comfortable being uncomfortable in training and competition
- Capacity to thrive under hard or varying conditions/situations, manages setbacks with a positive mindset, has respect for themselves, peers, coaches, and officials. Accepts responsibility for their actions
- Athletes can plan International travel (air, train, ground) balancing performance and budget (direct flights vs multiple layovers) and self-catered accommodations over takeout/restaurant options.
- Athletes are reflecting on performances tactically and can identifying GAPS (improper gear selection, start position, position in pack etc)
- Athletes know WADA doping control procedures and can use globalDRO.com

TECHNICAL & TACTICAL

Training & competition planning, skills, execution, reflection

- Athlete should be able to recon race courses via official maps to determine elevation, technical sections which will aid in training preparation and race planning
- Athlete uses onsite course recon. to establish start and pack positioning, attack zones areas that may expose a weakness areas where strengths can be imposed on competitors
- Athletes prioritize maintaining contact in T1 & T2
- Athletes will ensure they are embedded in a pack before putting on shoes and do so without losing contact
- Athlete understands the importance of situational awareness, actively assessing competitions actions, pacing, gear selection, positioning and determines their best course of action in response
- Athlete consistently positions themselves into T2 on the side of the pack their bike is racked
- Athlete has knowledge of RPE and TTE, and can use effectively in training and competition

CANADIAN TRIATHLON TRIVIA

Paula Findlay is the only Canadian triathlete to win 5 (five) GOLD Medals at the World Triathlon Championship Series events. Simon Whitfield had a dozen 1st place finishes at World Cups before 2009 when the WTCS series was introduced by World Triathlon (formally ITU)

KEY PERFORMANCE INDICATORS

LEVEL OF COMPETITION

- National Draft Legal Champions Top 8
- U23 Americas Cup Podium
- U23 European Cup Top 12
- U23 World Championships
- World Cup

DAILY PERFORMANCE ENVIRONMENT

- Full time triathlon specific program
- Certified Coach with International coaching experience (WC, WTCS assignments)
- Training Environment compatible to International Competition (training partners, coach support)
- Dedicated IST support
- Access to Year round training facilities

GOLD MEDAL PROFILE - PATHWAY

Swim (88% + GMP)

- 400m – < 4:52 (F) < 4:40 (M)
- 800m – < 9:49 (F) < 10:10 (M)
- 1500m – <18:40(F) < 18:53 (M)

Bike

- Ability to change speed quickly High w/kg across all power bandwidths (cadence) Ability to sustain repeated high power spikes

Run (88% + GMP)

- 5km - < 17:19 (F) < 15:33 (M)
- 10km - < 35:55 (F) < 32:15 (M)

PSYCHOLOGICAL

Mental & Emotional health, Performance Readiness

Skills & strategies are refined and athletes demonstrate consistent mental practice in training & competition. Anxiety & emotional control in pressure situations is more important, reducing errors and making good decisions are critical

CONFIDENCE & PRESENCE

- Clear sense of confidence and identity
- Embraces pressure situations
- Advanced mental skills application (visualization)
- Communicates clearly
- Accountable for their training program

GRIT

- Developed long term plans & commitment
- Consistent mental practice and preparation
- Clear goal setting and planning

RESILIANCE (Mental toughness)

- Adversity is an opportunity to improve
- Regulates emotions and distractions under adverse circumstances

FOCUS & EMOTIONAL REGULATION

- Performance under pressure, Performance on demand
- Performance Readiness, adapts to changing circumstances in positive manner
- Actively analyzes performances makes adjustments when needed

MST TOOLKIT

- Arousal Regulation | Activation
- Attentional Control | Concentration
- Breathing Relaxation
- Commitment | Motivation
- Communication
- Conflict Resolution
- Creativity | Innovation
- Positive Thinking
- Problem Solving
- Recovery Energy Management
- Relationship Building
- Resilience Coping
- Self-Confidence
- Self-Evaluation

- Decision-Making
- Emotion Regulation
- Goal Setting
- Imagery Visualization
- Leadership
- Mindfulness Meditation
- Performance Planning
- Self-Monitoring
- Self-Presentation
- Self-Talk
- [Social] Media Management
- Stress Pressure Management
- Teamwork Cohesion
- Time Management

Menu of Mental Skills (MS)

- Choose which MS are most important (you don't have to work on everything all at once)
- When and how long will I work on these skills?
- What / how will I measure improvement in MS training?
- Do I have access to a mental skills professional to help?

