SOUTH AFRICAN GYMNASTICS FEDERATION

LONG TERM PARTICIPANT DEVELOPMENT

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Preface

From the SAGF President:

We are very proud to be launching the SAGF Long Term Participant Development (LTPD) model after a two year process of engagement and consultations with our principal, the South African Sports Confederation and Olympic Committee (SASCOC), and their appointed facilitator for the project, Dr. Istvan Balyi.
LTPD proposes to us new philosophies in coaching and in leading our sport towards a more sustained involvement of our participants in Gymnastics and in sports in general. Indeed, it is not only Gymnastics that is adopting this programme, but South African sport as a whole. SASCOC has shown great leadership in the process by ensuring that consultations not only engage the Department of Sport and Recreation but also other spheres relevant to the successful integration of the LTPD principles in our society, such as the Department of Basic Education and Department of Higher Education.
This is only the beginning. I see a future where Gymnastics grows from strength to strength. I also see a future where we have a highly active and winning nation as a result of this project. Let us work together in ensuring that this programme becomes a success.

Jerry Masia
President, South African Gymnastics Federation

From the Project Leader:
The Journey

The introduction of the Long Term Athlete Development (LTAD) project in South Africa was an initiative by the South African Confederation and Olympic Committee (SASCOC) to enhance participation, excellence, capacity and interaction in sport training and high performance training for all athletes. LTAD reflects a commitment to contribute to the achievement of these goals. It focuses on Long Term Athlete Development for athletes and recreational sports in South Africa and recognizes international best practices, research and data.
The process commenced in 2009 when SASCOC invited the various national federations to participate in consultations that would lead to each national federation developing its own sport-specific LTAD model. As the South African Gymnastics Federation (SAGF) we recognized the benefits that the project would entail on our Gymnastics programmes and invited high performance coaches from the various disciplines to get involved in the process. The consultation sessions were facilitated by Dr. Istvan Balyi, an international consultant from Canada, who is a world renowned expert on advanced training and planning and one of the world's leading contributors to the subject of Long Term Athlete Development.
Today, we can proudly say that we have developed the Gymnastics model, which has recently evolved to Long Term "Participant" Development (LTPD). On consensus with SASCOC and other sports codes, the terminology "Participant" was thought to be more inclusive than "Athlete" as it can easily be associated with both competitive and recreational participants. In SAGF we are in the process of integrating the now LTPD principles into our structures, coach education and training as well as high performance programmes.
Thank you to SASCOC for their vision and for taking on this project to help improve the development of sport in our country. Thank you to all the individuals who contributed the many hours into bringing this document to where it is today, and also to those that have expressed their support for the process and the document. We encourage all members of our fraternity to adopt the principles contained in this document into their daily practice of Gymnastics.

Tseko Mogotsi
High Performance Manager and Project Leader
South African Gymnastics Federation

Acknowledgments

The South African Gymnastics Federation would like to thank the following for their contribution and support:

South African Sports Confederation and Olympic Committee (SASCOC)
Dr. Istvan Balyi, Canada
SAGF Board Members and Management
SAGF Disciplines and the Programme Management Teams
SAGF High Performance Coaches

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Executive Summary

A participant's age (chronological and developmental) must be taken into consideration with respect to their physiological, mental, cognitive and emotional development. The Long Term Participant Development (LTPD) concept attempts to incorporate the ideals set out above into a scientifically based, inclusive, structured and measureable system. The South African Gymnastics Federation (SAGF) LTPD programme has been developed to ensure the healthy and safe development of all participants, from recreational to Olympic level.

LTPD is built upon 10 key factors. These are:

1. Fundamentals – developing physical literacy
2. Chronological vs. Developmental Age
3. Mental, Cognitive and Emotional Development
4. Specialization
5. Trainability
6. Periodization
7. Calendar Planning
8. 10 Year Rule
9. System Alignment and Integration
10. Continuous Improvement

The South African Sport for Life document describes the various stages of LTPD and identifies the windows of optimal trainability related to the sensitive periods of the maturation process, which are different in females and males.

The Ten Ss of training need to be integrated when developing annual training, competition and recovery plans. Each of these capacities is trainable throughout an athlete's lifetime, but there are clearly critical periods (or sensitive periods) in the development of each capacity during which training produces the greatest benefit to each athlete/player's improvements. The 10 Ss of Training are: Stamina, Strength, Speed, Skill, Suppleness, Structure/Stature, (P)sychology, Sustenance, Schooling and Socio-cultural.

The stages of LTPD are based on the concept that sports can be classified as early or late specialization sports. Early specialization sports are defined as those sports where early specific training is essential to be successful, such as Gymnastics, Diving, Figure Skating, Swimming and Table Tennis.

The South African Sport for Life, Long-term Participant Development distinguishes seven stages of Participant Development. In Gymnastics however, as an early specialization sport, eight stages are identified, namely:

1. Active \start
2. Fun to Train (FUNdamentals)
3. Learn to Train (Building the skills of Gymnastics)
4. Train to Train (Specialization)
5. Train to Compete (Becoming a Consistent Competitor)
6. Learn to Win (Winning at all levels)
7. Train to Win (International excellence and podium performances)
8. Active for Life

The task that lies ahead for the SAGF is to implement and monitor the LTPD principles through the SAGF Coaches, Judges and Participant development programmes.

Introduction

What is LTPD?

The LTPD model is predicated on the idea that each participant's stage of physiological, mental/ cognitive, and emotional development must be identified and taken into account when developing his/her optimal training, competition and recovery program. It is inclusive: the principles which underpin the LTPD are equally applicable to people of all ages and abilities whether they are participating in elite sport or recreational physical activity.

This model represents a paradigm shift, a philosophically different approach to sport and physical activity. The remainder of this chapter is devoted to explaining the model and its potential for enhancing our enjoyment of sport and physical activity.

One of the goals of the LTPD model is Physical Literacy, as well as full sport system alignment and integration. Physical literacy is defined as the mastery of fundamental movement skills and fundamental sport skills. A physically literate person moves with poise, economy and confidence in a wide variety of physically challenging situations, is perceptive in reading all aspects of the physical environment. He/ she anticipates the movement needs or possibilities, and responds appropriately with intelligence and imagination." (Whitehead, 2001)

To better understand the LTPD model, and its role in helping participants to achieve these goals, we have identified ten key factors which influence the model and set it apart from other long-term development models. These factors are outlined in the following section.

Figure 1, below, schematically illustrates LTPD as Active Start, Fundamentals and learn to Train stages provide for Physical Literacy, Train to Train, Train to Compete and Train to Win for excellence and transition at any age to Active for Life, for lifelong participation in physical activity and/or sport.

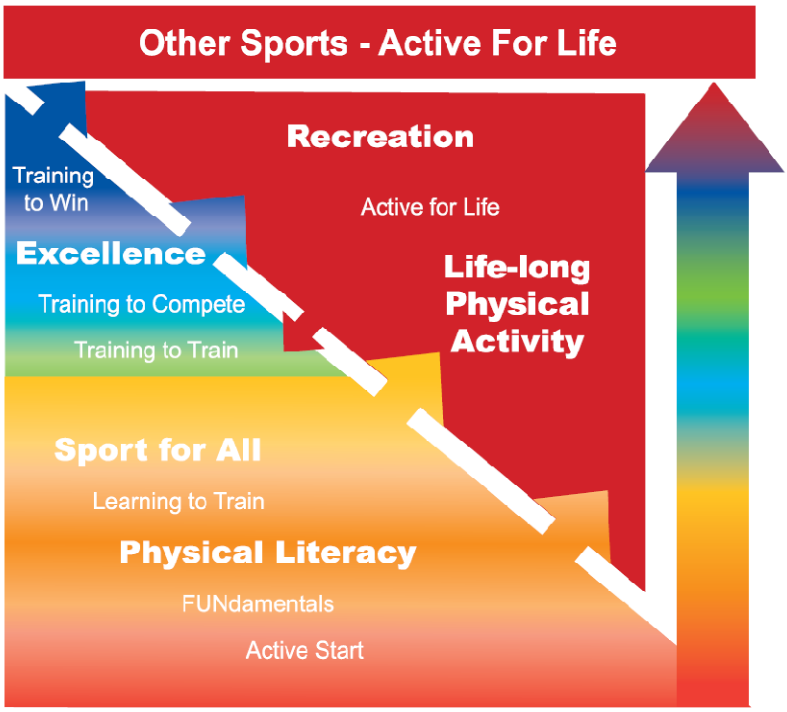


Figure 1: Participation in Lifelong Physical Activity

Where Are We Now?

Five pillars:

Strengths	Weaknesses
ATHLETES	

• Excellent pool of Talent
• Passion and enjoyment of the sport
• TRA, ACRO, RS positive growth in registrations
	• Very few Athletes
	• In Artistic Men there is a significant negative growth in registrations
	• There is limited support for athletes
	• Existing support is
	  ○ Short-term and not sustainable
	  ○ Narrow focused (MAG)
	  ○ Inadequately administered
	  ○ Not Transparent
	• Preparation
	  ○ No clear pre-school programme for the federation, which is the base of athletes.
	  ○ No Physical Literacy and Pathway
	• Preparation of Elite Athletes:
	  ○ No Periodization
	  ○ Instant gratification focus, which is outcome focused and not process focused.
	  ○ Lack of competitive opportunity for Elite (Olympic)
	  ○ Programmes too compartmentalised (lack of flexibility in the programme)
	  ○ In TUM, most clubs focus on technical work on the apparatus only
	  ○ NO LTPD
	• Lack of recognition for achievement
	  ○ Inconsistent selection policies

COACHES	

• Passionate Coaches	• Very few coaches (even less highly qualified coaches)
	• Education
	  ○ Sport Science degree available with possibility to specialize in Gymnastics at 1 RSA institution, but generally no Gymnastics specific coach education at tertiary level in RSA
	  ○ No mentoring
	• Funding extremely limited
	  ○ HP coaching not financially viable
	• Lack of recognition for coach achievement
	• Lack of sharing of knowledge
	• Lack of motivation
	• No support system

OFFICIALS	

• Many Officials and Administrators
• High Number of Brevet Judges in TUM and AER
	• Lack of education (political appointments)
	• Over-lapping positions
	• Conflict of Interest
	• Over-burdening of efficient officials
	• Volunteering leads to resentment and lack of:
	  ○ Accountability
	  ○ Sustainability
	• Lack of Knowledge in decision-making
	• No proper structure of education of officials
	• Fast-tracking officials versus long-term development of officials
	• Key technical appointments are needed, instead of election
	• Admin is top-heavy (MAG, WAG)
	• Unprofessionalism of officials
	• Lack of delivery of programmes
	• No continuity and consistency
	• Lack of transparency

Strengths	Weaknesses
PARENTS	
• Unwavering support (parents are the back-bone of Gymnastics) • Strong volunteers	• Financial pressure • Relocating a family to access proper training • Misinformed and uneducated parents ○ Too much pressure on their children to succeed; • Social-cultural differences in parenting negatively affects broadening of Gymnastics
FACILITIES	
• For Rope Skipping, only a rope and a flat surface is required	• Very few international standard training facilities in the country – but are privately owned • Under-developed regions • Under funding resulting in insufficient growth and upkeep / maintenance of facilities • Rental of facilities is expensive • Lack of Gymnastics dedicated facilities

Table 1: Strengths and Weaknesses in Gymnastics in South Africa

The above analysis illustrates that the people involved in Gymnastics are passionate about the sport, however, the weaknesses of the sport far exceed its strengths. Much work lays ahead for Gymnastics in ensuring that the sport survives in the long term.

Where do we want to be?

Five pillars:

ATHLETES
• To provide LTPD Pathway for South African Gymnastics • To provide programmes to recruit for athletes • To provide adequate, long-term, support for HP Athletes (scientific, financial, career development) • To develop proper periodization for all stages of LTPD • To have long term focus on junior development • To give athletes recognition, based on merit • To establish proper communication to and from the athletes.
COACHES
• To develop proper education system in all disciplines (also in tertiary) • Provide adequate and long-term funding for HP Coaches • To have a proper monitoring system in place • To ensure quality coaching in all stages of LTPD • To establish Long Term Coach Development • To give recognition to all contributing coaches • To establish a Coaches Association • To ensure proper communication and administration at National, Provincial, Regional and Club level)
OFFICIALS
• The right person for the right job • Focused role for 1 person (one man one hat) • To establish transparency, at National, Provincial, Regional and Club level • To establish professionalism through education • Rationalization of officials' selection and appointments • Paid officials • Recognition of officials • Independent administration of all disciplines • No fast-tracking of officials
PARENTS
• Inform parents (parents' guide) • Reduce financial burden on parents • Inclusion of parents in the development of the athletes

FACILITIES
• FIG-sanctioned facilities in all regions • Independently managed facilities of the federation • Improvement of facilities producing HP athletes

Table 2: Where we want to be in Gymnastics in South Africa

There is a desire in Gymnastics to ensure that there is greater focus on a service and on development programmes that are of high quality. High quality service would contribute towards satisfaction of the customer, while high quality programmes contribute to improved performances. Both would ultimately lead towards growth and sustainability of Gymnastics.

How to get there

The philosophy behind Long Term Participant Development is that it takes 8-12 years of training and practice for athletes to reach elite levels (Bloom , 1985;Ericsson et al., 1993; Ericsson and Charness 1994), and that success comes from training, practicing and competing well over the long term rather than focusing on winning in the short term. There is no short cut to success in player preparation!

Our attitudes must take into consideration that many children who begin Gymnastics will not remain in the sport. We must re-orient our thinking towards teaching Gymnastics for the development of physical literacy that can be applied to any sport. Similarly, we need to work together as a family of Gymnastics so that children who wish to remain in Gymnastics are actively streamed into the most appropriate discipline, level and club setting.

The LTPD Model not only provides the rational justification for enhancing our current system but also provides some of the solutions as to the way forward in starting to tackle some of the weaknesses identified. Development of talent must look beyond the short-term and plan for the future. These are great challenges for our sport.

We must broaden our perspective and work together to give all participants the ultimate movement experience that is Gymnastics. System alignment should be both vertical (i.e. from national to partners to clubs) and horizontal (linked among all the Gymnastics disciplines).

Our approach:

- Implement new communication pathway plan that would enhance the relationship between the various sectors and levels in Gymnastics.
- Improve current structure to enhance the delivery of programmes for Gymnastics.
- Set goals, as stated in SMART format:
    - S – Specific
    - M – Measurable
    - A – Attainable
    - R – Realistic
    - T - Timely

The Time-line for Gymnastics:

1. Design and develop LTPD Strategy for South African Gymnastics (2011)
2. Establish an infrastructure and programmes to align national, provincial, regional and club (2011)
3. Establish and implement a Marketing Strategy for sponsors / stakeholders (2012-2016)
4. Implement a communication strategy to deliver LTPD to all stakeholders in Gymnastics (2013-2016)

The Ten Key Factors Influencing LTPD

The following factors are the research, principles and tools upon which LTPD is built.

1. The Fundamentals - Developing Physical Literacy

Fundamental movement skills (running, throwing, catching, hopping, bounding, etc.) and fundamental sport skills equals Physical Literacy. The literature on growth and development indicates that children should master the fundamental movement skills and fundamental sport skills before learning more complicated sport-specific skills and strategies. These fundamental skills should be acquired prior to the onset of the growth spurt which occurs in adolescence.

The physical and movement qualities which are developed as physical literacy are essential for participation and enjoyment of sports. Athletics, gymnastics and swimming are three sports which are particularly useful for developing fundamental movement skills and sport skills.

Athletics: Develops many of the fundamental movement skills which are components of all other sports, including running, jumping, throwing and for wheelchair participants, wheeling.

Gymnastics: Encourages the development of agility, balance, coordination, and speed, along with the fundamental movement patterns of landing, statics, locomotion, rotation, swings, springs and object manipulation.

Swimming: is the foundation for all water sports. It is also important for water safety reasons, and teaches balance in a buoyant environment as well as coordination.

2. Chronological Age VS Developmental Age

A second factor influencing the LTPD is the recognition that chronological age differs from developmental age. *Chronological age* refers to the number of years and days elapsed since birth. *Developmental age* refers to the child's relative position on a continuum that begins at birth and culminates in full physical maturity.

A participant's developmental age determines when various aspects of sport and physical activity should be introduced or emphasized. The LTPD model uses the categories "early", "average", or "late" maturers to identify an athlete's developmental age. These designations help coaches and instructors to design instructional, training and competition programs that are appropriate for the participant's level of development**.** Identifying an athlete's stage of maturation is not difficult. For specific information on "how to", go to www.canadiansportforlife.ca - “Monitoring Growth in LTPD”.

As individuals mature, there are several time sensitive periods when there is accelerated adaptation to training. The model identifies these periods and makes maximum use of them to introduce skill and fitness development.

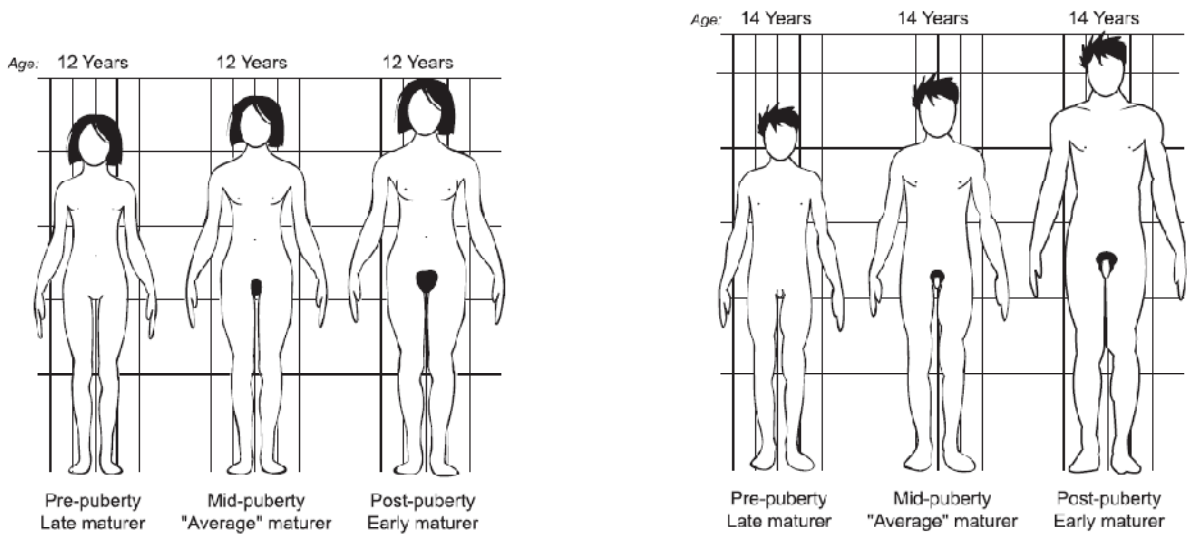


Figure 2: Maturation of Girls and Boys (Canadian Sport For Life)

3. Mental, Cognitive And Emotional Development

Instructors and coaches should recognize that individuals mature at different rates and that the timetable for physical, mental, motor and emotional development varies from participant to athlete. Instructors and coaches are encouraged to take a holistic approach to teaching and training athletes. This means taking into account a wide variety of psycho-social and emotional factors that influence the participant day-to-day.

