

SECTION 02

LONG TERM ATHLETE
DEVELOPMENT MODEL



02



CANADA
BASKETBALL



2.0 LONG TERM ATHLETE DEVELOPMENT MODEL (LTAD)

The Canada Basketball Long Term Athlete Development Model is based on the Canadian Sport for Life Resource Paper, which was developed by Canadian world leaders in the area of child and sport development. The Model is an athlete centered, coach driven and administered, sport science and partner supported program. It integrates elite, community and scholastic sport, athletes with a disability, physical education and the general health of the nation.

LTAD is a training, competition, and recovery framework for individuals at all stages of life. LTAD focuses on the general framework of athlete development with special reference to growth, maturation and development.

The Canada Basketball Athlete Development Model (ADM) uses LTAD as its guide. It states that in order for athletes to achieve success at all stages of development the unique characteristics of each stage must be adhered to. The ADM aims to provide not only a consistent, acceptable framework for coaches to use in developing players, but to provide consistent leadership in the development of basketball in Canada.

The overall aim of ADM is two fold: i) The delivery of an aligned, consistent, and systematic development system that ensures everyone's needs are being met at every level of programming; ii) Every participant in the game will be able to see the pathways which will lead him or her to their own level of self-fulfillment.

2.1 - THE 10 KEY FACTORS OF LTAD

1. FUNDamentals

All participants need to learn basic fundamental movement skills at the appropriate stages of development. Basic skills such as agility, balance, coordination, speed, jumping, throwing and catching need to be introduced and emphasized at the appropriate stages of development. Failure to do so may result in children failing to reach their highest level of potential. Physical literacy, the competence, understanding and knowledge to maintain physical activity, and physical activity itself should be differentiated, but both encouraged throughout all stages of development. Through proper training in movement, children will develop an appreciation for physical activity and properly execute sport-specific skills.

2. Specialization

Basketball is a late specialized sport. Specializing in a sport, such as basketball, too early has been shown to lead to one-sided sport-specific preparation, lack of the basic fundamental movement skills, overuse injuries, early burnout, and early retirement from training and competition. "Global" players must be developed, ones who have developed all skills and have trained at every position. Coaches are also encouraged to develop strategies that allow for easy identification of early, average, and late maturers, and ways for future players to be identified in order to ensure that they are receiving the proper multi-skilled training at the early stages of development.

3. Developmental Age

We must recognize that not all children grow and mature at the same rate. On average, females mature faster than males, and there is often a tendency to apply male models on females, as well as adult models of sport on children. Chronological age is commonly used by leagues and associations, automatically creating a natural bias for players born prior to the cutoff date. This can lead to skewed participation numbers, and a higher drop out rate amongst females. Individuals must be educated in the distinctions between developmental age and chronological age, and assistance must be provided in order to encourage LTAD appropriate training easily and effectively.



4. Trainability

Research has shown that chronological age is a poor basis for athlete development models. Ideally, biological age should be the basis of these models, but this information proves to be very difficult to obtain. Peak Height Velocity (PHV), the age at which the rate of growth is the fastest, can be used as a reference point to design the optimal individual program in relation to sensitive periods of trainability. There are windows of opportunity for the optimum training of stamina, strength, speed and skill in an athlete's development – if these are missed, the child may never reach his/her potential and fail to acquire the skills they need to succeed.

5. Physical, Mental, Cognitive and Emotional Development

LTAD and ADM strive to develop the whole athlete, which includes not only fitness levels and the skills of the game, but their mental, cognitive and emotional development as well. An emphasis on fair play and character building should also be of importance to program deliverers, and reviews should be done in order to address how their program is addressing the development of the physical, mental and social/emotional abilities of their athletes. This training should be delivered in conjunction with physical training, and not viewed as simply an “add-on”, but an integral part to an athlete's development.

6. Periodization

Periodization is time management applied to training. It provides a framework for organizing the frequency, intensity and volume of an athlete's training in order to ensure that their time is managed effectively and all components for a healthy lifestyle are covered. Coaches need to spend more time concentrating on individualized plans for athletes and learning to maximize the training time they have with their athletes. The benefits of periodization should be communicated to all individuals, and they should be taught how to use this technique at each stage of development for all athletes.

