



# Canadian Sport For Life

## Primary Terminology – Short Version

**Canadian Sport for Life (CS4L)** is a movement<sup>1</sup> which promotes healthy growth and development through good sport, so people can enjoy a lifetime of physical activity and excel in sport.

**Long-Term Athlete Development (LTAD) Model** is a framework that recognizes the distinct stages of physical, mental, cognitive and emotional development in participants in sport.

**Physical literacy** is when fundamental movement skills and fundamental sport skills that permit a child to move confidently and with control, in a wide range of physical activity, rhythmic (dance) and sport situations are developed.

**Active for Life** is the lifelong enjoyment of sport and physical activity.

**Active Start** stage is when young children develop movement skills through active play.

**FUNdamental** stage is when children learn a wide variety of fundamental movements and build motor skills as they participate in a number of different sports and activities.

**Learning to Train** stage is when pre teens learn fundamental sport and decision making skills as they participate in a variety of sports

**Training to Train** stage when youth, during their growth spurt, develop the physical, technical, tactical and mental capacities to compete at higher levels of sports.

**Training to Compete** stage ranges from athletes representing their province at nationals to representing their country in international competitions.

**Training to Win** stage is when athletes are competing and winning in senior international competition.

---

---

<sup>1</sup> a diffusely organized or heterogeneous group of people or organizations tending toward or favoring a generalized common goal – Dictionary.com

## Primary Terminology – Long Version

**Canadian Sport for Life (CS4L)** is a movement<sup>2</sup> led by the Canadian Sport Centres and Sport Canada, planning for the sport excellence and well-being of Canadians. It supports long-term participation by everyone in sport from infancy to seniors in the following ways:

- CS4L outlines how all children to be physically literate while having FUN participating
- CS4L is a pathway to excellence from playground or pond to podium
- CS4L facilitates all Canadians to be physically active through sport and recreation participation

**Long-Term Athlete Development (LTAD) Model** or **Long-Term Participant/Athlete Development (LTP/AD) Model** is a progressive pathway of development that recognizes the distinct stages of physical, mental, cognitive and emotional development in participants in sport. It is a training, competition, and recovery program based on developmental age — the maturation level of an individual — rather than chronological age. It is athlete centered, coach driven, and administration, sport science, and sponsor supported.

**Physical literacy** is the development of fundamental movement skills and fundamental sport skills that permit a child to move confidently and with control, in a wide range of physical activity, rhythmic (dance) and sport situations. Physical literacy also includes the ability to “read” what is going on around them in an activity setting and react appropriately to those events. It should be developed prior to the onset of the adolescent growth spurt.

**Active for Life** is the seventh and final stage in the LTAD model in which the main objective is to have a smooth transition from an athlete’s competitive career to lifelong physical activity and participation in sport. Athletes who are not seeking excellence in sport enter this stage after developing physical literacy. According to LTAD, if children have been correctly introduced to activity and sport through Active Start, FUNdamentals and Learning to Train programs, they will have the necessary motor skills and confidence (physical literacy) to remain Active for Life in virtually any sport they like. They may decide to continue playing their sport at the recreational level or they may become involved as a coach, official or administrator. Active for Life athletes may attend high level sporting events such as ‘masters’ championships’, ‘university championships’; the determining factor in this stage is that the athlete is *not* on the pathway to senior Olympic representation. Active for Life also ranges to include any physical activity which results in health benefits such as walking or gardening.

**Active Start** is the first stage in the LTAD model in which the main objective is for children ages 0-6 to learn fundamental movements and link them together in play. Children at this stage need to be introduced to relatively unstructured play that incorporates a variety of body movements. An early active start enhances development of brain function, coordination, social skills, gross motor skills, emotions, leadership, and imagination. It also helps children build confidence, develop posture and balance, build strong bones and muscles, promote healthy weight, reduce stress, improve sleep, learn to move skillfully, and learn to enjoy being active.