Cognitive, mental and emotional (affective) elements have a significant effect on athletes' performance, and must be prioritized in long-term participant development. Beyond these elements, instructors and coaches should also consider equipment and environmental factors that impact participation, performance and safety. Ethics, including fair play, respect of self and others, and perseverance should be developed within all stages of Long Term Participant Development.

4. Specialization

Many of the world's most successful athletes participated as children in a wide variety of sports and physical activities. The movement and sport skills they developed as a result have helped them to attain a high level of athletic achievement.

There is much to be gained from a child's early participation in a variety of sports. Early exposure to a wide variety of sport and physical activities will develop some of the physical and movement attributes that are crucial to later success in participation including: agility, balance, conditioning, speed, core body strength, stamina, suppleness, and eye-hand-foot coordination.

Every child should be introduced to gymnastics before the age of 10. Gymnastics activity is important for the development of physical literacy, and helps prepare children for a lifetime of activity and sport participation.

Basic and complex gymnastic skills are learned more easily before puberty; therefore competitive gymnastics is generally classified as an early specialization sport.

Implications for the sport:

- South African clubs must provide high quality gymnastics experiences that prepare children for a life in sport, and also entice children to remain in gymnastics.
- Our sport infrastructure should adjust to focus on providing programmes for an increased level of participation.
- Introducing all children to gymnastics can provide a much larger talent screening pool for the gymnastics disciplines, as well as a business opportunity for coaches and gym clubs.
- Our sport culture/attitudes have to change to accept that many children will begin in a gymnastics programme to develop physical literacy, which will enable them to move on to other sports.

5. Trainability

Trainability is the responsiveness of individuals to a training stimulus at different stages of growth and maturation.

Coaches must be aware and make best use of these periods of trainability when planning programmes. LTPD addresses key periods in the growth and development of young athletes where training must be carefully planned to achieve optimal adaptation. LTPD identifies several qualities of training and performance.

The trainability of the 5 S's

- Stamina (Endurance)
- Strength
- Speed
- Skill
- Suppleness (Flexibility)

is well documented in the literature. Brohms, 1985; Viru et al, 1998 and 1999; Rushall, 2000. Biological markers (Balyi, 2002), such as the on-set of PHV (adolescent growth spurt), PHV and the on-set of menarche can identify the "sensitive periods of accelerated adaptation to training" for Stamina, Strength and Skills. The trainability of Speed and Suppleness is based on chronological age. Thus, the biological markers will identify the "windows of optimal trainability for accelerated `adaptation to training. (See further details on trainability in the 10S's of training and performance section).

6. Periodization (Annual Training, Competition And Recovery Plan)

Periodization provides the framework for organizing training, competition and recovery into a logical and scientifically based schedule to achieve optimum performance at the required time. A periodized annual plan that takes into account growth, maturation and trainability principles should be developed for all stages of LTPD.

Simply put, designing a periodized yearly plan is time management. This involves planning the right activities with the correct level of difficulty, in the correct sequence to reach the desired training and competition objectives.

The plan can be broken down into workable units. The proper sequencing of these units is critical for success. To reach optimum performance in a competitive environment, the training units should be sequenced in the following manner:

- Develop the performance capacity of the participant including physical literacy and sport specific skills, tactics/strategies, physical components, mental skills;
- Integrate the performance factors in a complex and harmonious blend;
- Prepare the participant to perform at needs to know competitions.

In order to design an annual plan, the coach needs to know:

- How the sport specific athletic form is developed;
- The requirements (demands) of the sport during competition;
- The demands of the sport during the preparation phase;
- The competition calendar and the relative importance or purpose of each competition;
- The actual training state of the participant at the start of the yearly plan;
- The contextual reality that the coach and participant have to cope with;
- The principles of Long Term Participant Development.

Creating a blueprint for success involves accurate and effective planning of training, competition and recovery.

Single, double, triple and multiple periodization formats follow the same principles with frequently introduced breaks - programmed and prioritized recovery and regeneration elements. The following table illustrates the phases of an annual plan for a single or double periodization.

Five Phases of a Single Periodized Annual Plan	**Eight Phases of a Double Periodized Annual Plan**
General Preparation Phase (GPP)	General Preparation Phase (GPP)
Specific Preparation Phase (SPP)	Specific Preparation Phase (SPP) 1
Pre-Competition Phase (PCP)	Pre-Competition Phase (PCP) 1
Competition Phase – Peak (CP)	**Competition Phase (CP) 1 *Peak One***
Transition Phase (TP)	Specific Preparation Phase (SPP) 2
	Pre-Competition Phase (PCP) 2
	Competition Phase (CP) 2 *Peak Two*
	Transition Phase (TP)

Table 3: Phases of Periodized Annual Plan

Figure 3, below, provides different examples of a 12 week programme.

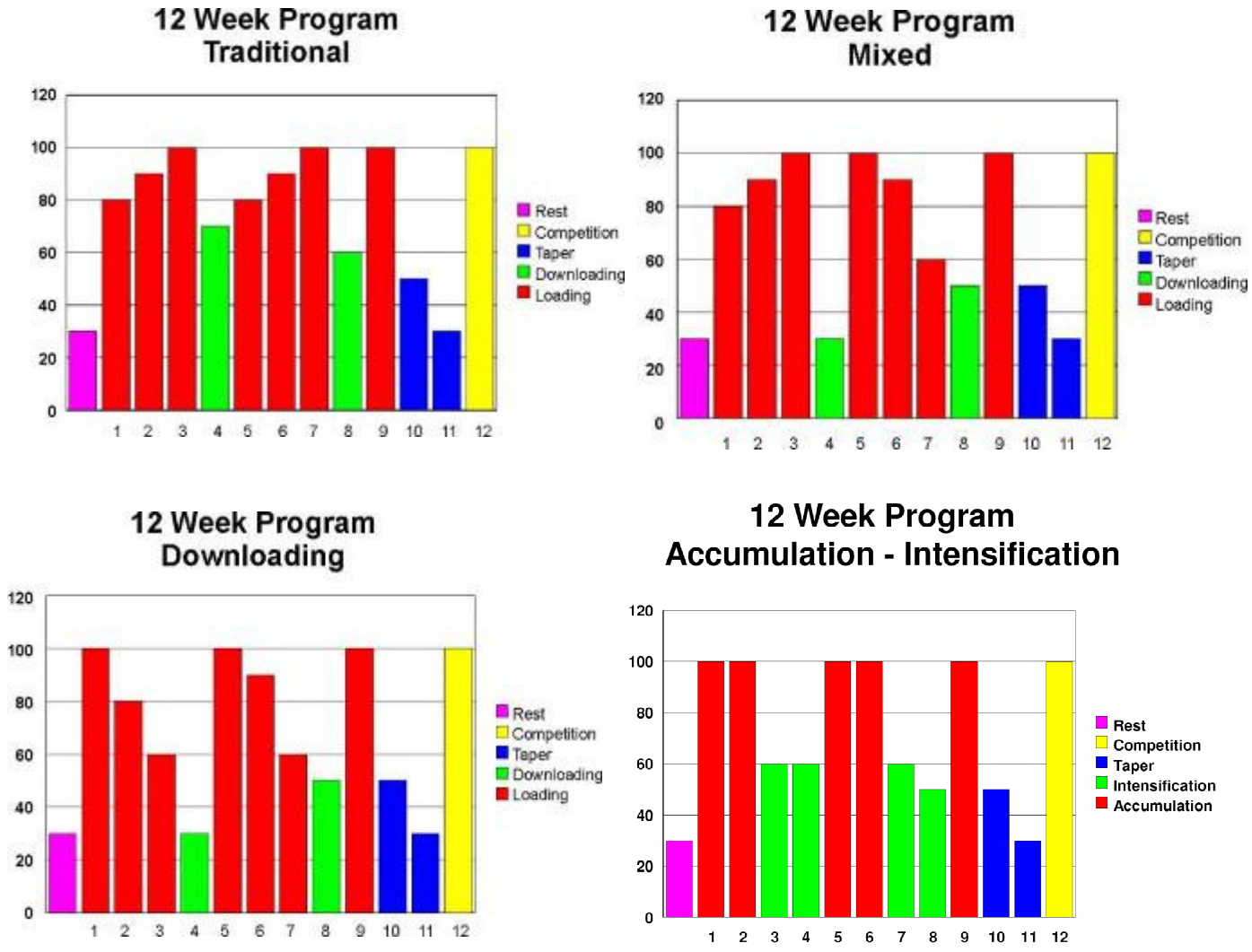


Figure 3: Different examples of a 12 Week Programme.

7. Calendar Planning For Competition

The domestic competitive and event calendar must support and be aligned with LTPD. Different stages of development and different levels of participation have different requirements for the type, frequency and level of competition. At some stages of development, training and development take precedence over competitions and short-term success. During the later stages participants need to experience a variety of competitive situations and perform well at international and other high level events.

National and international competition and event calendars must be coordinated, and competitions selected according to the priorities of the specific stage of development of the participants.

The following table outlines general recommendations for the ratio of training to competition and competition specific training.

Stages	Recommended Ratio
Active Start	No specific ratios
FUNdamentals	All activity FUN based
Learning to Train	70% training to 30% actual competition and competition specific training
Training to Train	60% training to 40% actual competition and competition specific training
Training to Compete	40% training to 60% actual competition and competition specific training
Training to Win	25% training to 75% actual competition and competition specific training
Active for Life	Based on individual's desire

Table 4: Recommended Training to Competition Ratios.

8. The Ten Year Rule

Scientific research in sport has concluded that a minimum of ten years, or 10,000 hours of deliberate training is needed for a talented participant to reach elite levels. This translates into an average of more than three hours of training daily for 10 years. There are no shortcuts; Participant Development is a long-term process (Gibbons, 2002). A USOC study indicates that it takes at least 11 to 13 years to make an Olympic Team, while it would take 13 to 15 years to medal at the Olympic Games. Short-term performance goals must never be allowed to undermine long-term Participant Development (Viru, 1995).

9. System Alignment and Integration

LTPD recognizes that physical education, school sports, recreational activities and competitive sport are interdependent. Enjoying a lifetime of physical activity and achieving athletic excellence are both built on a foundation of physical literacy and fitness.

Stakeholders in LTPD include athletes, instructors, coaches, parents, administrators, spectators, sponsors and supporting national and multi-sport organizations. With so many partners included, system integration and alignment is a major challenge. Each element in the system plays a crucial role in Participant Development. The system must be clear, seamless and based upon a consistent set of principles.

10. Continuous Improvement (Kaizen)

LTPD is a dynamic framework that utilizes continuous adjustments based on key principles. Continuous improvement ensures that:

- LTPD responds and reacts to new scientific and sport-specific innovations and observations and is subject to continuous research in all its aspects.
- LTPD, as a continuously evolving vehicle for change, reflects all emerging facets of physical education, sport and recreation to ensure systematic and logical delivery of programs to all ages
- LTPD promotes ongoing education and sensitization of all partners about the interlocking relationship between physical education, school sport, community recreation, life-long physical activity and high performance sport.
- LTPD promotes integration between sport, physical education, recreation, health and education.

The 10 Ss of Training and Performance

The original 5 Basic Ss of training and performance are introduced in the South African Sport for Life: Long-term Participant Development document. Building on the physical development, an additional Five S's create a complete, holistic, training, competition and recovery program and a proper lifestyle.

Thus, there are Ten Ss of training which need to be integrated when developing annual training, competition and recovery plans. Each of these capacities is trainable throughout an athlete's lifetime, but there are clearly critical periods (or sensitive periods) in the development of each capacity during which training produces the greatest benefit to each athlete/player's improvements.

The South African Sport for Life document also describes the various stages of LTPD and identifies the windows of optimal trainability related to the sensitive periods of the maturation process.

In all former LTPD documents the windows of trainability have been referred to as the "critical periods" of accelerated training; however, scientist now believes that critical periods should be referred to as sensitive periods. Thus, windows of trainability refer to periods of accelerated adaptation to training during the sensitive periods of pre-puberty, puberty and early post-puberty. The windows are fully open during the sensitive periods of accelerated adaptation to training and partially open outside of the sensitive periods.

These sensitive periods vary between individuals as each participant is unique in their genetic makeup. While the sensitive periods follow general stages of human growth and maturation, scientific evidence shows that humans vary considerably in the magnitude and rate of their response to different training stimuli at all stages. Some athletes may show potential for excellence by age 11, whereas others may not indicate their promise until age 15 or 16. Consequently, a long-term approach to athlete/player development is needed to ensure that players who respond slowly to training stimuli are not "short-changed" in their development.

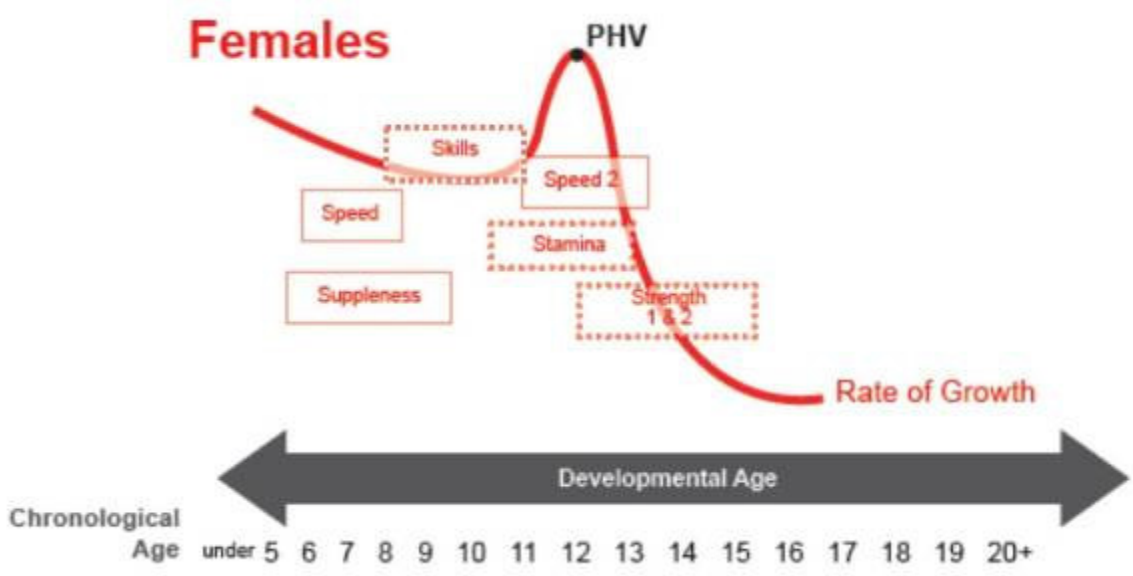


Figure 4: Windows of Accelerated Adaptation to Training in Female Athletes (Balyi & Way, 2005)

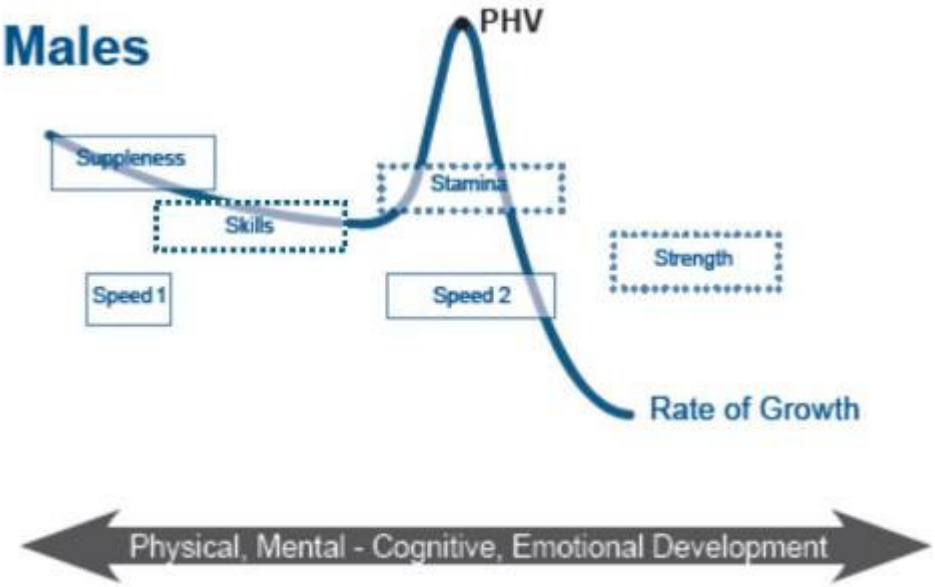


Figure 5: Windows of Accelerated Adaptation to Training in Male Athletes (Balyi & Way, 2005)

1. Stamina (Endurance)

The sensitive period for training stamina occurs at the onset of the growth spurt or Peak Height Velocity (PHV), commonly known as the adolescent growth spurt. Athletes/players need increased focus on aerobic capacity training (continuous or aerobic interval workloads) as they enter PHV, and they should be progressively introduced to aerobic power training (anaerobic interval workloads) as their growth rate decelerates. However, sport-specific needs will determine "how much endurance is enough" in a particular sport, thus minor or major emphasis of training the aerobic system will be defined by sport-specific and individual specific needs. In Gymnastics, stamina is how much endurance is enough.