Athletes should understand that they may be more confident / competent with some skills in one discipline while not being very confident with the same skill in a different discipline (ie: confident making in race decisions swimming but not on the bike).Each discipline may have different profiles to work on in addition to overall mental skills development

Source: Natalie Durand-Bush, Joseph Baker, Frank van den Berg, Véronique Richard& Gordon A. Bloom (2023) The Gold Medal Profile for Sport Psychology (GMP-SP), Journal of Applied Sport Psychology, 35:4, 547-570, DOI: 10.1080/10413200.2022.2055224

SWIM SKILLS

SUB SET OF SKILLS

Starts, Turns and Exits	• Dive starts are shallow and start swimming immediately • Beach starts: run through water efficiently, dolphin dives, start swimming as soon as possible • Athlete utilizes most efficient way to swim around bouys depending on circumstance (swim, cork-screw, single arm) • First to second lap exits are a regular part of OWS program
DPS, HVO, Speed Control & 2 beat kick	• Is able to maintain distance per stroke, while increasing stroke rate • Training includes regular high velocity overload (HVO) training to mimic mass starts (12-15m max speed no breathing) • Training includes regular Speed control sets (25-50m sprints matching time and Stroke count) • Two beat kick sets at mid-race pace effort
Open Water Swimming	• Comfortable swimming in fresh or salt water • Wetsuit swimming is a regular part of OWS sets • Practice swimming with and against currents (head on and diagonally) • Developed sighting strategies calm water, rough water sunny or raining conditions • Wetsuit removal is a part of regular training • Athlete is able to draft correctly at the hip or on the feet • Can move around others without being penalized • Is comfortable with in water contact and does not break their stroke

