Glossary of Terms

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 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.

Age
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.

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.

Chronological Age refers to the number of years and days elapsed since birth. Children of the same chronological age can differ by several years in their level of biological maturation.

Biological Age is a variable that corresponds roughly to chronological age, determined by measures of morphological, skeletal, dental or sexual age.

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 also plays an important role in coaching decisions. The relative age effect describes the observations that a greater number of performers born early in selection years are over-represented in junior and senior elite squads compared with what would be expected based on national birth rates. This means that a child born on January 1st may participate in the same programs as a child born on December 31st of the same year - although one is almost a year older than the other. It is well documented that relative age has a great advantage in athletic selection. The age group cut-off date for entry into organized youth sport is August 1st in English school sports and January 1st in Canadian Ice Hockey. In many different sports the relative age effect is clear to see.

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.

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, metal 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.

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.

Glossary of Terms

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."

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."

Dynamic mobility involves moving parts of your body and gradually increasing reach, speed of movement, or both." Do not confuse dynamic stretching with ballistic stretching! Dynamic stretching consists of controlled leg and arm swings that take you gently to the limits of your range of motion. Ballistic stretches involve trying to force a part of the body beyond its range of motion. In dynamic stretches, there are no bounces or "jerky" movements. An example of dynamic stretching would be slow, controlled leg swings, arm swings, or torso twists.

Menarche is the first menstrual period of an individual.

Overstress means to place too much emphasis on or to be subjected to excessive physical or emotional stress.

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.

Periodization is time management applied to training. Over time, it optimizes each child's improvement by providing a logical training schedule that respects each stage of development.

Physical literacy refers to the mastering of fundamental motor skills and fundamental sport skills.

PNF stretching (or proprioceptive muscular facilitation) is one of the most effective forms of flexibility training for increasing range of motion. It usually involves contracting the muscles isometrically against for 20 seconds. The muscle is then relaxed before a new stretch is applied to the muscle.

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.

Quick Hitters are early offensive entry plays or sets.

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 critical 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 of development refer to a point in the development of a specific behaviour when experience or training has an optimal effect on development. The same experience, introduced at an earlier or later time, has no effect on or retards later skill acquisition.

Static stretching consists of stretching a muscle (or group of muscles) to its farthest point and then maintaining or holding that position, whereas Passive stretching consists of a relaxed person who is relaxed (passive) while some external force (either a person or an apparatus) brings the joint through its range of motion.

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."

Ultra short Interval training is based on the principle that sufficiently short intervals of intense work do not produce lactic acid accumulation. It is appropriate for developing alactacid and aerobic endurance and provides the opportunity for specific skill training at competition intensity. It is used for training phases where' specific training is important. When this work is alternated with short rest periods, it is possible to complete a large amount of training at competition quality. Ultra-short intervals do not produce lactic acid accumulation. It is when lactic acid accumulates that fatigue becomes devastating and adequate recovery then takes a markedly greater proportion of time. Abbott A., Collins D., Martindale R., Sowerby K., Fundamental Movement Abilities Chart, Talent Identification and Development, An Academic Review, Sport Scotland University of Edinburgh 2002

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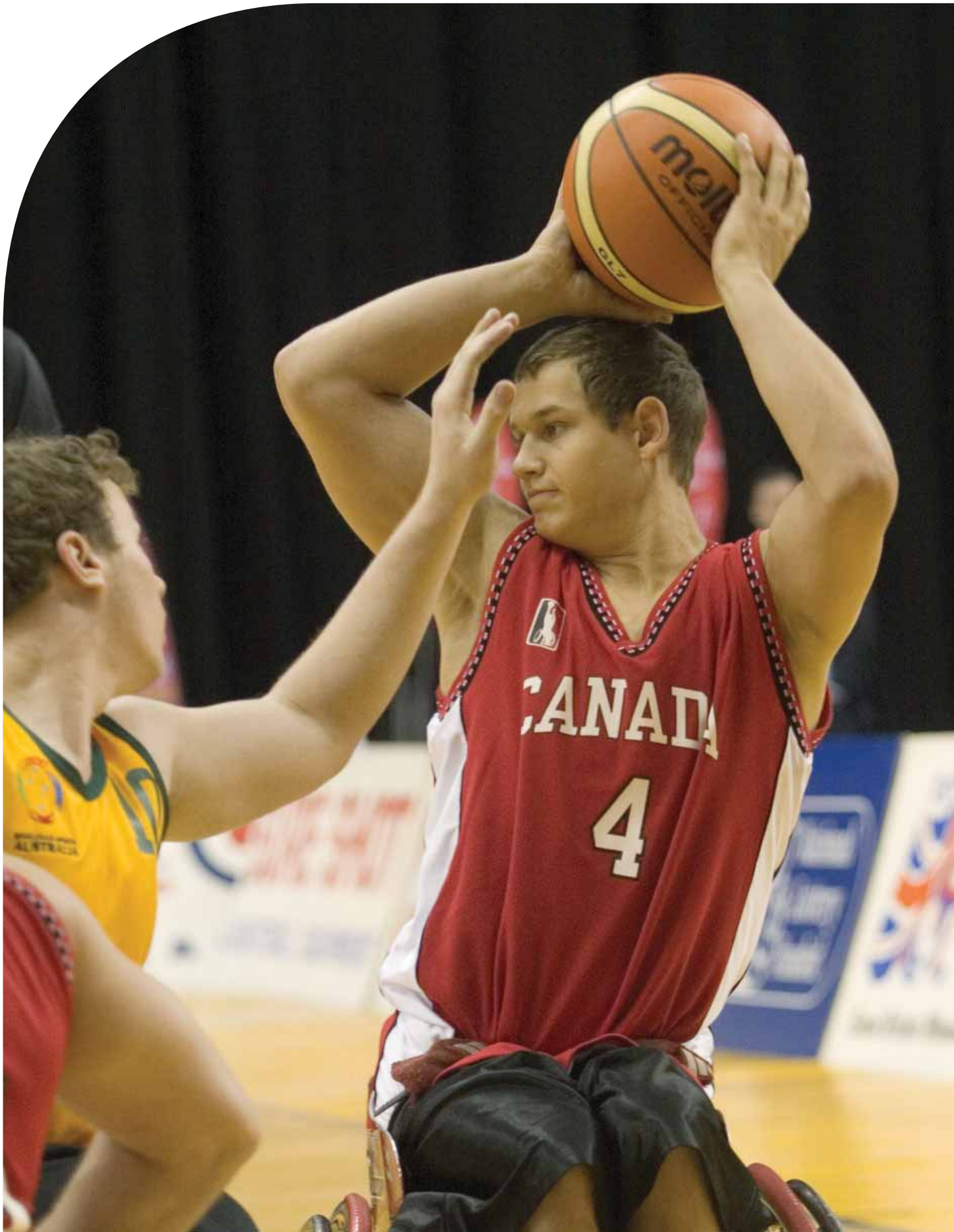
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The Canadian Basketball Athlete Development Model