A reminder: **The windows are fully open during the sensitive periods of accelerated adaptation to training and partially open outside of the sensitive periods.**

2. Strength

There are two critical windows of trainability for strength in girls: immediately after PHV and after the onset of menarche. Boys have one strength window, and it begins 12 to 18 months after PHV. Again, sport-specific needs will determine "how much strength is enough" in a particular sport, thus minor or major emphasis of training strength will be defined by sport-specific and individual specific needs. In Gymnastics, strength is how much strength is enough.

A reminder: **The windows are fully open during the sensitive periods of accelerated adaptation to training and partially open outside of the sensitive periods.**

3. Speed

There are two sensitive windows of trainability for speed. For girls, the first speed window occurs between the ages of six and eight years, and the second window occurs between 11 and 13 years. For boys, the first speed window occurs between the ages of seven and nine years, and the second window occurs between 13 and 16 years. During the first speed window, training should focus on developing agility and quickness

(duration of the intervals is less than five seconds); during the second speed window, training should focus on developing the anaerobic alactic power energy system (duration of the intervals is 10-15 seconds).

It is highly recommended that speed should be trained on a regular and frequent basis, for example, at every training session as part of the warm up. Towards the end of the warm up or immediately after the warm there is no Central Nervous System or metabolic fatigue present in the organism, and so this is an optimal time to train speed. The volume of training should be low and allow full recovery between exercises and sets. Short acceleration with proper posture and elbow and knee drive, take-off speed and segmental speed should be trained regularly outside of the window of optimal trainability for speed. In addition, proper blocks of training should be allocated to speed training during the periodized annual training, competition and recovery program according to seasonal and the sport-specific requirements.

A reminder: **The windows are fully open during the sensitive periods of accelerated adaptation to training and partially open outside of the sensitive periods.**

4. Skill

Girls and boys both have one window for optimal skill training. For girls, the window is between the ages of eight and 11 years, while in boys it is between nine and 12 years. During this window, young athletes should be developing physical literacy. Physical literacy is the development of **fundamental movement skills** and **fundamental sports skills** that permit a child to move confidently and with control, in a wide range of physical activity and sport situation. It also includes the ability to "read" what is going on around them in an activity setting and react appropriately to those events. Physical literacy is the foundation of life-long involvement in physical activity and also for high performance participation.

Gymnastics is a skill sport and this makes the window of optimal skill training essential.

A reminder: **The windows are fully open during the sensitive periods of accelerated adaptation to training and partially open outside of the sensitive periods.**

5. Suppleness

The sensitive period of trainability for suppleness occurs between the ages of six and 10 years in both girls and boys. However, because of the rapid growth special attention should also be paid to flexibility during the growth spurt.

A reminder: **The windows are fully open during the sensitive periods of accelerated adaptation to training and partially open outside of the sensitive periods.**

6. Structure / Stature

This component addresses the six stages of growth (Phase 1: very rapid growth and very rapid deceleration; Phase 2: steady growth; Phase 3: rapid growth; Phase 4: rapid deceleration; Phase 5: slow deceleration; Phase 6: cessation of growth) in the human body linking them to the windows of optimal trainability. It recognizes stature (the height of a human) before during and after maturation guiding a coach or parent to the measurements needed to track growth. The tracking of stature as a guide to developmental age allows planning to address the sensitive periods of physical (endurance, strength, speed and flexibility) and skill development. Diagnostics to identify individually relevant sensitive periods of accelerated adaptation to training is essential to design and implement optimal training, competition and recovery programs.

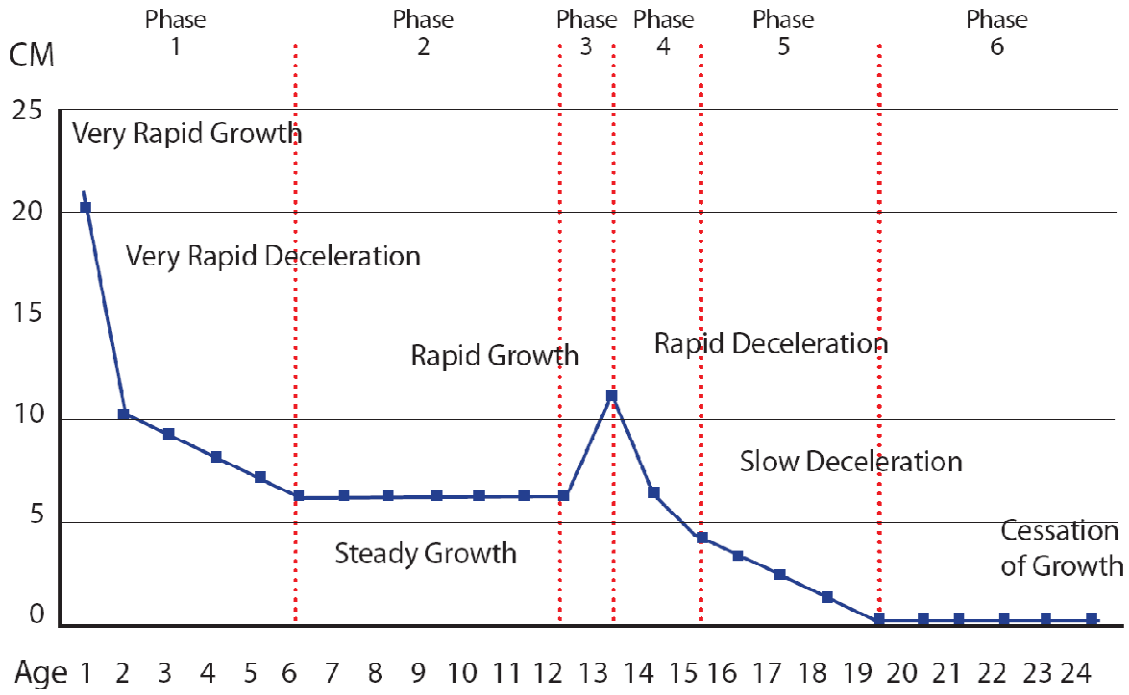


Figure 6: The Sic Phases of Growth (www.canadiansportforlife.ca)

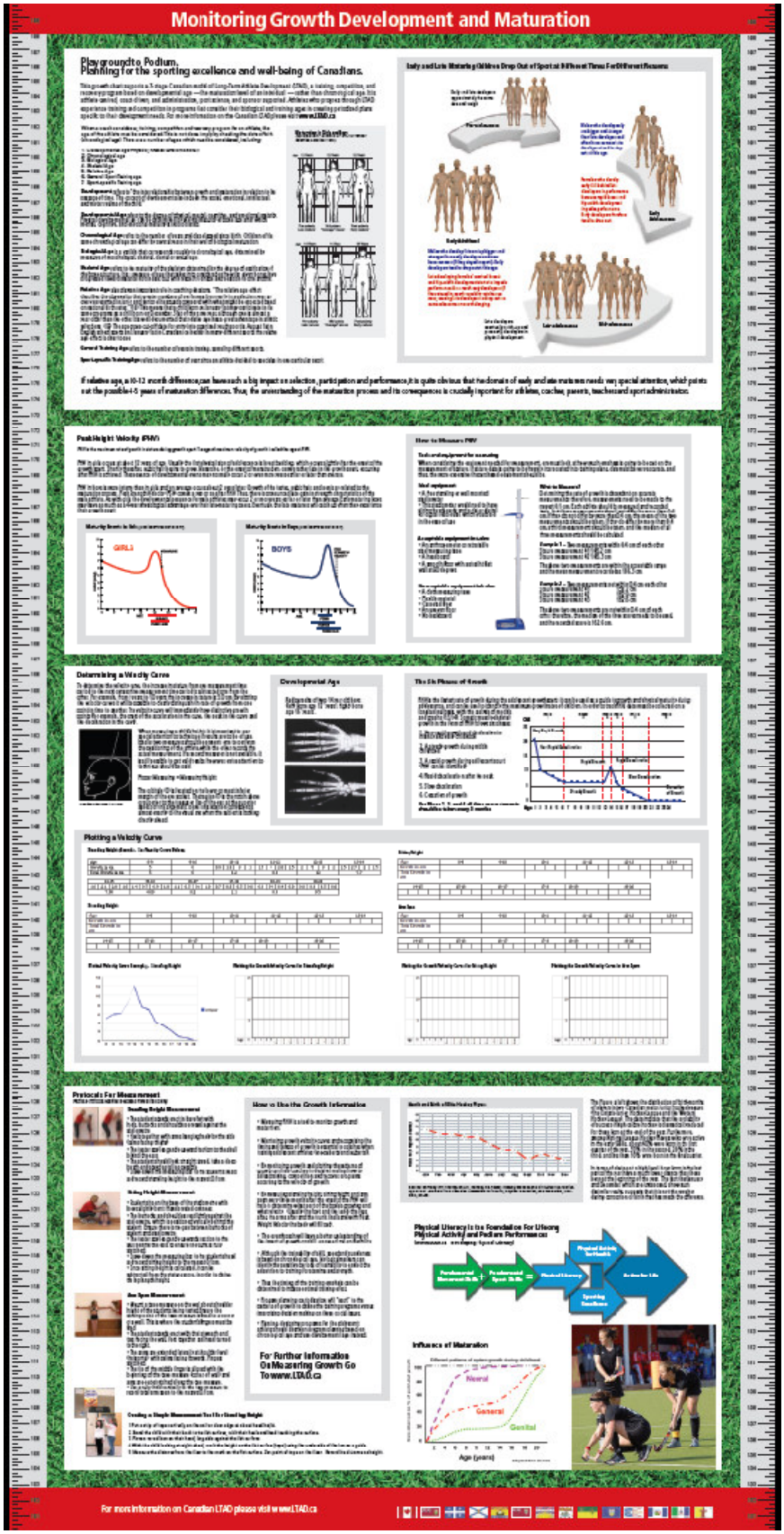


Figure 7: Monitoring Growth Development and Maturation Chart (Balyi & Way, 2005)

Go to www.canadiansportforlife.ca for the above chart and the article on The Role of Growth Monitoring in Long Term Participant Development.

7. (p)Sychology

Sport is a physical and mental challenge. The ability to maintain high levels of concentration, remain relaxed with the confidence to succeed are skills that transcend sport to everyday life. To develop the mental toughness for success at high levels requires training programs which are designed specific to the gender and LTPD stage of the athlete. The training programs should include key mental components identified by sport psychologists; concentration, confidence, motivation and handling pressure. As a participant progresses through LTPD stages the mental training aspect will evolve from: having fun and respecting opponents; to visualization and self-awareness; to goal setting, relaxation and positive self-talk. To master the mental challenge of sport those basic skills are then tested in increasingly difficult competitive environments. Ultimately the planning, implementing and refining of mental strategies for high level competition will determine podium performances. The mental training program is critical at any LTPD stage as dealing with success and failure will determine continuation in sport and physical activity, therefore dramatically affecting an individual lifestyle.

8. Sustenance

Sustenance recognizes a broad range of components with the central theme of replenishing the body. This is to prepare the participant for the volume and intensity required to optimize training or living life to the fullest. Areas addressed are: nutrition, hydration, rest, sleep and regeneration, all of which need to be applied different to training (life) plans depending on the stage within the LTPD. Underlining sustenance is the need for optimal recovery management moving the participant to the 24/7 model which places a high degree of importance on the individual's activities away from the field of play. For proper sustenance and recovery management there is a need to monitor recovery by the coach or parent through the identification of fatigue. Fatigue can come in many forms including: metabolic; neurological; psychological; environmental and travel. While overtraining or over-competition can lead to burn-out, improperly addressing sustenance can lead to the same result.

Go to www.canadiansportforlife.ca for information on eating disorder.

9. Schooling

In training program design the demands of school must be considered. This is only limited to the demands placed by school sports or physical education classes. This includes integrating school academic loads, duties, school related stresses, and timing of exams. When possible, training camps and competition tours should compliment, not conflict, with the timing of major schools academic events.

Overstress should be monitored carefully. Overstress refers to the everyday stresses of life, like schooling, exams, peer groups, family, boyfriend or girlfriend relationships as well as increased training volume and intensities.

Interference from other school sports should be minimized, communication between coaches who are responsible to deliver the training and competition programs are essential. A good balance should be established between all factors and the coach and the parents should be working on this together.

10. Socio-Cultural

The socio-cultural aspects of sport are significant and must be managed through proper planning. Socialization via sport will ensure that general societal values and norms will be internalized via sport participation. This occurs at the community level and as a participant progresses through the LTPD stages can lead to International exposure. This socialization can be broadening of perspective including; ethnicity

awareness, national diversity and economical disparities. Within the travel schedule recovery can include education of competition location including; history, geography, architecture, cuisine, literature, music and visual arts. Proper annual planning can allow sport to offer much more than simply commuting between hotel room and field of play.

Sport socialization also must address sport sub-culture. As well, coaches and parents must guard against group dynamics which create a culture of abuse or bullying, and separation due to economic background. Ethics training, as well as education on principles of the Olympic Charter and Fair Play, should be integrated into training and competition plans at all stages of LTPD.

Overall socio-cultural activity is not negative distraction or interference with training and competition activities. It is a positive contribution to the development of the person and the athlete.

Building a Pathway: The Eight Stages of LTPD

The stages of LTPD are based on the concept that sports can be classified as early or late specialization sports. Early specialization sports are defined as those sports where early specific training is essential to be successful, such as gymnastics, rhythmic gymnastics, diving, figure skating, swimming and table tennis.

Late specialization sports are defined as those sports when early specialization is not required to achieve excellence. Theses sports include cricket, athletics, soccer, rugby, volleyball, combative or racquet sports, where early specialization is not essential for future excellence.

The South African Sport for Life, Long-term Participant Development distinguishes seven stages of Participant Development:

1. Active Start – 0 - 6 years of age
2. FUNdamentals Females 6 - 8 / Males 6 - 9
3. Learn to Train Females 8 – 11 / Males 9 - 12
4. Train to Train Females 11 – 15 / Males 12 - 16
5. Train to Compete Females / males
6. Train to Win Females / males
7. Active for Life - Enter any time

Long Term Participant Development for Gymnastics is divided into 8 stages:

(Table adapted from Canadian Gymnastics LTPD)

STAGE		AGES
1	**Active Start**	Age 0-6 years, Boys and girl
2	**Fun, Fitness, and Fundamental Movement Patterns (FUNdamentals)**	Females 6-8 years, Males 6-8/9 years
3	**Building the Skills of Gymnastics (Learn to Train)**	Females 7-9 years, Males 9-10 years
4	**Specialization in a Gym Discipline (Train to Train)**	Females 9-11 years, Males 10-12 years
5	**Becoming a Consistent Competitor (Train to Compete)**	Females 10/11-13+ years, Males 12-15+ years
6	**Winning at All Levels (Learning to Win)**	Females 13/14-18+ years, Males 15-18+ years
7	**International Excellence and Podium Performances (Train to Win)**	Females 16+ years, Males 18+ years
8	**Gymnastics for Life – Active for Life**	Any age

Table 5: Adapted from Canadian Gymnastics LTPD

1. ACTIVE START

AGES: 0-6 YEARS – BOYS AND GIRLS
0 - 18 month: infant (child with parent or caregiver)
18 months - 3 years: toddler, mature walker (child with parent or caregiver)
3 - 6 years: preschool independent

Participants with an intellectual disability can enter at any age (with or without support person)

Gymnastics is the ideal Active Start activity. South African Gymnastics Federation is one of only a few national sport organizations with specialized programming for this age group. All preschool-aged children should have the opportunity to participate in a gymnastics programme. An Active Start gymnastics program should be structured around creating movement challenges for participants to explore and resolve. Participants will progress at their own rate, and the program structure should allow for individual differences. The program must be holistic, child-centred, and develop cognitive, psycho-social, motor, and physical qualities. The language of instruction must be appropriate to the age and developmental level of the participant. Through age-appropriate activities, and using adapted equipment, athletes' Positions, Locomotions, Rotations, Swings, Springs and Object Manipulation. The quality of movement for each of these patterns will be extended and enhanced through the use of music, rhythm and the principles of dance.

Gymnastics-based activity will:

- Enhance development of brain function, coordination, social skills, gross motor skills, emotions, leadership and creativity
- Help participants build confidence, independence and positive self esteem
- Support healthy growth and development: build strong bones and muscles, improve flexibility, develop good posture and balance, improve fitness, promote relaxation, improve sleep, promote healthy weight
- Help participants move skilfully and enjoy being active
- Provide participants with a movement base that will support lifelong enjoyment and participation in almost any sport.

What qualities will be developed in Active Start gymnastics programs?

- Fundamental Movement Patterns
- Gross motor skills (e.g. running, jumping, climbing, rolling, twisting, kicking, throwing, catching)
- Motor qualities of agility, balance and coordination
- Physical qualities such as strength and flexibility
- Cognitive development stages in laterality, patterning, directionality, space and body awareness, communication and problem-solving
- Creative movement and make-believe
- Exposure to music and dance activities
- Participants learn to explore space in a safe manner, learning to control their own movement in relation to equipment and others. Good class management ensures safety.
- Group social skills are developed as a basis for future sport ethics
- Psycho/socio development – desire to be active, self-confidence to try, self-expression and group social skills such as cooperation

Participants with a disability are often integrated into able-bodied programs, particularly where a support person, parent/guardian can participate. The "fun" environment, individualized progress and safe, specialized equipment in an Active Start program is very appropriate. In the case of some disabilities, specific medical clearance may be required prior to registering for an Active Start gymnastics program.

- In Active Start participants are identified by stage of development (not age). Each stage has a plus/minus 4 month expected minimum variant associated with the approximate ages listed above.

What does NOT belong in an Active Start gymnastics program?

- Repetitive and prolonged activity; competitive-type training
- Focus on training gymnastics "skills"
- Risky positions and exercises e.g. hurdlers stretch, inverted bridges, headstands, straight leg stretches, head rotations, candle stands, V-sits, jumping jacks
- Activities and equipment that are not appropriate, or which have not been adapted for small children
- Flexibility training
- Inflexible directed teaching approaches

Performance Qualities

There is no place for competition in an Active Start gymnastics environment. But because young children love to show and perform, activities should encourage the development of:

- Group social skills – interactions, sharing, taking turns, helping
- Showing what you can do
- Self-expression
- Confidence

Amount of time in gymnastics

- Under 4 years of age: 30-45 minute classes, once per week for 10-36 weeks of the year
- 4-6 years of age: 45-60 minute classes, once or twice per week for 10-36 weeks of the year
- Participants with an intellectual disability: begin with 30- 40 minute classes and progress to 60 minutes, once or twice per week
- Participation in other, non-structured play activities is encouraged.