CYCLING SKILLS

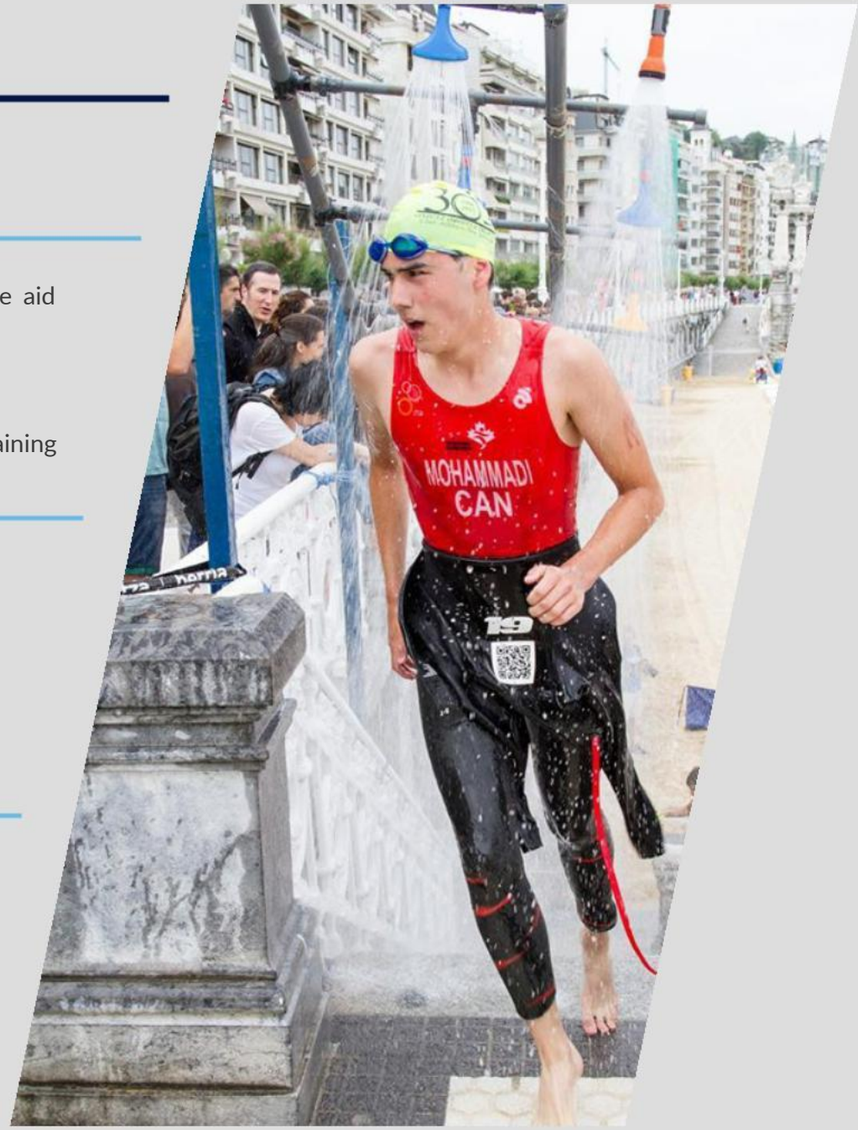
SUB SET OF SKILLS

Balance and Control	• Comfortable riding on different surfaces (gravel, cobbles) • Adjusts tire pressure to maximize performance for conditions • Is able to exchange items with another rider while riding
Cornering, Descending and Climbing	• Has the technical ability to use corners to create or close gaps in competition • Can maintain or gain positions when descending • Is able to pedal effectively on descents (over speed pedaling) • Consistently shows confidence and competence, descending regardless of group size or technical difficulty • Can get out of the saddle on a climb without pausing / going backwards by “throwing” the bike • Changes into a harder gear to get out of the saddle/easier gear to sit
Group Riding, Attacking	• Can ride at the front of a group during competition • Will perform attacks in races, understands tactics and how/when to use attacks and counter attacks for maximum effect (not every attack is to break away) • Demonstrates correct timing and location when delivering an attack or counter attack • Commits fully to a breakaway attack
APR and Fatigue Resistance	• Anaerobic power reserve (APR): extremely high power efforts for short periods (> 7sec) to simulate pack riding dynamics are a regular part of the training program • Fatigue resistance training to buffer repeated high watt, high cadence efforts on the bike • Plan nutrition strategy for time on the bike

RUN SKILLS

SUB SET OF SKILLS

Pacing	• Understands and executes proper pacing for distance of event • Last third of the race execution is a key to consistent best performances while under fatigue
Tangents, Downhills and Up-hills	• Identifies proper tangent, running the shortest distance when possible (exception might be aid station positioning, keeping in shade) • Stride rate increases on downhills, over stride interrupts rhythm and causes braking • Downhill running is practiced often (under controlled conditions to minimize injury potential) • Stride rate remains consistent on flats and up-hill maximizing power production and maintaining rhythm
ASR, MAS and MSS	• Anaerobic Speed Reserve (ASR) is the difference between Maximum Sprinting Speed(MSS) and Maximum Aerobic Speed (MAS). • A large ASR buffers athletes from repeated surges and attacks on the run • Regular 30-40m all out sprints inserted into training will improve MSS • Increase in MAS (5km to 10km pace) can be improved by improving your MSS: regular sprinting improves run mechanics, speed endurance, run economy, VO2 max, powerproduction and run strength



REFINEMENT PHASE

As athletes reach the REFINEMENT phase it is accepted that they have entered Triathlon Canada's Podium Pathway.

At this stage the objective is high performance and it is expected athletes are capable of consistent performances at the highest level of the sport. The focus is no longer to master new skills but to be able to execute them in competition with consistency and on demand, under varying circumstances and environmental conditions .

Knowledge of the sport, technical excellence , tactical awareness and adaptability underpin consistent high performance results and provide these athletes with their best chances of winning.

KEY COMPONENTS:

Elite Training *- Fine-tuning skills and strategies at an advanced level.*
Sport Specific Tactics *– Mastering race planning, analysis and competition reconnaissance*
Competition Readiness *– Mastering mental performance skills, in race decision making (right choice, right time), accountable for their program*

LIFE SKILLS

Nutrition, injury, time management, sleep, self awareness

- Training consistency is a priority, athlete has set self care routines including regular massage, blood draws, mobility and strength training
- Athlete has developed a periodized nutrition plan with a dietitian
- Athlete is in a Daily Performance Environment consistent with high performance expectations
- Athlete makes decisions consistent with a professional athlete, has set processes and schedules
- Athlete understands advanced race tactics, is an independent thinker and adaptable to changing circumstances. The right decision at the right time
- Plans travel and accommodations with performance as a priority and understands the demands of the sport
- Athletes give back to the community when able
- Has completed media training through PSO/NSO is aware of all WADA regulations
- Uses globalDRO.com to check banned substances, including in medications and supplements.

