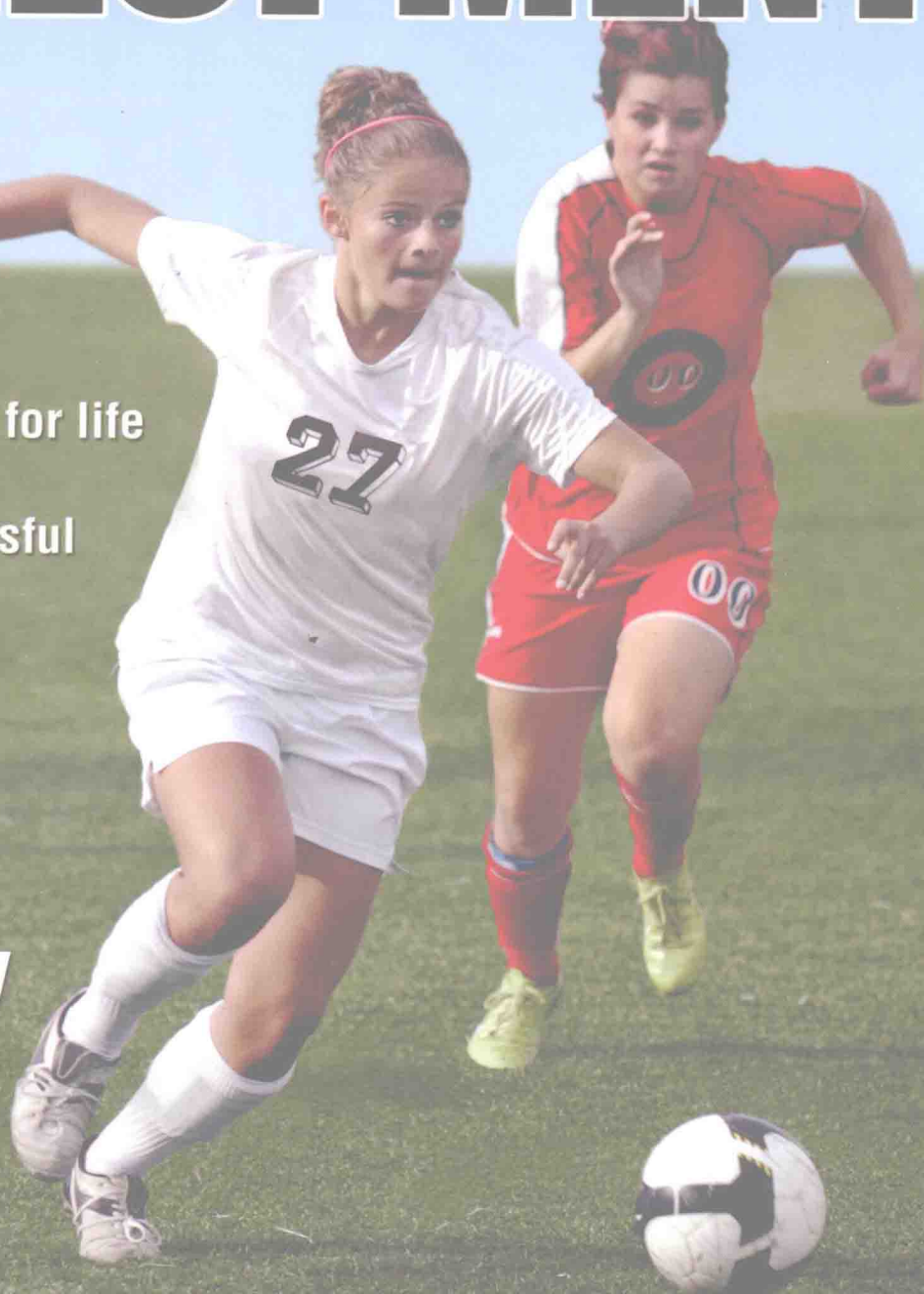


LONG-TERM ATHLETE DEVELOPMENT

A guide to developing

- a philosophy of sport for life
- training frameworks
- a consistently successful organization

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Long-Term Athlete Development

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Preface

This book describes a new approach to athlete-centered sport—the emerging concept of long-term athlete development (LTAD). This stage-by-stage approach gives every child, youth, and adult the greatest opportunity to engage in lifelong, health-enhancing physical activity, and if they have the talent and the drive, to reach their highest sport performance potential.

The book addresses a number of target groups. It is suitable as an undergraduate text for students in kinesiology, physical education, sport management, coaching, recreation, and education, while also meeting the needs of coaches, especially those working with children and youth. Because LTAD addresses the changes needed in sport systems to meet the developmental needs of participants, this book is also helpful for sport organizations and those with management roles within the sport system. Last, it is a valuable resource for parents and guardians who want to make sure that the sport in which their children engage meets each child's developmental needs, is ethical, and is organized with the best interest of the child as the key goal.