Parents

- To introduce participants to a range of activities, provide encouragement and participate in activities such as parent days, shows, and parent/child classes
- Must be prepared to transport participants to activities, and to pay for these activities

Monitoring

- Development of Fundamental Movement Patterns
- Social skills
- Emotional & behavioural stabilities
- Cognitive abilities

Events and activities

- Show & tell during and at end of each class
- Share with others in class
- Class closing activity
- Special event theme days
- Performance of "Rou-tinys" (short movement sequences) and mini-displays

SAGF programs for this stage: SAGF Gymnastics Leader Coaching Programme

Type of coach: Certified SAGF Gymnastics Leader (GL)
Certified SAGF Level 1 coach

2. FUN, FITNESS, AND FUNDAMENTAL MOVEMENT PATTERNS (FUNdamentals)

Age: 6 - 8 years (females)
6 - 8/9 years (males)

Participants with an intellectual disability can enter at any age (with or without support person)

In this stage, athletes continue to develop and master the fundamental movement patterns in a multi-gymnastics (i.e. all gym disciplines) environment. They will also begin to learn gymnastic sport skills. Skill development programs should be well-structured, positive and FUN! This is a "sampling stage", that is, participants should sample a range of sport activities, and gymnastics should be one of the sports for all! There is little pressure to achieve, as participants have an opportunity to enjoy sport, have fun, and develop fundamental motor skills. The skills that athletes acquire in FUNdamentals gymnastics programs will be beneficial for both competitive and recreational activities in any sport and will enhance their quality of life and health. During this stage, many participants will move from gymnastics to other sport programs. Some participants will show an interest in more advanced gymnastics programs. These participants will be streamed into special programs that suit their ability and which may include preparation for competition or Special Olympics. All advanced programs should still include participation in at least two of the gym sports. The basic premise of Fun, Fitness and Fundamentals does not change, but more advanced classes will be of slightly longer duration, with a higher intensity of activity. There is no participation in formal competitions during this stage.

What qualities will be developed in this stage?

- The Fundamental Movement Patterns gain quality, definition and refinement as the basis for building gym-specific skills.
- Fun activities and games should be used to develop physical capacities (basic strength, postural control, core strength and flexibility), as well as agility, balance and coordination
- Basic skills should be introduced for all gym disciplines
- A variety of fast-moving, active games should be used to develop power and endurance, as well as linear, lateral, multi-directional and segmental speed
- Cognitive development: Recall/memory, concentration, problem-solving
- Participants develop an acceptance of gym rules, related to safety and accepted social behaviour
- Sport ethics are introduced (fairness, acceptance, right to participate)
- Psycho/socio development: Desire to learn and to be active, self-confidence to try, self-expression and group social skills, self comparison and task focus

What does NOT belong in a FUNdamentals gymnastics program?

- Excessive repetitions of exercise for conditioning
- Risky positions and exercises - hurdlers stretch, candle stand, head rotations, hyper-extensions of joints, inverted bridges without legs or hands raised, jumping jacks
- Inflexible teaching approaches
- High emphasis on comparison of physical and motor abilities; testing programs that encourage comparison with others
- Excessive skill training activities
- Selectivity and focus on more skilled participants

Performance Qualities

There is no formal competition in this stage. Activities and programming should be designed to allow participants to perform in informal settings to develop:

- Social skills – communication, relationships, cooperation, leadership
- Self-expression
- Confidence

- Self-esteem
- Love of performing

Amount of Time in Gymnastics

In this stage, some participants may be guided into programs that may lead into competitive stream in future years.

- Recreational gymnastics programs: one class per week for 1 to 1.5 hours
- More advanced programs: two or three classes per week for 1.5 to 3 hours per class.
- ***Participants in this stage should not train more than 6-8 hours per week. Younger participants in this stage should train 6 or fewer hours per week***.
- Number of weeks per year: up to 36-40
- All children should continue to participate in at least 3-4 other activities on a regular basis.

Parents

- Parents should introduce participants to a range of activities, provide encouragement and show interest in participating in sport and physical activity
- Usually parents make the decision to register the participant for gymnastics; to keep the child busy and expending energy, to help with socialization and to develop fundamental skills.
- Parents should ensure that a balance is maintained with school, other sport and non-sport activities
- Parents should be prepared to transport participants to activities, and to pay for these activities

Monitoring

- Fundamental movement patterns and skill development
- Social skills
- Emotional and behavioural stabilities
- Cognitive abilities
- Monitor growth by taking standing height measurements on the birthday and recording for future reference. As well, shoulder, back and hip flexibility can be monitored. (see measurement protocol in Appendix)

Events and Activities

- In-class demonstrations and sharing
- Performances for other gymnasts and parents: “Rou-tinys” and mini-displays, holiday shows
- Local public demonstrations and performances
- Recognition - awards, rewards and achievement
- Fun participatory events: Ribbon days, skill demos
- Becoming “little helpers” at club activities and events

SAGF programs for this stage: Participants in this stage may be working in the Elementary and early levels of the SAGF family of programs. Participants in advanced programs may progress to the intermediate levels of SAGF.

Elementary and other provincially endorsed school-based programs

Type of Coach: Certified SAGF Level 1 coach and above

3. BUILDING THE SKILLS OF GYMNASTICS (Learn to Train)

Age: 7 - 9 years (females)
8 - 10 years (males)

Participants with an intellectual disability can enter at any age (with or without support person)

In this stage the focus is on the development of gymnastics skills and overall sport skills. Athletes will continue to develop, extend and refine agility, balance, coordination and flexibility. Posture and core strength should be well-established during this stage. In addition, the gymnast will develop sound basic skills on large apparatus and with hand apparatus, which ensures successful, ongoing and progressive participation in recreational, demonstration or competitive gymnastics. For many athletes, their gymnastics training allows an easy transition to another sport or into the Gymnastics for Life stage. Athletes who have the desire to continue in more advanced gymnastics programs will be streamed into the gym discipline that is most suited to their abilities. Proper program placement is the key to successful development and overall personal achievement. All athletes should continue participating in one other complementary gym discipline, as well as one or two other sports/activities. Toward the end of this stage, athletes will begin to shift from "sampling" a variety of sports to identifying one or two sports (or gym disciplines) that are of special interest. While competition is not yet the primary goal, participation in formal competitions may start toward the end of this stage. The South African system provides opportunities for gymnasts to compete in many levels, from club, to regional, to provincial, national and international. Each level of competition has specific technical requirements and therefore training must match the needs of the competitor.

What qualities will be developed in this stage?

- Match drills with skills and fitness level; ensure proper progressions and physical preparation
- Activities should continue to develop physical capacities (basic strength and flexibility), and refine the ABCs of athleticism (agility, balance, coordination, speed). Body symmetry (strength and flexibility) must be developed.
- A variety of fast-moving, active games should be used to develop power and endurance, as well as linear, lateral and multi-directional speed and correct running technique
- Participants should develop sound basic skills in two of the gym disciplines. Gymnasts who wish to participate in more advanced programs may begin to specialize in only one gym discipline in this stage.
- Gym rules relating to safety and accepted social behaviour need to be reinforced. The gymnast should take ownership in the design and consequences of these regulations.
- Sport ethics are emphasized and more complex understanding is developed
- Cognitive development: Recall/memory; concentration; problem-solving, communication and decision-making
- Psycho/socio development: Desire to be active, develop confidence, dedication and commitment,
- communication and relational skills
- Refining quality of movement as reflected in skill performance

What does NOT belong in the gymnastics program?

- Multiple, high impact repetitions
- Skill development before physical preparation
- Inflexible teaching approaches
- Overtraining and under-recovery due to excessive training hours

Performance Qualities

- All gymnasts in this stage should have opportunities to perform for an audience, whether it is at the end of class, in an end-of-year show or club gymnaestrada. Performances should be fun, with creative group routines and interesting music and props.

- By the end of this stage, gymnasts in competitive programs may also be participating in formal competitions. The purpose of competition is to introduce the process and format of competition, and to allow children to enjoy performing their skills and routines.
- **There is no focus on competitive results.**

Amount of Time in Gymnastics

- Recreational gymnastics programs: one or two classes per week for up to 1- 3 hours per class
- Advanced programs for children aged 7-8: two or three classes per week for 1.5 to 3 hours per class, 3 to 6 hours per week
- Competitive gymnasts (9+ years old): up to three classes per week of 3 hours per class; **maximum of 9 hours per week**.
- Number of weeks per year: up to 40 - 48
- The FIG training matrix does not apply for athletes with a disability
- All gymnasts should continue to participate in other activities on a regular basis, including other gymnastics disciplines
- Involvement in dance programs

Parents

- Parents continue to expose participants to a range of activities, provide encouragement and show interest in participating in sport and physical activity
- Parents must listen to the participant to help identify sport preferences
- Parents will continue to maintain a balance with school, other sport and non-sport activities
- Parents should be prepared to transport participants to activities, and to pay for these activities

Monitoring

All gymnasts:

- Skill development
- Social skills
- Emotional and behavioural stabilities
- Cognitive abilities

Advanced level gymnasts as above PLUS:

- Height monitored every 3 months. Measurements should include standing height, sitting height and arm span
- Body alignment and symmetrical development of flexibility and strength
- Shoulder, back and hip flexibility
- Physical abilities
- Weight monitored, but to be kept confidential

Events and Activities

- In-class demonstration and sharing
- Leadership becomes a portion of the class activity
- Local public demonstrations and performances
- Involvement in regional events such as standards meets, gymnaestradas, group routines
- Recognition and encouragement of effort and personal achievement
- Fun participatory events
- Mini club events to introduce format of competition – focus on performance not comparative results
- Include activities that allow for development of self-direction and leadership skills

SAGF Programs for this stage: Intermediate and advanced levels of the SAGF family of programs
Type of Coach: Certified SAGF Level 1 Coach and above

4. SPECIALIZATION IN A GYM DISCIPLINE (Train to Train)

Age: 9 - 11 years (females)
10 - 12 years (males)

Participants with an intellectual disability can enter at any age (with or without support person)
Gymnasts may remain in this stage past the age of 11/12

This stage is one of the most important periods of motor development and is a window of accelerated adaptation to skill training. All key gymnastics skills should be well established during this stage and discipline-specific skills will be developed. Those who continue to do gymnastics at this age have usually developed a strong love and enjoyment of the sport, and have chosen to **specialize** in gymnastics as their primary activity. The number of other extra-curricular activities will likely decrease so the participant can specialize in gymnastics. Participation may be at an advanced recreational, demonstration or competitive level, but basic skills are well-established and there is a long-term commitment to the sport. Fun is still important, and it takes on a different meaning as training becomes more structured and skill-oriented. Skills are challenging and the fun of gymnastics is found in achieving a new skill, working with a group of athletes and friends, and striving to do one's best. In this stage, gymnasts will be guided into the most appropriate program and discipline. Some early-maturing gymnasts may begin the growth spurt toward the end of this stage. Gymnasts should be closely monitored to identify when the growth spurt begins.

What qualities will be developed in this stage?

- This is an important time for development of complex gymnastics skills. MAG and WAG athletes should train on all events. RG athletes should train with all apparatus
- Physical preparation - strength, endurance and flexibility - must accompany skill training (prepare the body to advance the skill). Pay particular attention to flexibility after the onset of the growth spurt. Injury prevention and management become even more important as intensity and volume of training increase
- Spatial orientation development must be emphasized as perceptual judgement skills are developing in this stage. Use trampoline for training spatial orientation
- Continue to develop speed through specific activities that focus on agility, quickness and change of direction
- Include ballet and creative expression development in training
- Ensure that training is enjoyable for all. Encourage social interaction and activities with the gymnasts, as well as participation in activities outside of gymnastics
- Cognitive development: concentration, communication, problem-solving, decision-making
- Psycho/socio development: desire to be active, dedication, commitment to train
- Gymnasts must learn strategies for stress management, coping with commitment and life balance, and strategies for competition/performance (e.g. planning, goal setting, concentration, imagery and relaxation skills)
- Gym rules relating to safety and accepted social behaviour need to be reinforced. The participant learns to accept consequences of behaviour
- Sport ethics should be considered as part of the training program

What does NOT belong in the gymnastics program?

- Elements on knees should be taught and used with caution, particularly in RG programs
- Repetitive lower back hyperextension skills
- Inflexible teaching approaches that do not consider the individual developmental needs of each gymnast
- Overtraining and under-recovery; gymnasts must be monitored, and training programs adjusted to address individual needs
- Overstress and lack of balance in life due to excessive training demands

Performance Qualities

- All gymnasts will benefit from participation in a variety of activities including club Gymfests, Provincial and National Gymnaestrada or recreational meets.
- Competitive athletes will also participate in competitions at the provincial, interprovincial and national levels.
- Gymnasts are becoming more comfortable with competition. The goal of competition is focused on the performance of clean, consistent skills/routines, not on results. This is an important time for gymnasts to develop strategies for competition. It is equally important that parents and coaches emphasize "doing your best routines" rather than rankings and competition results.

Amount of Time in Gymnastics

- Recreational and performance gymnasts: two to three training sessions per week, up to 3 hours per session
- Competitive MAG and WAG gymnasts: four or five training sessions per week, up to 3.5 hours per session; maximum 16 hours per week for a national level gymnast
- Competitive RG gymnasts: four or five training sessions per week, 3 to 3.5 hours per session; maximum 16 hours per week for a national level gymnast (including ballet preparation)
- AG and TG gymnasts: 9 to 12 hours per week
- Number of weeks per year: up to 45-48
- Single or double peak periodization, based on provincial or national championships; 4-6 competitions per year
- Involvement in dance programs
- Encourage ongoing participation in at least one other complementary sport/activity (e.g. dance, aerial sports, and other artistic sports).

Parents

- Parental involvement increases and parents develop a growing interest in the child's sport.
- Parents are expected to volunteer at activities and with club organization. They become spectators at events and competitions, and gain technical knowledge. Some parents may take judging courses.
- Parents may commit a great deal of time to their child's sport, which involves sacrificing their own leisure time
- Ensure ongoing communication between parents, coach and gymnast. Parents must trust the coach, talk and provide advice to the gymnast and intervene only when necessary.
- Parents must provide a "positive push", rather than pressuring the gymnast
- Parents continue to ensure that there is a balance of gym with school and non-sport activities, and that gymnasts are properly nourished and rested
- Parents should be prepared to transport participants to activities, to purchase equipment and clothing, and to assume increased costs of training/competition

Monitoring

- Fitness levels
- Body alignment and symmetrical development of flexibility and strength
- Social skills
- Emotional and behavioural stabilities
- Cognitive abilities
- Physical and technical abilities
- Height monitored every 3 months. Measurements should include standing height, sitting height and arm span (as per standardized protocol – see Appendix)
- Flexibility
- Recovery and Regeneration

Events and Activities

- Maintain a varied combination of events, performances and competitions as in Learning to Train stage
- Support, assist and mentor gymnasts in class and event/competitive activities
- Selection of competitive and performance events reflects the specific needs of the gymnast
- Competitions are used for ability and performance measurement and are not driven by results

SAGF Programs for this stage: SAGF Levels program (AER, ACRO, MAG, RHY, TRA, TUM, WAG, and RS)
SAGF Age Group development programs for national and high performance stream (AER, ACRO, MAG, RHY, TRA, TUM, WAG, and RS)

Type of Coach: Certified SAGF Level 2 Coach and above

5. BECOMING A CONSISTENT COMPETITOR (Train to Compete)

Age: 10/11 – 13± years (females)
12-15± years (males)

Participants with an intellectual disability can enter at any age (with or without support person)
Gymnasts may remain in this stage for several years

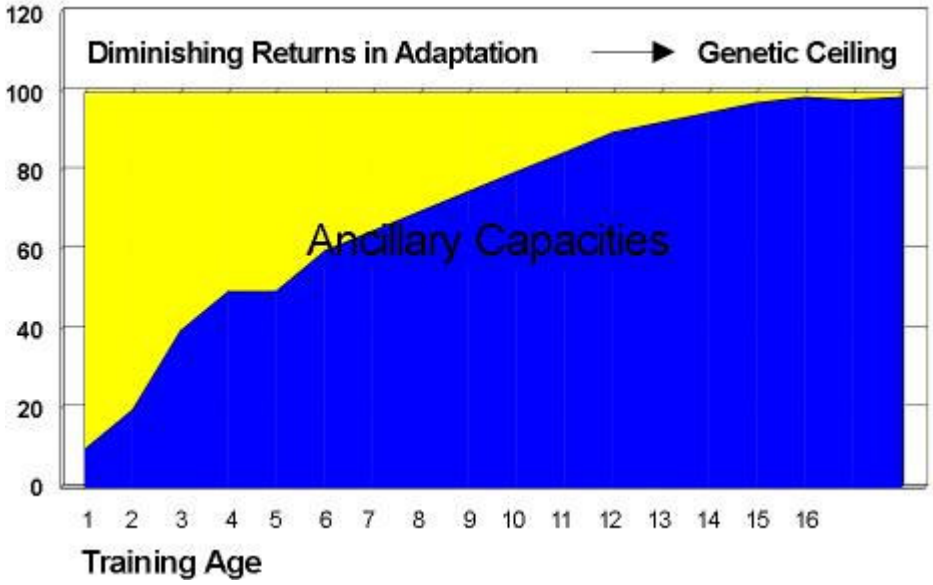


Figure 8: Diagram showing Ancillary Capacities in Athletes

Ancillary Capacities are the training and performance factors a participant has learnt about taking care of their mind and body while playing sport. The knowledge and experience base of an athlete, including 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 their training and performance levels will be enhanced.

Athletes who progress to this stage are passionate about their sport and committed to a competitive career.