TECHNICAL & TACTICAL

Training & competition planning, skills, execution, reflection

- Athlete profiles races course and competition to maximize performance and develop appropriate training sessions
- Race plans are very granular: how many steps to dive (beach starts), right or left dismount (rack placement) attack zones, pack placement , competitor recon etc.
- Maintains T1 contact
- Athlete maintains awareness of situations during the race, anticipates is positioned to initiate or defend attacks or surges
- Athlete debriefs performances is honest, objective and accountable for their performance outcome and is willing to develop new strategies when required
- Athlete understands Olympic qualifying process and the difference between WT points and Olympic qualifying points
- Athlete executes race strategies, is willing to take chances
- Athlete uses and understands RPE and TTE in competition

CANADIAN TRIATHLON TRIVIA

In 2011 Paula Findlay won the first three events of the 2011 season in Sydney, Madrid, and Kitzbühel making her the only Canadian to win 3 ITU World Championship Series races in a row.

KEY PERFORMANCE INDICATORS

LEVEL OF COMPETITION

- World Cup Podium
- WTCS
- WTCS Grand Final
- Major Games
- Olympics

DAILY PERFORMANCE ENVIRONMENT

- Full time triathlon specific program
- Certified Coach with International coaching experience (WC, WTCS assignments)
- Training Environment compatible to International Competition (training partners, coach support)
- Dedicated IST support
- Access to Year round training facilities

GOLD MEDAL PROFILE - PATHWAY

Swim

- 800m – < 9:43 (F) < 9:19 (M) (96% + GMP)
- 1500m – <18:29(F) < 17:24 (M) (96%+ GMP)

Bike

- Established APR to defend against repeated high power attacks
- Normalized power output to compete within lead pack on various terrains, runs well off hard bike efforts

Run

- 5km - < 16:30 (F) < 14:30 (M) 96%+ GMP
- 10km - < 33:30 (F) < 30:00(M) 96%+ GM

PSYCHOLOGICAL

Mental & Emotional health, Performance Readiness

Athletes are perfecting mental performance techniques, in training and competition. Emotional control and making the right decisions at the right time under pressure and fatigue is critical to success.

CONFIDENCE & PRESENCE

- Displays a will to win
- Embraces pressure displays ability and willingness to take control in race situations
- Takes accountability for their training and communicates clearly with coaching staff on performance GAPS

GRIT

- Comfortable feeling uncomfortable
- Controls distractions
- Displays a sense of urgency in competition

RESILIANCE

- Adapts easily to changing situations
- Sees adversity as a chance to improve
- Regulates emotions, stays composed and focused

FOCUS & EMOTIONAL REGULATION

- Continued development of mental performance processes
- Refinement of routines and processes
- Continued up-skilling to meet the demands of International competition
- Review and reflection on performance

ANOTHER WAY

WHAT ATHLETES THINK

self-awareness, attention, goals, values, beliefs, motives, confidence, mindfulness, self-talk, planning, monitoring, reflection, evaluation, decision-making

WHAT ATHLETES FEEL

motivation, commitment, emotions, stress, arousal, resilience

HOW ATHLETES [INTER]ACT

performance routines, communication, leadership, rest/recovery, cooperation, conflict resolution, teamwork, relationship building

What are you thinking?
How are you feeling?
What are you doing?

How are these things affecting your preparation, performance and consistency?

Can you manage your thoughts, feeling, actions more effectively?

Source: Natalie Durand-Bush, Joseph Baker, Frank van den Berg, Véronique Richard& Gordon A. Bloom (2023) The Gold Medal Profile for Sport Psychology (GMP-SP), Journal of Applied Sport Psychology, 35:4, 547-570, DOI: 10.1080/10413200.2022.2055224