7. Calendar Planning for Competition

Competitive basketball has crept into the basketball delivery system. At the younger stages, developing a child's physical capacities should take precedence over competition while the ability to compete should become more relevant as their age progresses. Currently, too many games are being played and not enough time is spent on quality training. Program deliverers should be educated on the importance of proper practice to competition ratios, and rewarded accordingly when adhered to.

8. The 10 Year Rule

Scientific research has shown that it takes a minimum of 10 years of training for a talented athlete to reach elite levels. Most tend to think that early specialization is what is needed, but this is not the case. Most athletes only have 10 years at an elite level, therefore specializing too early diminishes the likelihood of staying in the sport. Specialization should be delayed until the appropriate time; for basketball, this is ideally after PHV. Parents, coaches and players should be properly educated in order to help guide the decision making process when it comes to when to specialize and what sport to specialize in.

9. System Alignment and Integration

Pathways for players, coaches, officials, administrators and supporters must be clearly defined and all should be able to move seamlessly from one delivery system to the next. Multiple entry points need to exist in these pathways and these pathways must be available for all three streams of sport: health of the nation, develop the game and compete for the nation. Growth should continue to occur as we continue to move towards one rule set and strive to bring the basketball community closer together through positive working relationships.

10. Continuous Improvement (Kaizen)

The game of basketball continues to change. We must continue to stay up to date on relevant research and trends from around the world, other sports and society. Best practices must be shared within sport and among others. The establishment of advisory committees would aid in analyzing current practices, developing action plans and taking measurements to determine the impact of newly implemented strategies. Only through constant monitoring can change be deemed effective.



2.2 - THE 10 S's OF TRAINING

The 10 S's of training provide guidelines for what a coach should take into consideration when planning a training program in order to get the optimal performance out of their athlete both in the short and long term.

Stamina (Endurance)

The window of optimal trainability for stamina occurs at the onset of the growth spurt.

Strength

The window of optimal trainability for females is immediately following their fastest rate of growth and at the onset of menarche. For males, it is 12 to 18 months following their fastest rate of growth.

Speed

The first speed training window for males occurs between the ages of 7 and 9 years of age, while the second window occurs between 13 and 16. For females, the first window occurs between 6 and 8 years, while the second window occurs between 11 and 13 years.

Skill

The window for optimal training begins at 9 years of age for males and 8 years of age for females, with the window ending at the onset of the growth spurt.

Suppleness (Flexibility)

The window for optimal training for both males and females occurs between 6 and 10 years of age.

Structure

Coaches and parents can use height measurements as a guide for tracking developmental age, which allows them to address the critical/sensitive periods of physical development (the 5 basic S's) and skill development.

(p)Sychology

Athletes must be able to maintain high levels of concentration while remaining relaxed and confident. To achieve this, they must receive mental training designed for their gender and appropriate LTAD stage that complements their physical training.

Sustenance

This includes nutrition, hydration, rest, sleep and regeneration – all of which need to be applied differently to training and lifestyle plans depending on the LTAD stage, but all are required to fully prepare athletes for the volume and intensity to optimize training.

Schooling

When designing training programs, school demands must be taken into consideration. Coaches and parents should work together to establish a balance between all factors that could contribute to overstress.

Socio-Cultural

Sports present an opportunity for children to have social and cultural experiences that can enhance their holistic development.



2.3 - STAGES OF LTAD

Canada Basketball has developed 8-stages of Long Term Athlete Development. The following is a brief summary of these 8 stages. A more detailed summary of Steve Nash Youth Basketball applicable stages (including FUNdamentals and Learn to Train) is provided within the overall summary.

1. Active Start (*Males/Females 0-5 yrs*)

Basketball is a late maturing sport and therefore does not recommend formal adult organized basketball at this stage of development.

2. FUNdamentals

A - Males/Females 5-7 yrs

To learn fundamental movement skills through basketball in a positive, inclusive and fun way.

Technical skills	20% individual decision making
Fundamental skills	60% movement skills; 20% basketball skills

- Focus on learning proper movement skills such as running, jumping, twisting, kicking, throwing and catching.
- Not sedentary for more than 60 minutes except when sleeping.
- Regular organized physical activity.
- Exploration of risk and limits in safe environments.