They are high-level provincial stream, national stream, or high performance athletes who enjoy meeting a challenge. These are years of **investment**, in which the participant becomes solely committed to gymnastics, is focused on achieving an elite standard, and builds a close relationship with the coach. Gymnasts have consolidated all basic skills, are developing and refining advanced skills and are performing routines of increasing complexity and difficulty. Gymnasts must now learn how to compete well under a variety of conditions. They will reach an optimal performance state that will enable them to meet their individual performance goals.

During this stage, almost all female, and many male gymnasts will be going through puberty. Coaches must be vigilant about monitoring growth, noting PHV and adjusting training programs to allow recovery, accommodate changing body sizes and reduce the possibility of injury. Coaches must be aware that each gymnast will develop at a different time and different rate. Individuality and flexibility of training programs are extremely important in this phase. Monitoring is important for all gymnasts, regardless of their level of participation. Coaches, parents and athletes must be patient as fast growing athletes may show some skill regression and reduced training capacity. With the sudden change in body size, limb length and body proportions, general and specific skill performance may deteriorate. Basic skills may need to be emphasized

to accommodate these changes. It may be necessary to temporarily restrict the number and type of competitions to allow the gymnast to adapt to his or her changing body and to reduce the stress on the body, thereby reducing the possibility of injury and early retirement. More focus is needed on the emotional and social impact of this growth spurt on the athlete. Coaching methodology should be adjusted to properly address the impact of these changes. Ensure that the needs of the gymnast are matched to the appropriate program, coach and club environment. Competition becomes more important, with the focus on achieving consistency and quality of performance, and on learning to cope with the physical and mental challenges of competition. Results only become important toward the end of the stage, when athletes are being selected onto national teams.

What qualities will be developed in this stage?

- Gymnasts must develop advanced skills early in the stage, before the onset of the growth spurt
- Educate gymnasts about nutritional requirements for adolescent athletes
- Provide opportunities to foster positive body image, high self-esteem and confidence
- Refine routine skills performed at high quality and intensity. Consolidate and increase the variety of elements
- Increase difficulty and artistry; develop individual creative expression
- Flexibility and symmetrical development must be emphasized, given the rapid growth of bones, tendons, ligaments and muscles
- Spatial orientation development must be emphasized as perceptual judgement skills mature in this stage. Use trampoline for training spatial orientation
- Incorporate aerobic endurance, speed and strength training; develop core strength
- For females, strength gains are seen immediately after Peak Height Velocity (PHV) and again with the onset of menarche. For males, strength increases 12-18 months after PHV, after the rate of growth slows
- Aerobic trainability improves after the onset of PHV. Aerobic training is important to recovery and the ability to withstand the demands of training, but it must be planned to develop a sport appropriate level of aerobic endurance, while not interfering with power development
- Consolidate and refine stress management and competition preparation strategies; learn how to manage distractions and different environmental demands
- The gymnast gains independence in decision-making. While coach input is essential, the gymnast becomes responsible for many decisions that affect training and competition
- Develop ability to deliver consistently good performances at important competitions
- Gym rules relating to safety and accepted social behaviour need to be reinforced. The participant learns to accept consequences of behaviour
- Sports ethics should include ethical issues related to competition
- Encourage life balance through outside interests
- Emotional development (e.g. mood) is different between males and females

What does NOT belong in the gymnastics program?

- Inflexible approach to training that does not consider individual levels of maturation
- Elements on knees or going down on the knees should be taught and used with caution
- Repetitive lower back hyperextension skills
- Repeated impact activities that can cause epiphyseal damage
- High resistance training and high muscular loads that can result in apophyseal avulsion injuries
- “Rushing” skills to the next level before the basic skill and physical preparation are well established (e.g. adding a second twist before the gymnast is fully comfortable performing a single twist)
- Over-emphasis on competition at the expense of skill development

Performance Qualities

- Gymnasts in this stage are competing at provincial, national and international levels

- Expectation is that performance will be of consistently high quality. Gymnasts must strive for perfection in skill performance
- Gymnasts should learn to understand their own strengths and weaknesses. Routines should be planned to highlight strengths and minimize weaknesses
- Careful planning is required in selecting competitions for specific purposes
- Single or double peak periodization
- The focus of international competition is on learning how to compete under FIG rules, exposure to other cultures and on learning to cope with the physical and mental pressures of travel, training, competition and officiating in another country.

Amount of Time in Gymnastics

- Provincial level athletes: minimum 4 times per week for 2-4 hours per session;
- National and HP level WAG and MAG athletes: 5-6 times per week for 3-4 hours per session; maximum 24 hours per week. Younger athletes should be training less hours than the maximum.
- National and HP level RG athletes: 5 times per week for 3.5 to 4 hours per session, including ballet preparation; maximum 20 hours per week. Younger athletes should be training less hours than the maximum.
- AG gymnasts: 12-16 hours per week
- TG gymnasts: 9 to 15 hours per week
- Number of weeks per year: 45-48
- Goal-setting should be realistic and appropriate to the maturity and ability of the gymnast

Parents

- Parents tend to move into the background and play a less direct role in the gymnast's sporting career, but they still provide emotional and tangible support.
- As the gymnast becomes more responsible for decision-making, the parents continue to provide support, but allow increased independence of the gymnast. They must continue to provide a "positive push", and be available when the gymnast needs guidance.
- Parents remain active as volunteers within the club
- Parents ensure that the gymnast's schedule is organized, and that there is a balance between gymnastics and other aspects of the gymnast's life (social, school, family). This may entail some sacrifices within the family, as the overall schedule is organized around gymnastics. There will be limited vacations, few family meals.
- Parents should remain aware of the needs of other family members, and cultivate an environment of mutual support. Siblings often help out at club events and competitions, but it is important that they find their own niche.
- Parents will be driving several times per week to training and competitions
- Parents will continue to pay for training and competition costs, equipment and clothing, private or specialized coaching, and other related costs (e.g. nutritionist, physiotherapy, psychologist). Travel costs to competitions may increase significantly if the gymnast is attending international events that are self-funded.

Monitoring

- As intensity and volume of training increase, general health must be monitored regularly
- Ongoing screening for hip and knee alignment, and imbalances in strength and flexibility will help reduce the risk of injury
- Monitor iron levels in female athletes annually
- Pay special attention to PHV; monitor standing and sitting height, arm span and weight every three months
- Physical abilities testing; active flexibility testing is particularly important during PHV
- Monitor skills, technique and difficulty

- Monitor emotional development. Be aware that girls are at an increased risk for lower moods, which can increase the risk of depression, eating disorders and low self-esteem
- Educate gymnasts about doping control at the end of this stage

Events and Activities

- Provincial Competitions, National Championships, SA Games
- Selection events
- Special performances and demonstrations (club, provincial, national)
- Selected international competitions at the Junior level

SAGF Programs for this stage: SAGF Levels program (AER, ACRO, MAG, RHY, TRA, TUM, WAG, RS)
SAGF Age Group development programs for national and high performance stream (AER, ACRO, MAG, RHY, TRA, TUM, WAG, RS)

Type of Coach: Certified SAGF Level 3 Coach and above
Certified FIG Level 1 and above

6. WINNING AT ALL LEVELS (Learn to Win)

Age: 13/14-18+ years (females)
15-18+ years (males)

Participants with an intellectual disability can enter at any age (with or without support person)
Gymnasts may remain in this stage for several years

Gymnasts in this stage are optimizing their performance according to the goals they have set for themselves.

They have well-developed abilities to perform on demand and are more results-driven than in previous stages. These athletes are striving to become the best gymnasts and have set their goals on consistent, personal best performances, which will lead to winning championships at the provincial, national and international level. These gymnasts are quite independent and, with the coach, are partners in goal-setting and decision-making.

Many are leaders among their peers, and some may begin coaching young gymnasts. It may be necessary for the gymnast to leave his/her home club to train in a high-performance environment, or to train with a different coach. Some of these gymnasts will begin competing internationally at junior and senior level competitions and major games. The team members for future World Championships or Olympic Games will likely be selected from these athletes.

Some female athletes, and most male athletes will still be going through puberty in the early part of this stage. Ensure that standing and sitting height, arm span and weight of all gymnasts are monitored regularly, and that training programs are flexible enough to accommodate the varying developmental needs of athletes. Gymnasts will become comfortable travelling and competing in different cities, regions and countries. They are taking their competitive performance skills to the next level and some are preparing to represent South Africa. MAG and WAG athletes may be apparatus specialists, although training continues on all competitive apparatus.

What qualities will be developed in this stage?

- Refine routine skills performed at high quality and intensity
- Consolidate and increase the variety of elements and artistry
- Aim for highest standards of difficulty, composition and performance
- Gymnast should be in total command of the routine
- Pay special attention to maintaining active flexibility during PHV
- Continue to develop strength throughout this stage
- Fully develop mental preparation skills: imagery, concentration, emotional control, positive self-talk, relaxation
- Gymnasts should have a sound knowledge of competition rules, competition protocol and judging requirements for their level
- Self-discipline should be encouraged to govern safety and accepted social behaviour. The participant accepts consequences of behaviour
- Develop self-reflexivity, emotional debriefing and self-regulation skills
- Sport ethics should include ethical issues relating to competition and social maturity
- Education on concepts of doping control, weight issues
- Introduce gymnasts to media relations

Performance Qualities

- Performance standards are highest provincial, national and FIG Junior and Senior requirements, and requirements for Special Olympics World Games

- These gymnasts are competing to win championship titles. Some gymnasts are establishing their reputation in international level gymnastics

Amount of Time in Gymnastics

- MAG, WAG and RG gymnasts: 5 to 6 times per week, 4 to 5 hours per training session, including dance training and artistic preparation
- Many top South African gymnasts train about 24 hours per week
- AG and TG gymnasts: 12 – 18 hours per week
- 48 weeks per year
- Single or double peak periodization (e.g. National Championships, or important international competition)
- Training time is divided between preparing for competitions and learning important new skills

Parents

- Parents become the primary support person to manage the gymnast's schedule
- Parents continue to provide a positive push, and offer unconditional support for the gymnast
- Parents will continue to pay for training and competition costs, equipment and clothing, private or specialized coaching, and other related costs (e.g. nutritionist, physiotherapy, psychologist)

Monitoring

- As intensity and volume of training increase, general health must be monitored regularly
- As training volume and intensity increase, ensure that recovery and regeneration are monitored on an individual basis
- Ongoing screening for hip and knee alignment, muscle imbalances and flexibility will help reduce the risk of injury
- Monitor for symptoms of compression, distraction and shearing, Osgood Schlatter's and others, spondylolysis
- Height should be monitored every 3 months, weight should be monitored monthly, and training adjusted as a function of PHV
- Monitor iron levels in female athletes
- Physical abilities testing; active flexibility monitoring is particularly important during PHV
- Monitor skills, technique and difficulty
- Continue to monitor emotional development as in previous stage

Events and Activities

- Provincial Competitions, National Championships, SA Games
- Selection events
- Training and preparation camps
- Special performances and demonstrations (club, provincial, national)
- Selected international competitions at Junior level, or beginning Senior level
- Major Games (e.g. African Championships , All African Games, Commonwealth Games, Special Olympics, World Games)
- World Championships (age 15 only, in the year preceding an Olympics) or Age Group World Championships

SAGF Programs for this stage: SAGF Levels program (AER, ACRO, MAG, RHY, TRA, TUM, WAG, RS)
SAGF Age Group development programs for national and high performance stream (AER, ACRO, MAG, RHY, TRA, TUM, WAG, RS)

Type of Coach: Certified SAGF Level 4 Coach and above
Certified FIG Level 2 and above

7. INTERNATIONAL EXCELLENCE AND PODIUM PERFORMANCES (Train to Win)

Age: 16+ (females)
18+ (males)

Gymnasts in this stage are at the highest level of international competition. They are representing South Africa at World Championships, Olympic Games and other major games, are on the World Cup circuit and are invited to the most prestigious international events. MAG and WAG gymnasts may be event specialists. Gymnasts often compete as both individuals and as team members, which requires a shift in attitude and in some aspects of competitive preparation. Many Trampoline and MAG gymnasts will remain in this stage for 8-10 years. WAG and RG gymnasts will normally remain in this stage for one Olympic cycle before retiring or continuing their education on a sport scholarship at university. With international success comes recognition, media attention and the possibility of sponsorships and endorsements. These gymnasts may have many sources of distraction but should continue to focus on maintaining consistently high levels of performance. They may spend several weeks or months of the year travelling to competitions and will often be training outside of their home gym.

What qualities will be developed in this stage?

- Refine routine skills performed at high quality and intensity; develop/refine unique skills
- Consolidate and increase the variety of elements and artistry
- Achieve highest international standards of difficulty, composition and performance
- Gymnast retains total command of the routine, regardless of competitive environment and situation
- Maintain physical attributes: strength, power, flexibility and endurance
- Focus on recovery and regeneration strategies
- Fully developed mental preparation skills: imagery, concentration, emotional control, positive self-talk and relaxation
- Well developed self-regulation, decision-making, and coping skills. Gymnasts should have a strong sense of adaptive perfectionism and self-confidence
- International team competitive events bring different pressures, and require development and management of team work skills
- Capable of managing interviews and media events
- Capable of managing distractions and interruptions in training, while maintaining peak performance over the long term
- Takes a stronger role in decision-making, working in partnership with the coach
- Self-discipline governs safety and accepted social behaviour. The participant accepts consequences of behaviour
- Sport ethics should include ethical issues relating to competition and social maturity
- Maintains life balance through outside interests and friends, education
- Preparation for retirement and transition from sport that can include exploration of career and educational options

Performance Qualities

- Performance standards are FIG Senior requirements
- Consistent performances of the highest international quality
- Goal is to reach finals and podium

Amount of Time in Gymnastics

- WAG and MAG gymnasts: 5 to 6 times per week for 4 to 5 hours per session
- Many top South African WAG and MAG gymnasts train 24 hours per week

- RG gymnasts: 6 times per week for 5.5 to 6 hours per session, including dance preparation and conditioning
- TG gymnasts: 12 – 15 hours per week
- 48 weeks per year
- Double or multiple peak periodization, depending on international competitive schedule.

Role of Parents

- Parents' role in managing the gymnast's schedule decreases as the gymnast becomes older and more independent. Parents may encourage the gymnast to learn to drive, so that they can reduce the time commitment for transport to training.
- Parents continue to offer unconditional support and a positive push.
- The primary contribution in this stage is financial, as there are training and competition expenses, however these may be partially defrayed if the gymnast is a provincially or nationally carded athlete.
- Parents take an active role in helping the gymnast make decisions about university, scholarships, living environment and life after sport.

Monitoring

- As intensity and volume of training increase, general health must be monitored regularly
- Ongoing screening for hip and knee alignment, imbalances in strength and flexibility
- Monitor height and weight quarterly for baseline measurements
- Blood tests should be done at the end of the season to monitor iron levels. More regular tests should be done for females
- Physical abilities testing
- Skills, technique and difficulty assessment
- Recovery and regeneration status should be assessed daily
- Injury prevention and injury management
- Monitor ability of gymnasts to compete as a member of a team

Events and Activities

- National Championships
- Selection events
- Training and preparation camps
- Special performances and demonstrations (club, provincial, national)
- Selected international FIG senior competitions
- World Championships
- World Games
- Olympic Games
- World Cup events
- Major Games and Championships

SAGF Programs for this stage: SAGF Age Group development programs for national and high performance stream (AER, ACRO, MAG, RHY, TRA, TUM, WAG, RS)

Type of Coach: Certified SAGF Level 5 Coach and above
Certified FIG Level 3 and above

8. GYMNASTICS FOR LIFE – ACTIVE FOR LIFE

Age: Any Age

The Gymnastics for Life stage welcomes gymnasts of all ages, all backgrounds and all performance levels. In this stage are opportunities to learn new skills, to be part of a performing group, to try new gym disciplines and even to travel internationally and represent South Africa. For those who wish to try a new aspect of gymnastics, there are opportunities for coaching, judging, volunteering and working in the sport.

This stage is for anyone who has ever participated in gymnastics. It welcomes new participants – even at advanced ages - and athletes with a disability. It welcomes athletes from other sports who know the benefits that gymnastics will bring to their overall sport performance. It allows everyone and anyone to continue to have FUN with gymnastics, gain FITNESS with gymnastics and learn the FUNDAMENTALS of gymnastics at a level that suits their age, interests and ability. And last but not least, it encourages former gymnasts to apply their gym skills into other sports and activities so they remain active for life.

What qualities will be developed in the Gymnastics for Life stage?

- Application of learned skills to new focus (e.g. new gym discipline, different level of performance, other sport, dance etc.)
- Improve performance quality of specific skills related to new focus
- Maturity in combination, adaptation and creative extension of skills and open to mental challenges
- Develop other skills and relate to gym background e.g. teaching, coaching, administration, marketing, promotion
- Application of gymnastics experience to life skills
- Desire to remain active and involved, and to give back to the sport
- Non-self centred attitude
- Enjoys social participation in the sporting activity
- Commitment to a program or a group
- Open to new experiences in the sport
- Safety and ethical considerations are of continuing importance and are relative to the participant and activity

What does not belong in the Gymnastics for Life stage?

- Risky exercises or advanced skills that require high level physical preparation
- Be aware that inconsistency of training increases risk factors
- Be aware of physical limitations of participants

Performance Qualities

- Will vary with the gymnast's performance goals.
- Fun, Fitness, Fundamentals is the overriding philosophy
- Advanced gymnasts may be preparing for Masters level competitions or high level demonstration events such as National and World Gymnaestrada

Amount of time in gymnastics

- Will vary with age and performance level of gymnast
- May be 1 X 1 hour per week recreational program, up to 4 X 3 hours per week for an advanced demonstration team
- Up to 48 weeks per year
- Single peak or no periodization

Parents

- The parents' role depends on the age and level of the gymnast. Generally there is a financial and time commitment, which entails driving to training, and paying for training time, costumes, equipment etc.
- Parents must support the gymnast's desire to remain in gymnastics
- For older, or more advanced gymnasts who participate in events such as National and World Gymnaestrada, there may be significant travel costs

Monitoring

- As needed, depending on age.
- Ensure PHV is monitored for adolescent aged gymnasts in advanced programs
- General health and fitness
- Required applicable skills

Events and Activities

- Club and Provincial Gymnaestrada/GymFests/Shows/Demonstrations
- National and World Gymnaestrada
- Seniors Competitions
- Recreational events
- School and University competitions
- May have varied roles at events – organization, leadership, coaching, judging

SAGF Programs: SAGF Gym For All programmes
SAGF National Coaching Certification Program
SAGF Judges Training program

Type of Coach: The type of coach will depend on the age and performance level of the gymnast:
SAGF Gymnastics Leader
SAGF Level 1 Coach and above
FIG Level 1 Coach and above

Strategic initiatives: Planning to Implement
(LTPD initiatives implementation plan)

To implement LTPD in Gymnastics, the following actions need to be completed:

- Develop a general South African LTPD to enhance the understanding and acceptance of LTPD to help change the culture of South Africa sport.
- Review coach education based on LTPD factors and objectives.
- Review competition structures and schedules based on LTPD factors and goals.
- Promote greater co-operation between the disciplines, provinces, clubs and coaches in the scheduling of sessions and competitions.
- Offer physical literacy programmes for other sports.