SWIM SKILLS

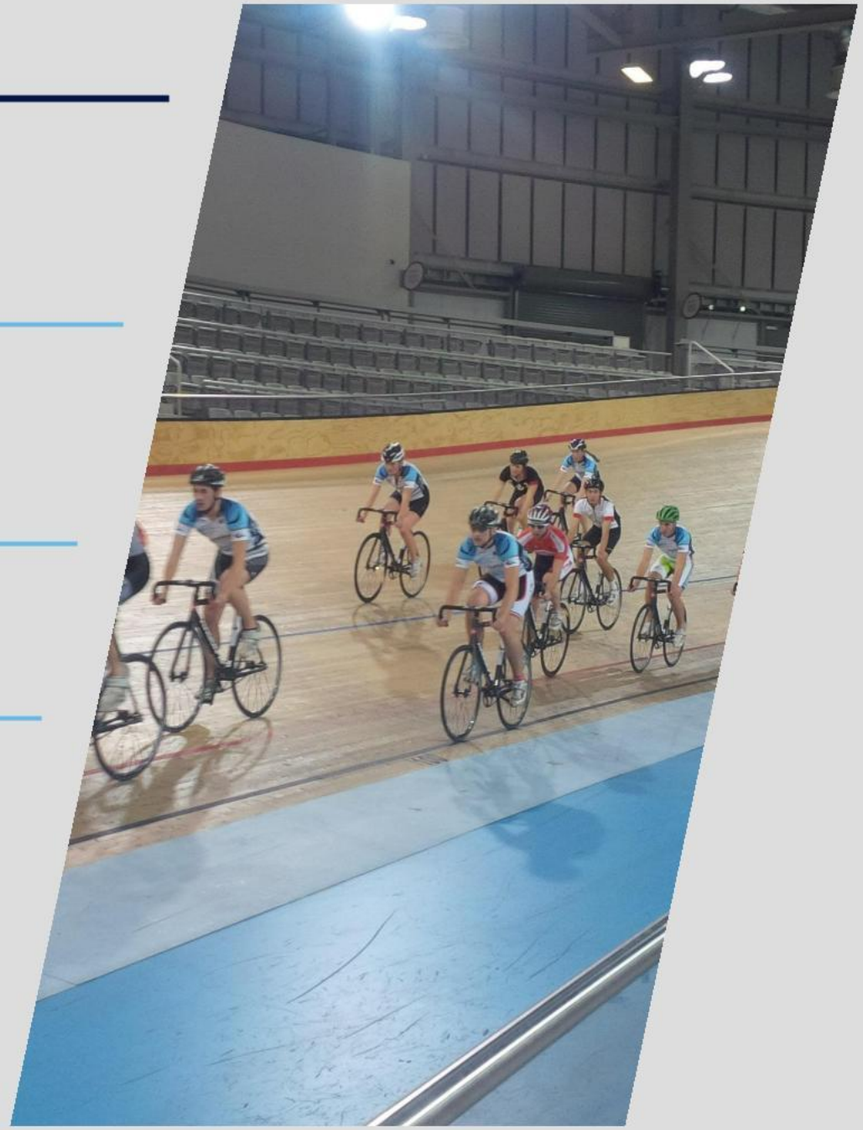
SUB SET OF SKILLS

Open Water swimming	• Range of stroke rates holding consistent DPS • Ability to maximize FES, surge and fall into and hold Race pace speed Average stroke rate between 35 and 40 cycles per minute for men, 38 – 42 cycles per minute for woman (important to note that DPS should not be sacrificed for HSR, a balance for each athlete should be established) • Average velocity is holding 1.38 – 1.45mps for men • Average velocity is holding 1.35 – 1.40mps for woman • Holds mid race pace with a two beat kick • Confident with contact
Transition 1	• Holds position or gains places going into T1 • Arrives at bike on the equipment bin side • Avoids traffic un-racking bike • Holds or gains position upon mounts, does not lose contact with pack • First 3 min is VO2 effort