B - Males/Females 8-9 yrs

To learn the basic basketball skills through modified games while still emphasizing fundamental movement skills in a fun and inclusive environment.

Technical skills	20% individual player; 10% multi-player
Fundamental skills	30% movement skills; 40% basketball skills

- Focus on general, overall development.
- Integrated mental, cognitive, and emotional development.
- Elements of athletics: running, jumping, wheeling and throwing.
- Medicine ball, swiss ball and body weight resistance exercises.
- Introduce simple rules and ethics of sport.
- No periodization, but well-structured programs.

This is a very important part of a child's development, but unfortunately, it is also one that tends to get neglected. This is when a child's basic general physical, motor-learning, cognitive and psycho-social skills and capacities are developed. These skills are acquired through the use of fun activities, games and participation in as many sports as possible. This is where the ABC's of athletics are introduced and developed: Agility, Balance, Coordination and Speed. Athletes can be shown the basis of specialized sports skills such as shooting; catching; passing and dribbling.

3. Learning to Train (*Males 9-12 yrs Females 8-11 yrs*)

To learn the basic basketball skills while still emphasizing fundamental movement skills in a fun all inclusive environment.

Strategy	10% basic offense / defense
Technical skills	30% individual player; 20% multi-player
Fundamental skills	20% movement skills; 20% basketball skills

- Major skill learning space: all basic movement and sport skills (physical literacy) should be learned before entering Training to Train.
- Overall physical, mental, cognitive and emotional development.
- Introduction to mental preparation.
- Medicine ball, swiss ball and own body weight resistance exercises.
- Introduce ancillary capacities.



4. Training to Train (Males/Females 12-15 yrs)

Age is growth spurt dependent.

To introduce the basic technical and strategic parts of “global” basketball with a more structured approach to training.

- Major fitness development stage: endurance, strength, and speed.
- Overall physical, mental, cognitive and emotional development.
- Develop fundamental mental skills.
- Introduce free weights.
- Develop ancillary capacities.
- Frequent musculoskeletal evaluations during PHV (growth spurt)
- Single or double periodization.

5. Training to Compete (Males/Females 16-18 yrs)

To introduce athletes to all aspects of the games, and begin to refine all technical aspect and most strategic components; emphasizes position specific skills, conditioning programs and full individualization. Training is position specific and highly specialized.

6. Learning to Win (Males/Females 18-21 yrs)

To establish all of the technical, strategic, physical, mental and ancillary skills and capacities needed to compete at the highest level.

7. Training to Win (Males/Females 21+ yrs)

To optimize performance for domestic and international competitions. Athletes will be trained and tapered for major competitions, their progress will be closely monitored.

8. Retirement and Retainment

To enjoy a healthy active lifestyle and reinvest time and energy in basketball through coaching, management or administration, officiating and active participation.

2.4 – PHYSICAL LITERACY

The Steve Nash Youth Basketball program is a strong supporter of Canadian Sport for Life's Physical Literacy beliefs. Physical literacy gives children the tools they need to take part in physical activity and is a key component of Canada's LTAD program. Steve Nash Youth Basketball has put a program and curriculum in place that has taken the CS4L's LTAD and Physical Literacy guidelines, and implemented our own model in which the focus is on developing the whole athlete and ensuring the long term development of the child.

Physical Literacy refers to childhood learning of Fundamental Movement Skills (FMS) and Fundamental Sport Skills (FSS) that are transferable to other sports and activities during a lifetime. It allows a child to move with confidence and control, in a wide range of physical activity, rhythmic and sport situations. The key is to acquire it during childhood, when the child's body is most adaptable and ready to 'learn' a variety of basic movement and sport skills. The responsibility for developing a physically literate child lies in the hands of parents/guardians, though as the child grows up, coaches and teachers also play a critical role.

Some of Canada's greatest athletes are prime examples of physical literacy in action. For example, **Steve Nash** is a superstar NBA basketball player, but he was also an accomplished soccer, hockey and baseball player as a teen. He didn't start playing basketball until he was 12 or 13 years old! He didn't specialize too early in one sport or activity, but leveraged their fundamental skills from one pursuit to another.