Coach Education and Development

Coach Education will be adopted to align with the LTPD stages. The table below gives a summary of the levels of coaching qualification required for each LTPD stage as well as the teaching philosophies required.

LTPD Pathway	**Coaches Education System enhancing LTPD**	**Teaching Philosophies**
Active Start	General Leader Coaches Accreditation	Fun and Education
FUNdamentals	Level 1 Coaches Accreditation	Fun and Fundamentals
Learn to Train	Level 2 Coaches Accreditation	Gymnastics fundamentals
Train to Train	Level 3 Coaches Accreditation	Specifics
Train to Compete	Level 4 Coaches Accreditation	Excellence
Learn to Win Train to Win	Level 5 Coaches Accreditation	Top performance
Active 4 Life		

Table 6: Link of LTPD to SAGF Coach Education Structure

Judges' Education and Development

The Judging Education and Training Portfolios in the SAGF Disciplines' Programme Management are responsible for the education, control and supervision of the work of the South African judges. Judges Courses are organized annually to accommodate the intake of new judges as well as the upgrading of existing judges.

The Technical Committees of the FIG are responsible for the education, control and supervision of the work of the international judges. Inter-continental Judges Courses are organized by the FIG at the end of the Olympic Cycle. International Judges can be organized by any Gymnastics Federation or Union or Association, in good standing, at the end of an Olympic Cycle, after the hosting of a Inter-continental Judges Course, or at the beginning of a new Olympic Cycle.

Levels	Judging Qualification	Requirements
1	SAGF Provincial Judge	Minimum 18 years
2	SAGF National Judge	2 years experience in previous level
3	FIG Category IV (International Brevet)	Must attend and pass Inter-continental or International Judges Course
4	FIG Category III (International Brevet)	To upgrade, must have judged 2 FIG competitions in the previous cycle and pass exam with minimum criteria
5	FIG Category II (International Brevet)	To upgrade, must have judged 4 FIG competitions in the previous cycle and pass exam with minimum criteria
6	FIG Category I (International Brevet)	To upgrade, must have judged 4 FIG competitions in the previous cycle, 1 must be a major FIG competition (WG, OG, WC), and pass exam with minimum criteria

Table 7: SAGF Judging Qualification Structure

Parents' Education

A fundamental aspect to improving participation and performance in gymnasts is educating parents. Train parents and bring them in tune with the reason for having their children involved in gymnastics. Properly trained, parents will commit to following a standard of behaviour that will be healthy for their child. Through parent training a positive, friendly atmosphere can be created on the pavilion.

Three goals can be identified on beginner or junior level – highlight value of gymnastics – education of specific rules of gymnastics / basic judging skills – obtain the commitment of parents to display only positive behaviour at training or competitions.

More intensive training is required as the gymnast becomes more skilled and competitive. Parents must be helped to learn new skill to deal with the stress they invariably experience when gymnasts become more competitive.

If parents want their child to be part of a gymnastic programme, they must participate in parent education then only will they have a stake in achieving positive results from the gymnast.

Summary

The LTPD model is predicated on the idea that each participant's stage of physiological, mental/ cognitive, and emotional development must be identified and taken into account when developing his/her optimal training, competition and recovery program. It is inclusive: the principles which underpin the LTPD are equally applicable to people of all ages and abilities whether they are participating in elite sport or recreational physical activity.

This model represents a paradigm shift, a philosophically different approach to sport and physical activity. The remainder of this chapter is devoted to explaining the model and its potential for enhancing our enjoyment of sport and physical activity.

Figure 9 below provides a summary of the LTPD model, illustrating how the coaching philosophies and competition participation are linked to the various stages of LTPD.

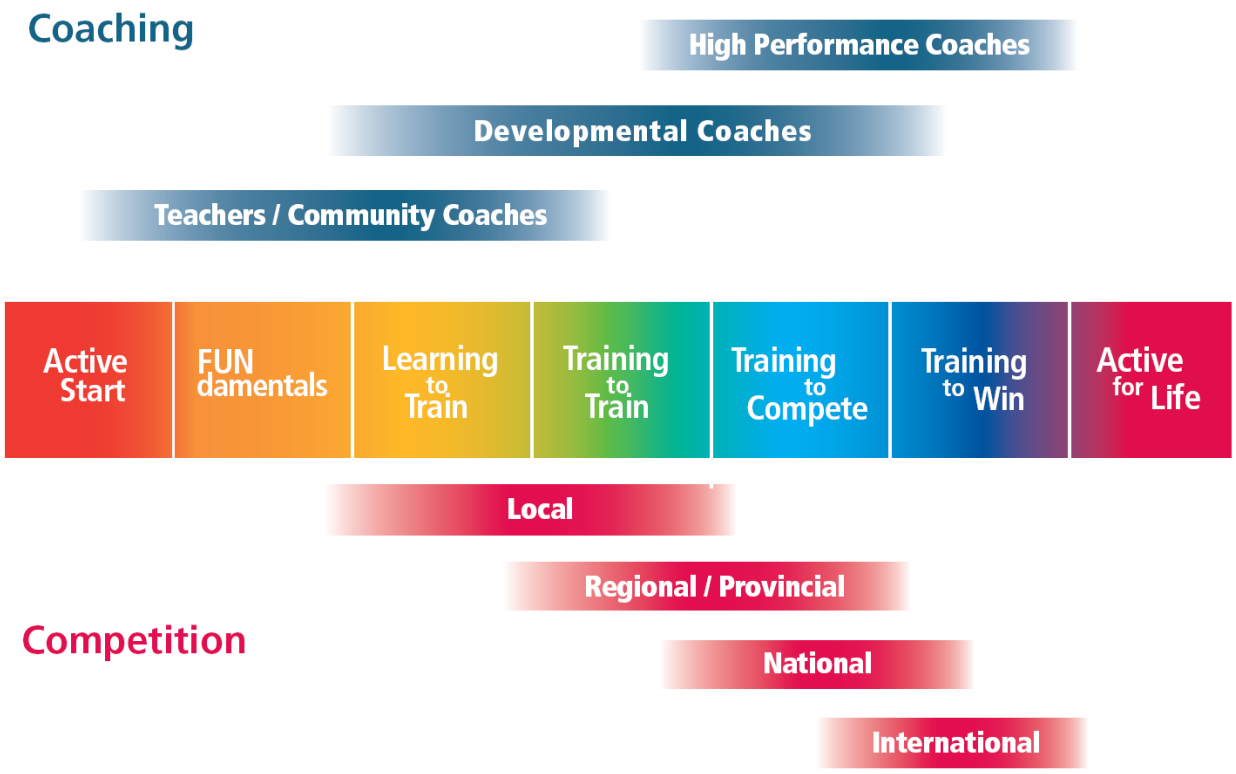


Figure 9: LTPD Coaching and Competition (www.canadiansportforlife.ca)

LTPD takes into consideration a participant's age (chronological and developmental) with respect to their physiological, mental, cognitive and emotional development. The Long Term Participant Development (LTPD) concept attempts to incorporate the ideals set out above into a scientifically based, inclusive, structured and measureable system. The South African Gymnastics Federation (SAGF) LTPD programme has been developed to ensure the healthy and safe development of all participants, from recreational to Olympic level.

The model of LTPD has been illustrated in this document to be built upon 10 key factors. These are: Fundamentals (developing physical literacy); Chronological vs. Developmental Age; Mental, Cognitive and Emotional Development; Specialization; Trainability; Periodization; Calendar Planning; 10 Year Rule; System Alignment and Integration; and Continuous Improvement.

The stages of LTPD are based on the concept that sports can be classified as early or late specialization sports. Early specialization sports are defined as those sports where early specific training is essential to be successful. The South African Sport for Life, Long-term Participant Development distinguishes seven stages of Participant Development. In Gymnastics however, as an early specialization sport, eight stages are identified, namely:

1. Active \start
2. Fun to Train (FUNdamentals)
3. Learn to Train (Building the skills of Gymnastics)
4. Train to Train (Specialization)
5. Train to Compete (Becoming a Consistent Competitor)
6. Learn to Win (Winning at all levels)
7. Train to Win (International excellence and podium performances)
8. Active for Life

The Ten Ss of training need to be integrated when developing annual training, competition and recovery plans. Each of these capacities is trainable throughout an athlete's lifetime, but there are clearly critical periods (or sensitive periods) in the development of each capacity during which training produces the greatest benefit to each athlete/player's improvements. The 10 Ss of Training are: Stamina, Strength, Speed, Skill, Suppleness, Structure/Stature, (P)sychology, Sustenance, Schooling and Socio-cultural.

The philosophy behind Long Term Participant Development is that it takes 8-12 years of training and practice for athletes to reach elite levels (Bloom , 1985;Ericsson et al., 1993; Ericsson and Charness 1994), and that success comes from training, practicing and competing well over the long term rather than focusing on winning in the short term. There is no short cut to success in player preparation!

The LTPD Model not only provides the rational justification for enhancing our current system but also provides some of the solutions as to the way forward in tackling some of the weaknesses identified in our system. Development of talent must look beyond the short-term and plan for the future. These are great challenges for our sport.

Selected Bibliography

Balyi, I. Sport system building and long-term athlete development in Canada. The situation and solutions, in Coaches Report. The Official Publication of the Canadian Professional Coaches Association. Summer 2001. Vol.8, No.1, pp.25-28.

Balyi, I., Cardinal, C., Higgs, C., Norris, S., and Way, R.: Long-Term Athlete Development: Canadian Sport for Life. Canadian Sport Centres, 2005.

Canadian Sport for Life. (n.d.). Retrieved March 15, 2010, from www.canadiansportforlife.ca : www.canadiansportforlife.ca

Federation International de Gymnastique. (n.d.). *www.fig-gymnastics.org*. Retrieved March 2010, from www.fig-gymnastics.org

Higgs, C., Balyi, I., Bluechard, M., Cardinal, C., Norris, S., and Way, R.: Long-Term Athlete Development: No Accidental Champions. Athletes with a Disability, Canadian Sport Centres, 2006.

Higgs, C., Balyi, I., Bluechard, M., Cardinal, C., Norris, S., and Way, R.: Developing Physical Literacy. Canadian Sport Centres, 2007.

Long Term Athlete Development. (n.d.). Retrieved March 15, 2010, from www.ltad.ca.

Malina, R.M. and Bouchard, C. Growth, Maturation, and Physical Activity. Champaigne, IL: Human Kinetics, 1991.

Rushall, B. The Growth of Physical Characteristics in Male and Female Children. In *Sports Coach*, Vol. 20, Summer 1998. pp. 25 – 27.

South African Gymnastics Federation. (n.d.). *www.sagf.co.za*. Retrieved March 2010, from www.sagf.co.za

Taylor, B. Long-term Athlete Development Plan for Rowing. An overview. Rowing Canada, Victoria, BC, Canada, 2005.

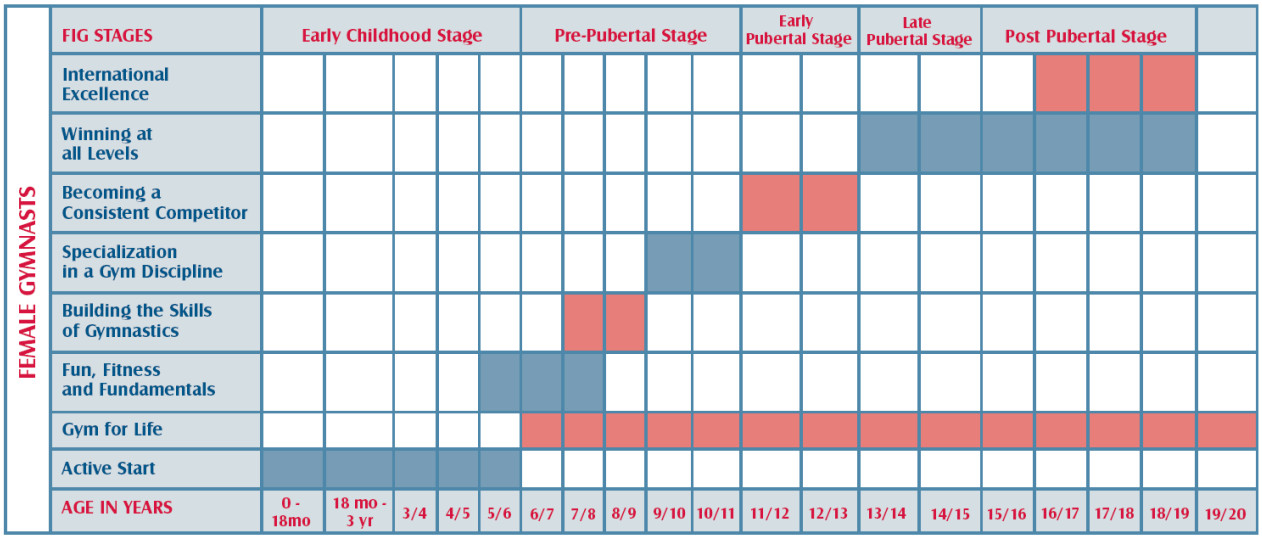
Viru, A. (1995) *Adaptation in Sports Training*. CRC Press, Boca Raton.

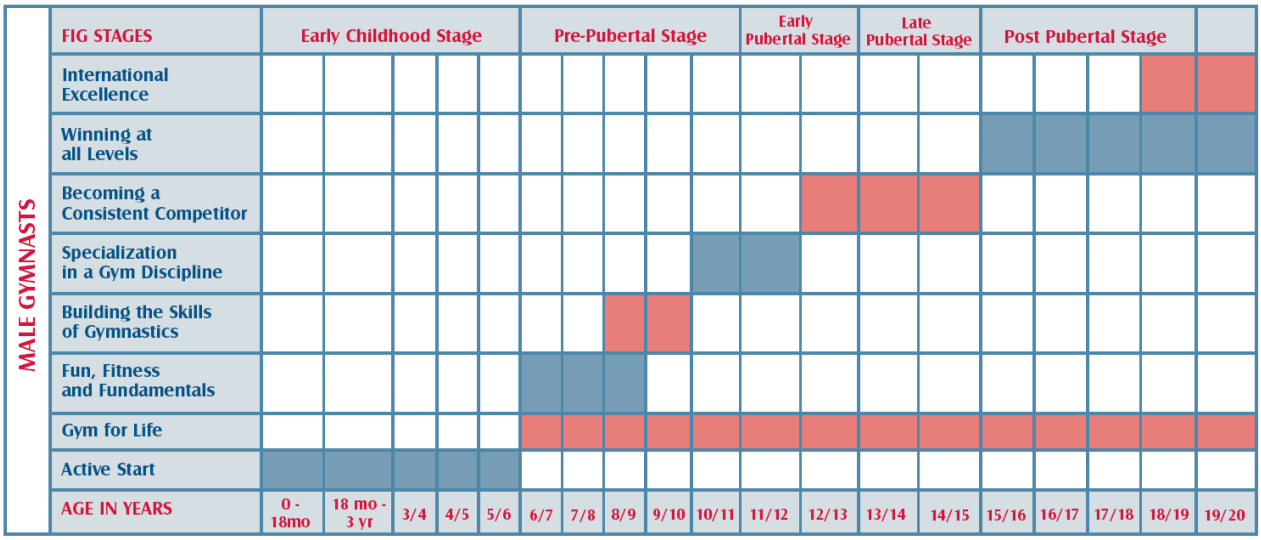
Viru, A, Loko, J., Volver, A., Laaneots, L., Karlesom, K and Viru, M. Age periods of accelerated improvements of muscle strength, power, speed and endurance in age interval 6-18 years. In "Biology of Sport" , Warsaw, V., 15 (4) 1998, 211-227 pp.

Viru, A., Loko, J., Harro, M., Volver, A., Laaneots, L., Viru, M. (1999). Critical periods in the development of performance capacity during childhood and adolescence. *Physical Education and Sport Pedagogy*, 4:1, pp75-119.

Whitehead, M (2001) The concept of physical literacy. *European Journal of Physical Education* (6), pp 12-138.

APPENDIX ONE: LTPD Stages Compared To FIG Ages





APPENDIX TWO: Physical, Mental / Cognitive and Emotional Development for All The Stages

ACTIVE START		
PHYSICAL DEVELOPMENT – CHARATERISTICS AND IMPLICATIONS		
Basic Characteristics	**Performance Capabilities And Limitations**	**Implications For The Coach**
• The rate of growth in height and weight is most rapid up to the age of 2 years, followed by a reduced but continuous gain in height and weight throughout childhood. • The change in the ratio of head to body and limb length causes the body to be disproportional. • The ratio of muscle and tendon strength to bone strength is lower at this age because increases in bone length precede strength development.	• Rapid physical changes parallel rapid skill development. • Varying limb lengths and weights may affect balance, momentum and speed in ballistic and dynamic skills; arms are short relative to the head. • When the strength of the child's leg or arm muscles cannot meet the increased demands of acquired bone length, there is an increased risk of skeletal overuse injuries.	• Provide continual skill development challenges and varied environments. • Skills such as backward rolls may be difficult. Their introduction should await adequate limb growth. • Keep the activities simple and monitor the growth and the effort level at all times.
COGNITIVE DEVELOPMENT – CHARATERISTICS AND IMPLICATIONS		
• Reasoning processes are limited until the age of 7. • Increased demonstration of symbolic functions; language develops dramatically. • Young children take longer to process information to be remembered.	• Children are not capable of thinking from any point of view other than their own. • Young children can attend to only a limited number of cues or instructions.	• Include games that use analogies to movement patterns from nature e.g. walk like an elephant. • Present activities in a fun and playful context. Use symbols in teaching interventions. • Children over the age of 4 can use self-talk in motor skill performance, e.g. say "jump" when you jump. • Instruction should be simple, specific and goal-directed.
EMOTIONAL DEVELOPMENT – CHARACTERISTICS AND IMPLICATIONS		
• Children in this age group are often shy and self-conscious. • At this age, children are egocentric, assume that everyone thinks the way they do and may have problems sharing and getting along with others.	• They may be fearful of new situations and unwilling to leave the security of what is familiar.	• Provide opportunities in which children can express their autonomy in a reasonable and proper manner (involve them in decision-making, let them choose activities and work on their own in a supervised manner). • Provide cooperative activities in which children are able to interact with each other in a positive way.