CYCLING SKILLS

SUB SET OF SKILLS

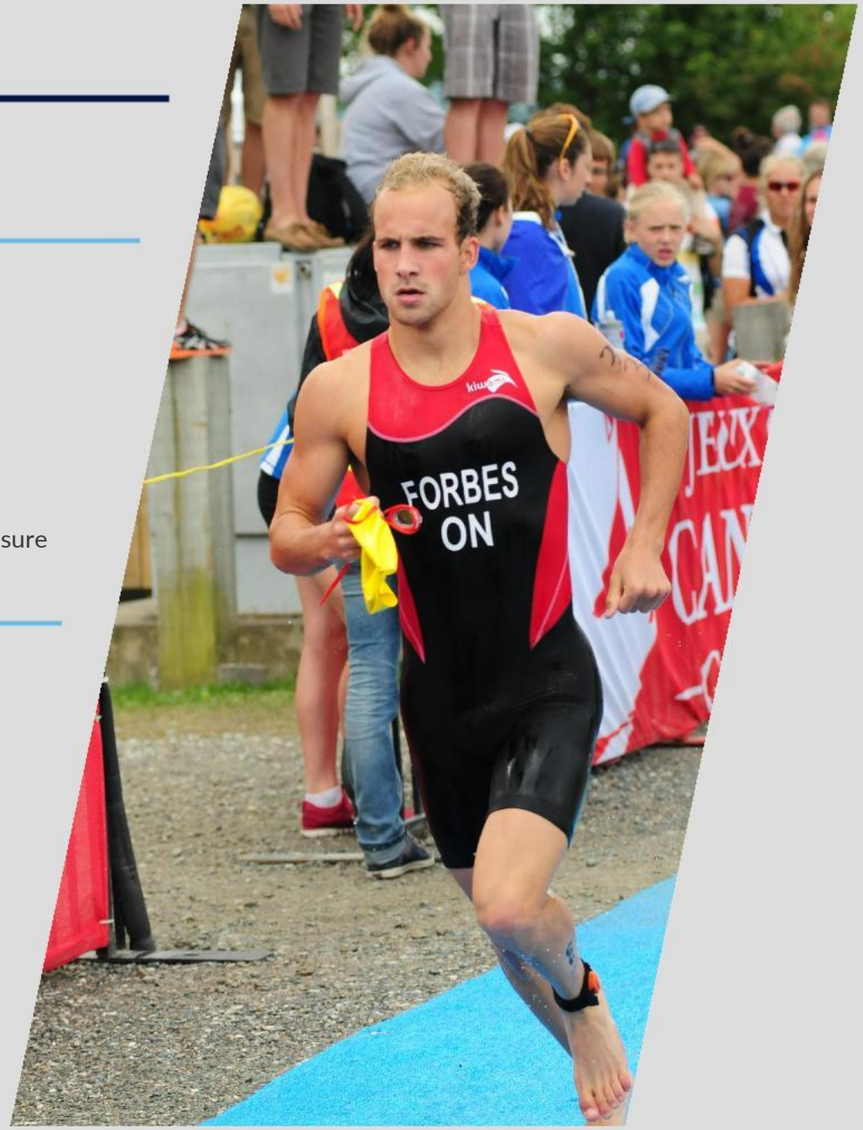
Transition Two	• Mounts and dismounts at speed • Positions themselves on proper line entering T2 • Maintains or improves position out of T2 • Establishes run pace/rhythm as per race plan
Descending, Climbing, Attacking	• Moves to the front of a pack on the descent to create opportunity to attack or defend • Paces climbs properly to have the opportunity to attack over the top • Plans repeated attacks that can result in a breakaway • Reads the pack, and can identify errors by competitors
Demands of Competition	• Anaerobic Power Reserve is competitive to the level of competition • Can initiate breaks at high speeds, rides smooth and controlled at cadences up to 120+RPM • Confident riding in large groups (with contact) on multiple surfaces in inclement weather



RUN SKILLS

SUB SET OF SKILLS

Transition 2	• Sense of urgency in T2, exit transition remaining in contact with pack • Pace is within athletes capacity and following race plan
Demands of Competition	• Understands the demand of competition • Run mechanics and efficiency are stable under fatigue and under pressure • ASR capacity to match multiple surges and be competitive for the level of competition • Remains calm under pressure and focused on the task at hand • Comfortable being uncomfortable, is not distracted by fatigue, pain • Has planned nutrition timing on the bike to properly support the run portion • Understands that the competition sets the bar for performance, must match or exceed the pressure competitors deliver



A tremendous amount of time and energy was invested in creating Triathlon Ontario's Athlete Development Matrix. We are very fortunate to have had access to some of the most knowledgeable and experienced experts both in the sport of triathlon and in the ancillary areas impacting athlete development. Their input was critical in ensuring the information contained within the guide was both relevant and leading edge ensuring it would serve as a powerful resource for triathlon in Ontario and across Canada.

The successful development of this guide is the result of the many long hours our contributors have given of their time, expertise and knowledge. Without this valuable collaboration and teamwork, none of this would be possible. Triathlon Ontario would like to thank all those involved for their insights, leadership and generosity in helping us build the very best pathway to develop the very best athletes.

This athlete development matrix was developed as part of Triathlon Ontario's Provincial Development Program by:

Greg Kealey

Triathlon Ontario Provincial Coach / Founder Bytown Storm Triathlon

Special thanks to everyone who contributed to this document through content contribution, editing, vetting, providing feedback and analysis. High performance sport is a very specialized area and we are fortunate enough to have some the best HP advisors and mentors in their fields to help craft this document and partners in its development.

SPECIAL THANKS TO:

John Cameron - Bytown Storm Triathlon

Gabbie Whitlock - Balance Point Triathlon

Mike Thompson – Equestrian Canada

Glenroy Gilbert – Athletics Canada

Dr. Natalie Durand-Bush – University of Ottawa

Jamie Turner – Formally Triathlon Canada

Russ Barber – British Triathlon

Lucy Smith – Formally Triathlon Canada

James Millar – Canadian Sport Institute Ontario

David Hill – Canadian Sport Institute Pacific