---

<sup>2</sup> a diffusely organized or heterogeneous group of people or organizations tending toward or favoring a generalized common goal – Dictionary.com

**FUNdamentals** is the second stage in the LTAD model in which the main objectives for children ages 6-9 in males and 6-8 in females are to learn all fundamental movement skills and build overall motor skills. Children at this stage need to participate in a variety of well-structured activities that develop basic skills. However, activities and programs need to maintain a focus on fun, and formal competition should only be minimally introduced.

**Learning to Train** is the third stage in the LTAD model in which the main objective is to learn overall sports skills. Ages range from 8-11 in girls and 9-12 in boys, to the onset of the growth spurt (usually around the ages of 11-12), children are ready to begin training according to more formalized methods, but the emphasis should still be on general sports skills suitable to a number of activities combined with sport specific technique development. While it is often tempting to over-develop “talent” at this age through excessive single sport training and competition (as well as early positioning in team sports), this can be very detrimental to later stages of development if the child is playing a late specialization sport: it promotes one-sided physical, technical, and tactical development and increases the likelihood of injury and burnout.

**Training to Train** is the fourth stage in the LTAD model in which the main objectives are to build an aerobic base, develop speed and strength, and further develop and consolidate sport specific skills. The ages that define this stage for boys and girls are based on the onset and end of the growth spurt, which are generally ages 11 to 15 for girls and 12 to 16 for boys. At this stage, they are ready to consolidate their basic sport-specific skills and tactics. These youths may play to win and do their best, but they still need to focus more time on skill training and physical development over competition. This approach is critical to the development of top performers and maintaining activity in the long-term, so parents should check with their national organization to ensure their child’s program has the correct training-to-competition ratio.

**Training to Compete** is the fifth stage in the LTAD model in which the main objective is to optimize the engine and learn to compete. Depending on the sport, for females ages 15-21+/- and males ages 16-23+/-, this is where things get “serious.” They can either choose to specialize in one sport and pursue a competitive stream, or they can continue participating at a recreational level and thereby enter the Active for Life stage. In the competitive stream, high volume and high intensity training begins to occur year-round. For many sports this stage is divided into two stages, one for athletes who are developing the capability to win in national competition and international age group competition with another stage for those who are bridging to regular participation in international senior competition.

**Training to Win** is the sixth stage in the LTAD model in which the main objective is to maintain podium performances. Regardless of age this stage is when athlete have developed the capacity to win in senior international competition thus pursue the intense periodized training suitable for international winning performances. At this stage, both world-class athletes with a disability and able-bodied athletes require world-class training methods, equipment, and facilities that meet the demands of the sport and the athlete. For many sports this stage is divided into two stages, one for athletes who are developing the capability to compete in World Cup, World Championship and Olympic competition with another stage reserved for those who have won and are working to maintain podium performances.

## Secondary Terminology – Short Version

### Age

**Chronological age** refers to the number of years and days elapsed since birth.

**Skeletal age** refers to the maturity of the skeleton determined by the degree of ossification of the bone structure.

**Relative age** refers to differences in age among children born in the same calendar year (Barnsley and Thompson, 1985)

**Developmental age** refers to the degree of physical, mental, cognitive, and emotional maturity.

**General training age** refers to the number of years in training, sampling different sports.

**Sport-specific training age** refers to the number of years since an athlete decided to specialize in one particular sport.

**Adaptation** means the changes in a person's body due to various external stimuli.

**Adolescence** is the child's rapid period of growth when a child's matures physically and sexually.

**Ancillary Capacities** are the training and performance factors an athlete has learnt about taking care of their mind and body while playing sport.

**Childhood** runs from the 1<sup>st</sup> birthday to adolescence.

**Development** includes social, emotional, intellectual and motor growth and maturation over time.

**Early specialization** sports (e.g. gymnastics and diving) refer to sports that recommend specialization before the age of ten.

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

**Late specialization** sports (e.g. athletics, tennis and all team sports) refer to sports that do not recommend specialization before the age of ten.

**Maturation** refers to "qualitative system changes, whether structural or functional, in the child's progress toward maturity; for example, the change of cartilage to bone in the skeleton."

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

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

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

**Periodization** is time management (scheduling) of the volume, intensity and frequency of training, competition and recovery.

**Post-natal growth** is often divided into three or four age periods, including infancy, childhood, adolescence, and puberty.