FUN, FITNESS AND FUNDAMENTALS		
PHYSICAL DEVELOPMENT – CHARATERISTICS AND IMPLICATIONS		
Basic Characteristics	**Performance Capabilities And Limitations**	**Implications For The Coach**
• Larger muscle groups are more developed than small ones. • The size of the heart is increasing in relation to the rest of the body. The cardiovascular system is still developing. • Ligaments are becoming stronger, but the ends of the bones are still cartilaginous and continue to ossify. • Basic motor patterns become more refined towards the end of this phase and the balance mechanism in the inner ear is gradually maturing. • During this phase, girls develop coordination skills faster than boys but the develop - mental differences between boys and girls are negligible.	• Children are more skilful in gross movements involving large muscle groups than in precisely coordinated movements involving the interaction of smaller muscles. • The child's aerobic system is trainable, but the emphasis of training should be on the anaerobic alactic system. • The body is very susceptible to injuries through excessive stress or heavy pressure. • There is great improvement in speed, agility, balance, coordination & flexibility toward the end of this phase. • Sex differences are not of any great consequence at this stage in development.	• Basic skills should be developed during this phase. • Short duration, anaerobic alactic activities should be planned. Endurance must be developed through play and games (lack of attention span for continuous work). • Use slow progressions in hopping and bounding. Strength training should be limited to own body weight or use of medicine ball exercises (neural recruitment). • Specific activities and games should emphasize coordination and kinaesthetic sense. • Training and playing together should be emphasized at this age and phase.
COGNITIVE DEVELOPMENT – CHARATERISTICS AND IMPLICATIONS		
• Attention span is short and children are action oriented. Memory is developing in a progressive manner. • Children at this level have limited reasoning ability. Later in the phase there is a growing capacity for more abstract thought. • The repetition of activities is greatly enjoyed. Young athletes improve their abilities through experience. • Imagination is blooming.	• Young athletes cannot sit and listen for long periods of time. • Children are generally leader oriented: They love to be led! • Experimentation and creativity should be encouraged. • Children do not learn skills correctly if using only trial and error teaching methods.	• Use short, clear and simple instructions. Children want to move and participate in action. • Coaches should adopt a "follow me" or "follow the leader" approach and ensure that all activities are fun and well planned. • Coaches must provide correct demonstrations of the basic skills required at this level. The best coaches must work at this level. • While playing and practicing, encourage input from the children. They love to try new things.
EMOTIONAL DEVELOPMENT – CHARATERISTICS AND IMPLICATIONS		
• The child's self concept is developing through experience and comments from others. • Children like to be the centre of focus and attention. • The influence of peers becomes a very strong driving force behind all activities. • The child is hungry for challenges and opportunities. There is a no fear attitude. • The child begins to understand the need for rules and structure.	• Youngsters perceive these experiences as a form of self-evaluation: "I am a good person if I do well – I am a bad person if I do poorly." • When situations become threatening, they quickly lose confidence. • Acceptance into the peer group often depends upon one's abilities in physical skills and activities • The child is trustworthy and vulnerable and can be easily frightened or injured through carelessness. • Children can understand and play simple games with simple rules and will tend to question rules and expect thoughtful answers.	• Children need positive reinforcement from the coach on a regular basis. This will provide strong motivation to continue with the activity. • Structure skill teaching activities so that success is virtually guaranteed by gradually progressing from simple to complex. • The coach must be capable of properly assessing basic skills and providing a varied repertoire of practical opportunities for technical and tactical development. • The coach must develop courage, a no fear attitude and confidence through an anxiety free environment, proper sequencing of activities & positive reinforcement (e.g. activity circuits that suit ability and age.) • Emphasize participation and fun versus winning. Focus on the process, not on the outcome (have lots of FUN)!

BUILDING THE SKILLS OF GYMNASTICS / SPECIALIZATION IN A GYM DISCIPLINE		
PHYSICAL DEVELOPMENT – CHARATERISTICS AND IMPLICATIONS		
Basic Characteristics	**Performance Capabilities And Limitations**	**Implications For The Coach**
• Significant proportional changes occur in bone, muscle and fat tissue. • Girls begin their growth spurt between the ages of 10 – 14 years, boys between 12.5 – 15 years. Girls attain a maximum rate of growth at an average age of 11, boys at an average age of 14 years. • Primary and secondary sex characteristics manifest themselves during this period. For girls, the normal range for onset of menarche is between 10 – 16 years. • Smaller muscle groups are becoming more developed. • During this phase, the various parts of the body do not grow at the same rate. The growth rate of the legs and arms will reach a peak prior to that of the trunk. • A significant increase in red blood cells occurs, especially in boys due to the hormone testosterone. • The central nervous system is almost fully developed.	• During growth spurts adaptation is influenced by sudden changes of body proportions. • Early in this phase, girls are faster and stronger than boys, later in this phase boys are becoming faster and stronger than girls. • After the onset of menarche, iron levels of girls should be monitored regularly. • Speed, agility and coordination are still improving rapidly during this stage. • A change in the centre of gravity, length of limbs and core strength will determine the content of training. • The oxygen transport system is still developing and aerobic endurance is continuing to increase. • Agility, balance and coordination are fully trainable.	• Monitor training carefully and individualize the content of training to ensure adaptation. • Chronological age may not be the most appropriate way to group athletes. • Avoid situations where fear, guilt and/ or anxiety are brought about by sexual development. • With the improvement of fi ne motor movement all basic technical skills should be mastered. Athletes should learn how to train during this phase, including physical and ancillary capacities. • Some of the already learned skills have to be refined (re-learned) again, since growth of limbs affects technique. • The increase in body mass requires more structured aerobic training. Only short duration anaerobic activities are recommended. • Use the warm up for further development of central nervous system activities.
COGNITIVE DEVELOPMENT – CHARATERISTICS AND IMPLICATIONS		
• Abstract thinking becomes more firmly established. • Young athletes develop a new form of egocentric thought. More emphasis is placed upon self-identity. • Young athletes are eager to perfect their skills.	• Decision making though more complex technical training should be introduced. • This may result in a strong fear of failure. • Individual specific direction and structure in the learning process is required. A variety of methods to measure success is important to maintain motivation.	• Decision-making on tactical and strategic solutions should be based upon the skill level of the athlete. Athletes should learn how to train, including all technical, mental and tactical components. • Create optimum learning environments, match skill and drill levels. Introduce simple coping strategies, concentration skills and mental imagery. • Positive reinforcement is imperative. Physical and mental development can vary greatly. The coach must be careful not to select early developers and neglect or de-select late developers. • The coach's ability to demonstrate specific skills is important. AV material and video feedback will help create mental images.
EMOTIONAL DEVELOPMENT – CHARATERISTICS AND IMPLICATIONS		
• There is a tremendous influence on behaviour from peer groups. • During this phase, athletes are capable of cooperating and accepting some responsibility. • Tension generally exists between adults and adolescents. • It is important that young athletes at this developmental level be able to display tenderness, admiration and	• Values and attitudes are being created and reinforced by the group. • Some athletes may be less responsible mainly due to a fear of failure. • Communication channels should be kept open by adults, as all teenagers need help even though they do not recognize the need, or seem grateful for the help. • Deprivation of these qualities often	• The coach should exercise strong direction and supervision. A role model for young athletes is very important. • The coach must have open communication with the athletes so the athletes learn how to train including all ancillary components. • The coach is usually better accepted than other adults & should always attempt to foster two-way

appreciation. • Physical, mental and emotional maturity do not necessarily develop at the same rate. • There is a desire to have friends of the opposite sex.	leads to exaggerated and/or unacceptable behaviour. • Feelings of confusion or anxiety may exist as a result. • Social activities are important events for this age group.	communication. Young athletes should have input into decision-making processes. • Early maturers often become leaders and excel in physical performance. Coaches should not play favourites as this can have negative effects on the other athletes' development. • The coach's communication skills and understanding are important in this regard. • Co-educational activities are recommended.

BECOMING A CONSISTENT COMPETITOR		
PHYSICAL DEVELOPMENT – CHARATERISTICS AND IMPLICATIONS		
Basic Characteristics	**Performance Capabilities And Limitations**	**Implications For The Coach**
• The circulatory and respiratory systems reach maturity. • Increases in height and weight gradually slow down. Stabilization occurs in the muscular system. • Skeletal maturation continues in males and females. • By age 17, girls have generally reached adult proportions, whereas boys do not reach such proportions until several years later.	• These systems are generally capable of giving maximum output. • Muscles have grown to their mature size but muscular strength continues to increase reaching its peak in the late twenties. • Connective tissues are still strengthening. • Girls generally gain more weight than boys during this phase.	• Aerobic and anaerobic systems can be trained for maximum output. Full sport specific energy system training should be implemented. • Strength training can be maximized to improve overall strength development. Neuromuscular training should be optimised during this phase. • Progressive overloading in training should be continued. • Aerobic training for girls should be optimized. Coaches should be aware how to deal with weight gain. Athletes should learn how to compete in varied circumstances.
COGNITIVE DEVELOPMENT – CHARACTERISTICS AND IMPLICATIONS		
• Generally, by age 16, the brain has reached its adult size but continues to mature neurologically for several more years. • Critical thinking is well developed during this phase.	• Athletes can cope with multiple strategies and tactics, particularly near the end of this phase. • The capacity for self-analysis and correction is developing.	• Coaches should ensure the refinement of all technical and tactical skills. • Decision-making should be developed further through technical and tactical development.
EMOTIONAL DEVELOPMENT – CHARACTERISTICS AND IMPLICATIONS		
• Peer group influence is still a powerful force. • Athletes are searching for a stable, balanced self-image. • Activities and interaction with the opposite sex are important during this phase. • Independent decision-making and leadership skills are becoming more developed.	• Self-concept is still very much influenced by success and failure. Coping techniques are useful. • Male athletes must be aware that female athletes now face a problem of femininity versus sport development. Female athletes must be aware that male athletes now face a problem of relating performance to masculinity.	• Athletes should be given the opportunity to develop through participation in appropriate leadership or responsible roles (i.e. team captain, participant representative, etc.) but strong direction and discipline must be maintained. • Positive evaluation of performances and positive reinforcement are imperative. • Allow time to establish independent social interaction. • Facilitate the recognition of these and other issues through education and club programs.

WINNING AT ALL LEVELS / INTERNATIONAL EXCELLENCE AND PODIUM PERFORMANCES		
PHYSICAL DEVELOPMENT – CHARATERISTICS AND IMPLICATIONS		
BASIC CHARACTERISTICS	**PERFORMANCE CAPABILITIES AND LIMITATIONS**	**IMPLICATIONS FOR THE COACH**
• Physiologically the body reaches maturity during this phase. • Final skeletal maturation occurs at around age 19 - 20 for females and approximately three years later for males.	• All physiological systems are fully trainable. • Coaches should use the most advanced physical training methods and programs to ensure maximum adaptation and to minimize injuries.	• Coaches should ensure that all muscle groups and body alignments are well balanced, and complemented by optimum flexibility ranges. • Coaches, when designing training programs, should use state of the art sport science and medicine information, including results of appropriate and timely testing and monitoring. • Overtraining and overstress should be carefully monitored. • Regular appropriate medical monitoring should be conducted, with additional blood tests for female athletes to prevent iron deficiency.
COGNITIVE DEVELOPMENT – CHARACTERISTICS AND IMPLICATIONS		
• Neurologically the brain reaches maturity when athletes are between 19 and 20 years of age. • There is a complete understanding and acceptance of the need for rules, regulations and structure.	• Athletes are capable of self-analysis and can correct and refi ne skills themselves. Athletes can analyse and conceptualize all facets of their sport. • Well-developed information processing skills improve the athlete's ability to visualize verbal instructions. • For the young adult, the rules and structure of training and competition must be perceived as clearly defined and fair.	• Winning becomes the major objective. • Principles of adult learning should be implemented at this stage. • Athletes should be involved in decision-making and in the planning of team or group activities.
EMOTIONAL DEVELOPMENT – CHARACTERISTICS AND IMPLICATIONS		
• There is a need to be self-directed and independent. • Self-actualization and self-expression are important. • Major decisions about career, education and lifestyle become a priority at some point during this phase. • Interaction with the opposite sex continues to be a priority and lasting relationships may develop.	• The participant is ready to assume responsibility and accept the consequences of his/her actions. • Major changes in interests, hobbies and physical activities may occur during this phase.	• Goal setting should be strongly emphasized to give defi nite direction and purpose to the athlete's overall program. • The participant needs to be treated as an adult and with respect. Direction and structure provided by the coach is still important. • Professional guidance should be made available to help athletes make decisions about off-season and educational pursuits. • Athletes must have ample opportunities for independent social interaction.

APPENDIX FIVE: Competition Guidelines

Providing definitive guidelines on levels of competition for Gymnastics is difficult. Every athlete's situation and circumstances differ. However, it is true to say that over-competing for the most talented young participant is a problem. Overplaying when combined with insufficient fitness levels, physiological imbalances will inevitably lead to a higher risk of injury. It can also lead to early burn-out and exit from the sport. If a sports system is to be truly "player centered" then this weakness in our system needs to be addressed.

Gymnastics future competition review will provide guidelines on appropriate training : competition ratios. The guidelines are clearly of primary importance to the most talented athletes but will also benefit the less able athlete. This sensitive issue, will require agreement, co-operation and consensus on calendar planning from different coaches, parents, athletes and others involved in a talented athlete's development. It would seem appropriate to make this decision the responsibility of the national federation in consultation with provincial organizations.

An unbalanced competition calendar and unbalanced competition to training ratio will interfere with practice and training opportunities, which in turn will affect participant skill and ability levels in later years.

The 10 South African Gymnastics Principles for Calendar Planning:

The following principles were developed to guide improving competition calendar planning within the South African Gymnastics Federation.

WHO AND WHEN?

1. The responsibility for Competition Calendar Planning for each discipline lies with the Coach Education portfolio, High Performance portfolio as well as Programme Manager.

2. In order to guide the rest of the fraternity, the SAGF should present a calendar of priority activities at the Annual General Meeting (July of each year). This will provide the opportunity for the disciplines to finalize their Competition Calendars, which need to be ready to be presented to the Technical Assemblies during South African Gymnastics Games (Gym Games) in September, taking the SAGF priority activities into account.

WHAT AND HOW?

3. The Annual Calendar should be for eighteen (18) months, starting from January, overlapping into the second year.

4. Priority Events should be identified for the long and short term, for the various levels of athletes.
    - Long term: Up to 2 Olympic cycles
    - Short term: 1 year

5. The Calendar should be planned BACKWARDS from Priority Events, long and short term. Any competition scheduled between priority events should not impede on preparations to peak at the priority events;

6. Multi-peak periodization should be designed only for Elite Squads (i.e. Seniors). Any competition scheduled between priority events should not impede on preparations to peak at the priority events.

7. Double-peak periodization is recommended for Performer Squads (i.e. top juniors). Any competition scheduled between priority events should not impede on preparations to peak at the priority events.

8. Over-competition should be prevented and avoided for the lower levels (prospect and cadet squads, and non-FIG competitors). The focus for these groups should be more on development.

9. National Championships should be one of the highest priority events for the year, and should be used as one of the peak competitions. National Championships are also ideal as selection events for all squads for the following season.

10. SAGF disciplines should enforce the minimum standard to qualify for National Championships.

APPENDIX SIX: The Role of the SAGF and other Sporting Bodies

Roles of the Partners

Success in gymnastics requires the coordinated efforts of numerous people, organizations and institutions. The many partners offering services to gymnasts have different but complementary roles, and may play either a direct or indirect role with varying degrees of involvement.

Parents

- Provide access to participants
- Provide support to participants for training and competition
- Provide support to clubs and coaches for training and competition

Clubs

- Provide access to training and competition facilities
- Run large-scale programs to bring the greatest number of children in contact with the type of gymnastics activities that hold their interest
- Provide positive experiences through supervised gymnastics activities, and identify children with the necessary qualities to excel in one or another of the gymnastics disciplines
- Provide coaching support during training / competition to athletes, at all levels, from beginner to high performance
- Host training camps and competitions
- Support coach mentorship programmes
- Administer LTPD programs developed by SAGF
- Promote the sport locally

South African Gymnastics Federation (SAGF)

- Leads the South African Gymnastics system
- Mandates national coaches
- Runs national team program
- Directs high performance programmes and alignment at all levels
- Sets guidelines for LTPD
- Develops programs for LTPD
- Promotes the sport nationally

Provincial Governing Bodies / Provincial Gymnastics Associations

- Include Centres of Excellence into their HP plan
- Mandate their provincial coach(s)
- Run regional and provincial competitions
- Promote gymnastics throughout its territory
- Support recruitment of new participants

Schools and School Boards

- Support school sport, gymnastics classes, etc.

South African Sports Confederation and Olympic Committee

- Supports excellence and participation
- Financially supports elite athletes in the Operation Excellence Programme and other High Performance Programmes

Centres of Specialization

- Offer professional, scientific and medical services to HP athletes

Coaching Association of South Africa

- (To be clarified by SASCOC)

Tertiary Institutions

- Provide coach education and training programmes
- Offer education bursaries

Foundations, Philanthropists and other bodies

- Provide financial support
- Provide visibility

Municipalities

- Offer community gymnastics programmes

Private enterprises

- Offer support in return for visibility and promotion
- Sponsor gymnastics programmes, events and activities

APPENDIX SEVEN: Monitoring Growth

Measurement of Growth and Maturation

Identifying early and late maturers can be done by measurements which track the athlete's growth. Whether one is an early or mate mature is not of issue; the issue is the potential short-term and long-term treatment of such athletes. Appropriate training and competition schedules can be set up for the individual needs of the early, average and late maturing athlete. These measurements are needed to identify the windows of trainability (the best time to train endurance, strength, speed, skill and flexibility).