Fundamental Movement Skills

It is important to remember that a child's ability to master fundamental movement skills takes time and a series of development stages is typically required. Despite children maturing at different rates, each one learns fundamental movement skills in the same phases;

- When a child can learn a skill – Must wait until brain is mature and muscles are strong enough.
- The child is ready to learn the skill – Muscles and nerves have developed so the child now has to learn the skill under simple instructions and practice.
- The optimum time to learn the skill – The best time to teach a skill varies based on the child and maturation.
- Time for remedial work – The time to overcome learning deficits and develop the skills needed to gain confidence.

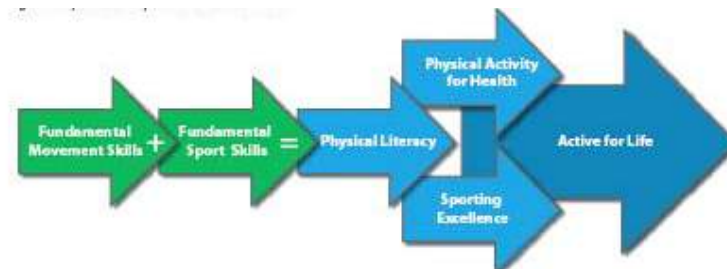
Examples of fundamental movement skills include; walking, running, balance, jumping, throwing, and catching. For more information on when and where a child can learn and practice fundamental movement skills, please refer to Canada Sport for Life's Physical Literacy parent's guide at www.ltad.ca.



Fundamental Sport Skills

While throwing is considered a fundamental movement skill, a child learning how to make a chest pass is considered a fundamental sport skill. It is important to master the movement skills before learning the sports skill so that a child can develop and participate in various sporting activities. Throwing is a fundamental movement skill so a child will learn to throw different sized balls, with one or two hands, and at different speeds as they develop the skill. Throwing becomes a fundamental sports skill when it is applied specifically to a sport. In basketball, a child may begin knowing how to throw a basketball, but now they have to learn the different types of passes, how to pass accurately, and when to make the correct pass.

It is important that each child develops physical literacy because it puts them in a position of advantage. Those who do not develop fundamental movement skills will be restricted later in life in terms of recreational activity. It also means that the child could be left out from playful competition and formal sport activity because they have not developed the basic fundamentals to perform physical activity.





How Can You Help Your Young Athletes Become Physically Literate?

- Understand that although many children DO develop good physical skills on their own through trial-and-error, many do not; do not just assume that your athletes will become physically literate on their own, or that they are **already** physically literate.
- If you are noticing that an individual is no longer trying and withdrawing from physical activity, talk to them. Encourage them to participate, while practicing with them one-on-one so they gain the confidence that they need in a more comfortable setting.
- Remember that young athletes are not “mini adults” – help them move to the next most mature version of the skill they are learning rather than pushing them to perform the skill the way of the adult world.
- Talk to the parents – are they encouraging their children to engage in active play? Have they talked to teachers/caregivers to ensure that they are encouraging children to participate in activities that will allow them to develop their sense of physical literacy?

The Consequences of Not Having Physical Literacy

Not being physically literate can be challenging for a young athlete, but it can also pose great challenges to schools and any programs they are involved in.

- If students arrive at **secondary school** without having developed physical literacy in previous grades, teachers have to spend too much time teaching basic skills that should have already been taught. This can pose further challenges: if the students have not experienced success in the subject previously, they're not going to be very willing to participate.
- Without physical literacy, children are less likely to participate in **recreational programs**. This has a direct impact on enrollment and revenue production; without the numbers and sufficient funds, programs could cease to exist. For those that do enroll but lack physical literacy, instructors are posed with the challenge of providing equal instruction to those with sufficient skills, and those who require greater assistance.
- A lack of physical literacy ultimately will lead to fewer athletes, meaning that local, provincial and national teams will have fewer athletes to choose from, possibly leading to poorer national performances.

Sports have recognized that many of the children and youth who enter their programs lack basic movement skills. Children have said that not having the skills to play is one major reason they drop out of physical activity and organized sport.