**Puberty** refers to the point at which an individual is sexually mature and able to reproduce.

**Readiness** is the correct time when a child is ready to learn and perform tasks to meet the demands of training and competition.

**Sensitive periods of trainability** refer to the period when a child can most easily learn physical skills.

**Trainability** is how individuals respond to training at different stages of growth and maturation.

---

## Secondary Terminology – Long Version

### Age

**Chronological age** refers to “the number of years and days elapsed since birth.” Growth, development and maturation operate in a time framework; that is the child’s chronological age. Children of the same chronological age can differ by several years in their level of biological maturation. The integrated nature of growth and maturation is achieved by the interaction of genes, hormones, nutrients, and the physical and psychosocial environments in which the individual lives. This complex interaction regulates the child’s growth, neuromuscular maturation, sexual maturation, and general physical metamorphosis during the first 2 decades of life.

**Skeletal age** refers to the maturity of the skeleton determined by the degree of ossification of the bone structure. It is a measure of age that takes into consideration how far given bones have progressed toward maturity, not in size, but with respect to shape and position to one another.

**Relative age** refers to differences in age among children born in the same calendar year (Barnsley and Thompson, 1985) It describes the observation that a greater numbers of performers born early in a selection year are over-represented in junior and senior elite squads compared with what might be expected based on national birth rates.

**Developmental age** refers to the degree of physical, mental, cognitive, and emotional maturity. Physical developmental age can be determined by skeletal maturity or bone age after which mental, cognitive, and emotional maturity is incorporated.

**General training age** refers to the number of years in training, sampling different sports.

**Sport-specific training age** refers to the number of years since an athlete decided to specialize in one particular sport.

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

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

**Ancillary Capacities** refer to the knowledge and experience base of an athlete and includes warm-up and cool-down procedures, stretching, nutrition, hydration, rest, recovery, restoration, regeneration, mental preparation, and taper and peak. The more knowledgeable athletes are about these training and performance factors, the more they can enhance their training and performance levels. When athletes reach their genetic potential and physiologically cannot improve anymore, performance can be improved by using the ancillary capacities to full advantage.

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

**Early specialization** sports (e.g. gymnastics and diving) refer to sports that recommend specialization before the age of ten.

**Development** refers to “the interrelationship between growth and maturation in relation to the passage of time. The concept of development also includes the social, emotional, intellectual, and motor realms of the child.”

**Early specialization** sports (e.g. diving, figure skating and gymnastics) require early sport specialization in training.

The terms “**growth**” and “**maturation**” are often used together and sometimes synonymously. However, each refers to specific biological activities. Growth refers to “observable, step-by-step, measurable changes in body size such as height, weight, and percentage of body fat.” Maturation refers to

“qualitative system changes, both structural and functional in nature, in the organism’s progress toward maturity; for example, the change of cartilage to bone in the skeleton.”

**Late specialization** sports (e.g. athletics, tennis and all team sports) refer to sports that do not recommend specialization before the age of ten as it contributes to one sided preparation , early burn-out, drop-out and retirement from training and competition.

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

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

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

**Periodization** is time management. As a planning technique, it provides the framework for arranging the complex array of training processes into a logical and scientifically-based schedule to bring about optimal improvements in performance.

**Post-natal growth** is commonly, although sometimes arbitrarily, divided into 3 or 4 age periods, including infancy, childhood, adolescence, and puberty.

**Puberty** refers to the point at which an individual is sexually mature and able to reproduce.

**Readiness** refers to the child’s level of growth, maturity, and development that enables him/her to perform tasks and meet demands through training and competition. Readiness and sensitive periods of trainability during growth and development of young athletes are also referred to as the correct time for the programming of certain stimuli to achieve optimum adaptation with regard to motor skills, muscular and/or aerobic power.

**Sensitive periods** refer to accelerated adaptation to training during pre-puberty, puberty and early post-puberty.

**Trainability** refers to the genetic endowment of athletes as they respond individually to specific stimuli and adapt to it accordingly. Malina and Bouchard (1991) defined trainability as “the responsiveness of developing individuals at different stages of growth and maturation to the training stimulus.”