Although growth and development is a natural process, the tempo of the maturation process can vary greatly: "a child with a chronological age of 12 years may possess a biological age of between 9 and 15 years"

Protocol for Height Measurements

From: Talent Identification for British Diving

Standing Height (cm)

- The gymnast stands erect in bare feet with heels, buttocks and shoulders pressed against the stadiometre
- Heels together with arms hanging freely by the side (palms facing thighs)
- The tester applies gentle upward traction to the skull behind the ears
- The gymnast is instructed to look straight ahead, take a deep breath and stand as tall as possible
- Draw down the measuring bar to the gymnast's head and record standing height to the nearest 0.1 cm

Sitting Height (cm)

- Gymnast sits on the base of the stadiometre with knees slightly bent, hands rested on knees.
- The buttocks and shoulders rest lightly against the stadiometre, which is positioned vertically behind the gymnast. Ensure there is no gap between buttocks and the stadiometre
- The tester applies gentle upwards traction to the skull behind the ears to ensure the trunk is fully stretched.
- Draw down the measuring bar to the gymnast's head and record sitting height to the nearest 0.1 cm

Arm Span (cm)

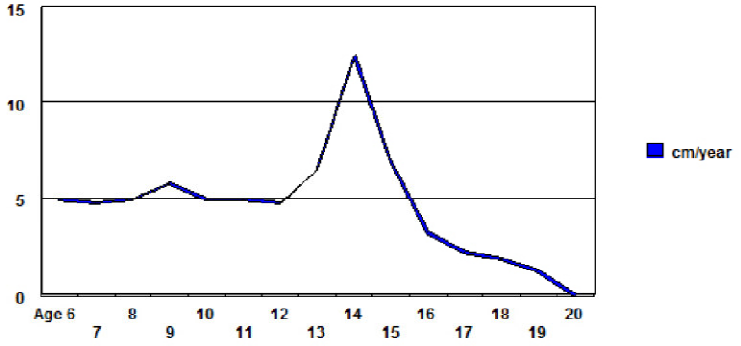
- Mount a tape measure on the wall about shoulder height of the gymnasts being measured. Ensure the starting point of the tape measure is fixed to a corner of a wall. This is where the gymnast's fingers must be fixed.
- The gymnast stands erect with the stomach and toes facing the wall, feet together and head turned to the right
- The arms are extended laterally at shoulder level (horizontal) with palms facing forward. Fingers are stretched.
- The tip of the middle finger is aligned with the beginning of the tape measure (corner of wall) and arms are outstretched along the tape measure
- Use a rule held vertically to the tape measure to record total arm span to the nearest 0.1 cm

Tables for plotting Annual and Quarterly Growth

Standing Height Example

Age	9	10	11				12				13				14			
Growth in cm	5	6	0.9	1.3	3	1	1.9	2.6	3.0	1.1	4.3	3.0	3.4	1.3	1.0	2.1	2.7	1.9
Total Growth in cm	5	6	6.2				8.6				12				7.7			

15				16				17				18				19				20			
2.1	1.6	1.3	2.0	1.4	0.7	0.9	1.0	1.1	0.5	0.6	1.0	0.7	0.3	0.5	0.6	0.4	0	0	0.4	0	0	0	0
7.00				4.00				3.2				2.1				0.8				0			

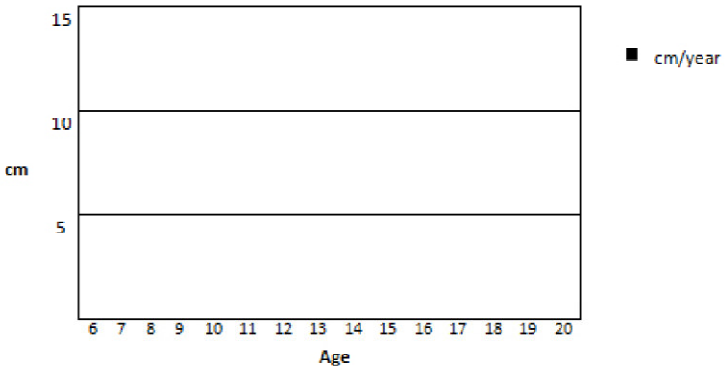


Standing Height

Age	9	10	11				12				13				14			
Growth in cm																		
Total Growth in cm																		

15				16				17				18				19				20			

Plotting the Growth Velocity Curve for Standing Height

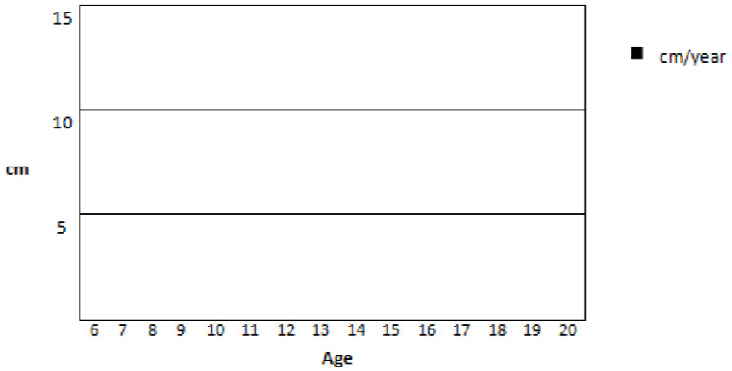


Sitting Height

Age	9	10	11	12	13	14
Growth in cm						
Total Growth in cm						

15	16	17	18	19	20

Plotting the Growth Velocity Curve for Sitting Height

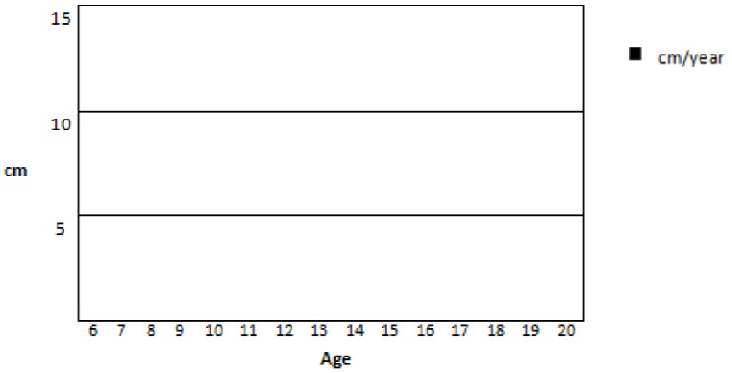


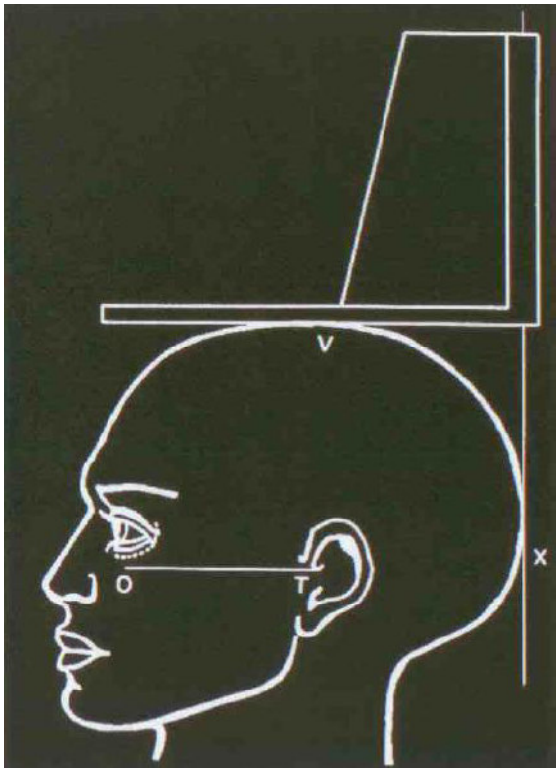
Arm Span

Age	9	10	11	12	13	14
Growth in cm						
Total Growth in cm						

15	16	17	18	19	20

Plotting the Growth Velocity Curve for Arm Span





(LEFT): Orientation of the head in the Frankfort Plane (Ross, Carr, Cater, 2000, as cited in www.canadiansportforlife.ca)

(ABOVE) :
A – Measuring Sitting Height;
B – Measuring Standing Height;
C – Measuring Arm Span

For more information go to www.canadiansportforlife.ca

APPENDIX EIGHT: Recovery and Regeneration

The document on Recovery and Regeneration for Long-Term Participant Development can be accessed at the following link:
http://www.canadiansportforlife.ca/upload/docs/LTPD%20Downloads%20Eng/Recovery%20and%20Regeneration%20for%20Long-Term%20Athlete%20Development.pdf

APPENDIX NINE: Periodization

Information on Periodization can be accessed at the following link:
http://www.canadiansportforlife.ca/default.aspx?PageID=1046&LangID=en

APPENDIX TEN: Parents' Guide to LTPD

As parents, we acknowledge that physical activity and sports play an important role in the healthy development of our children. The Long Term Participant Development (LTPD) model for the development of physical activity and sports provides a safe and progressive pathway for children to take part in healthy activities. It promotes a life-long involvement in physical activities and an opportunity for achieving excellence. It is a step-by-step approach to physical activities, ensuring that the best possible platform is laid for your child to achieve Physical Literacy with enjoyment as they learn new skills and excellence.

Gymnastics is an early specialization sport, so young people are subjected to heavy training loads at a young age. It is your role as a parent to ensure that your child is enjoying the time spent involved in Gymnastics. Monitoring (together with their coach) the progress and development of your child will go a long way to keeping him/her in the sport.

You need to encourage your child to take part in Gymnastics for the right reasons. Besides the obvious benefits of Physical Literacy, your child needs to enjoy the activities, feel accepted and grow in confidence and self-esteem. Learning new skills and improving is often a strong motivator for children. Parents need to acknowledge the effort put in and not the result.

Children who show potential for High Performance programmes, are required to specialise at a very young age. Parents must ensure that their child is made aware of the sacrifices that will need to be made in order to achieve their goals. Children who show potential, but who are not ready or prepared to have Gymnastics as their sole focus, should not be pushed into the programme by either their coach or their parents. They are less likely to enjoy the activities and tend to burn out or drop out of the programme.

Children respond to their parents' level of involvement in their sport or activity. Parents who are active and supportive of their child's sport tend to remain enthusiastic.

FUNdamentals

To obtain optimal development in Gymnastics and thereafter a lifelong retention in physical activities that promotes wellness, children should first start with the FUNdamentals. These are basic movements and skills taught through fun games and activities. They form the foundation for more complex skills and physical activities. It is important to develop these skills before the onset of puberty to optimise future performance and lifelong activity. These FUNdamentals will also develop a child's cognitive ability, so that they will be able to react to their Gymnastics environment – i.e. how to fall when they have landed incorrectly.

Specialisation

Gymnastics skills need to be learnt before physical maturation since it is extremely difficult to master these skills if introduced after puberty. If you feel that your child is being pushed too hard or too early voice your concerns with your child's coach.

Developmental Age

Children develop at different rates, and in order to establish if your children is an early, average or late maturer, you need to understand the following aspects:

- Developmental age refers to the degree of physical, mental, cognitive and emotional maturity.
- Chronological age refers to how old a person is.
- Growth refers to the changes in height, weight and body fat percentage.
- Maturation is more subtle changes, such a cartilage changing unto bone.
- Development is the relationship between growth and maturation over time, including social, intellectual, emotional and motor aspects.

You need to ensure that coaches are keeping the above in mind when designing training and competition schedules for your child.

Research has shown that selection to high performance squads favours children born in the first three months of the year (in sports where the age groupings are based on their age as at 1st January). If your child is born the later part of the year, you need to ensure that your child receives good coaching and support as research indicates that in these children their development does catch up and they do succeed at a later age.

High performance gymnastics is better suited to children who are late maturers.

Your child's development and training schedules

Training, competition and recovery programs should be designed to match the physical, mental, cognitive and emotional development of each gymnast. Gymnasts need to be exposed to ethics and fair play, in accordance with their ability to understand these concepts.

Children should taste success regularly and be given every opportunity to develop their self esteem and confidence, right through to early adolescence.

As your child gets older, social interaction with peers starts to play an important role.

In order to develop the mental focus required for success, young gymnasts need mental training that complements their physical training, based on their developmental stage. Even at a young age, gymnasts need to know how to deal with success and failure. This impacts on their continued involvement in Gymnastics and is a necessary life skill that they need to acquire in order function in everyday life.

In order to optimise training sessions and competitions, and still to be able to enjoy life to the fullest, gymnasts need to be physically and mentally prepared. This includes aspects like nutrition, sleep, rest, regeneration, social interactions and stress management. These must be carefully managed to prevent fatigue. Over training or over competing can also lead to burn-out. A fine balance needs to be established. School demands must also be taken into account. Training schedules must consider academic load, exams and other school based extra-curricular activities. This is particularly important when children are in high school. As a parent you need to monitor your child's progress and intervene when the balance is disrupted.

Periodization and Competition Schedule

Periodization is the time management applied to training. It provides a logical schedule that takes into account the gymnasts developmental stage. It provides gymnasts with a plan that describes how much and how often they should be training during a year. The plan details monthly, weekly and daily sessions, including a breakdown of the specific training components to be covered in each session.

Competition details are also included in the plan. Young children should not be competing or training formally. As they develop and get older, they should move from fun-based activities to a more structured training and competition program. Time spent training will far outweigh the time spent competing. During adolescence, competition time will increase. The ideal training to competition ratios for each stage are detailed in the LTPD. Check that your child is working with a periodization plan.

The 10 year rule

Sport science research has shown that it takes a minimum of 10 years and 10 000 hours of training for gifted athletes to achieve success at the highest levels of elite competitions. This translates into spending about 3 hours a day for 10 years involved in activities related to gymnastics.

Winning at a young age does not guarantee success at an older age. To achieve long term excellence, gymnasts must move through each stage within the LTPD framework.

For gymnasts with high performance aspirations, they need to understand the 10 year rule and be prepared for the amount of time and effort that will be expected from them. In order for these gymnasts to stay in the sport for this long, programs should be fun, promoting wellness and development without a strong emphasis on winning.

The SAGF LTPD is a tool to get all the people involved in Gymnastics (from clubs, schools and community clubs) moving in the same direction. In this way, every gymnast has a structured plan for their development promoting a lifelong participation in the sport.

LTPD STAGE	AGES
Active Start	0-6 years
Fun to Train	Girls: 6-8 years Boys: 6-8/9 years
Learn to Train	Girls: 7-9 years Boys: 8-10 years
Train to Train	Girls: 9-11 years Boys: 10-12 years
Train to Compete	Girls: 10/11-13+ Boys: 12-15+ years
Learn to Win	Girls: 13/14-18+ years Boys: 15-18+ years
Train to Win	Girls: 16+ years Boys: 18+ years
Active for Life	Any age

LTPD Stages in Gymnastics in South Africa

If you would like to view the full SAGF LTPD documents, please contact your child's gymnastics coach or club. These documents provide detailed information about what is experienced at each stage. Documents can also be accessed on www.sagf.co.za

Parents need to supportive of their child's decision to be involved in Gymnastics. The commitment that will be required will be in the form of financial support, transporting, emotional and organisational support. Personal leisure time will be sacrificed as will family time, as the gymnast progresses through each stage.

Parents must ensure that the balance between gymnastics, school, other extracurricular activities and leisure is maintained.

In order to have a positive influence on their gymnasts, parents should bear the following in mind:

- Encourage fair play and following the rules;
- Never resolve conflicts by violent or abusive means;
- Never question an official's judgment or honesty in public;
- Praise the effort and not the result;
- Ensure that their child is enjoying their involvement in Gymnastics;
- Appreciate other competitor's good performances;
- Respect the opinions of other coaches, officials and parents.

APPENDIX ELEVEN: Glossary of Terms

Age:

- **Chronological Age**: the number of years and days elapsed since birth.
- **Relative Age:** refers to differences in age among children born in the same calendar year.
- **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.
- **Generic 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 participant decided to specialize in one particular sport

Ancillary capacities: are the training and performance factors a participant has learnt about taking care of their mind and body while playing sport. The knowledge and experience base of an athlete, including 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 their training and performance levels will be enhanced.

Childhood:
A time period from the end of infancy (the first birthday) to the onset of puberty which is characterized by relatively steady progress in growth and maturation and rapid progress in neuromuscular or motor development. This time period is often divided into early childhood (which includes preschool children aged one to five years), and late childhood (which includes children aged six through to the onset of puberty).

Competition:
The period of time when all components of an athlete's training are successfully integrated in to achieve excellence.

Development:
The passage toward, or percentage of maturity achieved, of various traits including social, emotional, intellectual, physical and motor qualities.

Growth and Maturation:
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.”

Participant:
One can participate in recreation and/or physical activities and in sport as a recreational or competitive athlete.

Peak Height Velocity (PHV):
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 structuring of short and long-term training, competition and recovery periods to provide optimum performances at a given date.

- Single peak refers to one preparatory and one competition period within the year
- Double peak refers to two preparatory and two competition periods within the year
- Multiple peak refers to competing all year round while maintaining physical and technical skills

Physical Literacy is the mastery of fundamental movement skills and fundamental sport skills. "A physically literate person moves with poise, economy and confidence in a wide variety of physically challenging situations, is perceptive in reading all aspects of the physical environment, anticipates movement needs or possibilities and responds appropriately with intelligence and imagination" (Whitehead, 2001)

Puberty:
The phase of growth that begins with onset of hormonal changes in the reproductive system and ends with sexual maturity.

Readiness refers to the level of growth, maturity, and development that enables a child to perform tasks and meet demands through training and competition. Readiness and optimal 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.

Specialization refers to athletes who are limiting their athletic participation to one sport which is practiced, trained for, and competed in throughout the year

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."