This book evolved from the work of a group of sport experts tasked with changing the sport system in Canada from one that produced “champions by chance” to one that would give athletes the best chance to reach their full potential. An analysis of existing sport programs around the world showed that most developed athletes by doing the same things in the same ways regardless of the athlete's age or—more important—stage of development. Based on an evaluation of the problems inherent in many sport systems, and a careful review of the existing knowledge about healthy child development, these experts developed a systematic approach to optimal sport and

physical activity development. That process was called long-term athlete development, and it is now being implemented in many sports and in many countries around the world.

Too often, coaches deliver adult versions of sport (often adult male versions of sport) to children and youth of both sexes because they are unaware of the need for different types of training at different stages of human development. LTAD addresses this issue while also removing the artificial barrier between high-performance sport and engagement in lifelong, health-enhancing physical activity. LTAD recognizes that both high performance and lifelong engagement are built on the same foundation of physical literacy, and that an effective sport system builds a solid foundation before moving toward sport specificity.

This text, for the first time, brings together the large body of LTAD knowledge that has been developed over the past decade. The basic ideas of LTAD have been sharpened through the development of more than 100 sport-specific LTAD models in more than a dozen countries.

Part I of the text addresses the concepts that underpin long-term athlete development and explains how those concepts can be applied to all participants, including those with physical and intellectual disabilities. In part II the foundation concepts are expanded through the description of the key factors that guide and shape LTAD, including physical literacy; the differences between early and late specialization sports; variations in trainability across the life span (including windows of optimum trainability); and the importance of taking into consideration the

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stages of participants' intellectual, emotional, and moral development. Information is also presented on the time needed to develop excellence in sport and how periodization of training is related to the stage of athlete development. Because LTAD is about changing the whole sport system to improve the quality of the sport experience for participants, the amount, type, and rules of competition for different stages of athlete development are examined. Also addressed is how the many systems that affect athletes (e.g., sport organizations, schools, recreation systems) can work together to enhance the sport experience, rather than making conflicting demands. The key issue is that LTAD is a process of continuous improvement.

Part III looks at the seven stages of human development, from Active Start (the first six years of life), in which basic human movements are mastered, through the FUNdamentals stage (ages 6 to 9 for boys, 6 to 8 for girls), during which fundamental movement skills are developed, and through to the Learn to Train stage (approximately 9 to 12 for boys and 8 to 11 for girls), during which it is critical that children master a wide range of foundational sport

skills. These three stages combined cover the period of development of physical literacy, after which people can pursue high-performance sport excellence. This occurs in the three stages of Train to Train (adolescent growth period), Train to Compete (postadolescent period), and Train to Win (early adulthood). This part of the text outlines optimum programs for participants at each stage of the LTAD model. The goal is to enable everyone to reach the final stage, Active for Life, which offers a variety of physical activities ranging from informal recreation to masters competitions.

This text is a road map to the development of high-performance athletes and the creation of healthy, active citizens. The LTAD model recognizes that athletes often change their focus. Some drop out of the high-performance stream, but they can rejoin that stream at any time if they maintain their sport engagement. You can use this book as an overview of athletic development from birth to adulthood and beyond, or, if your interest is more focused, to plan detailed programs for a particular group of athletes or participants at a specific stage of life. How you use it is up to you.

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Part I

Introduction to Long-Term Athlete Development

Today, children, teens, and adults of all ages face greater challenges than ever before. Obesity has become an epidemic and a major threat to the health of nations as obese people avoid sport and physical activity to escape stigma and embarrassment. Parents with visions of Olympic glory or professional riches for their children think that early specialization is the key to ultimate success and put their children in specialized programs far too soon. Meanwhile, the video game industry pours billions of dollars into entertainment that keeps children (and adults) more sedentary than ever before, while promoting virtual sports and virtual physical activity with new pseudo motion games. These problems are global and become more pressing every day.

Despite these problems, we have all seen and been awed by the transformation of a young boy or girl from awkward sport beginner to superb athlete. We instinctively know there have been coaching and training along the way, as well as support from caring adults and opportunities for meaningful competition. And we know, without a doubt, that there have been glorious moments of success, but also moments of crushing disappointment along the way. Some athletes' development has been haphazard, even random, creating "champions by chance," whereas others' has been planned, systematic, progressive, and developmentally appropriate.

This planned, systematic, and progressive development of individual athletes is called long-term athlete development (LTAD; also often called LTPD for long-term participant development or long-term player development). LTAD is the answer to one fundamental question: *What needs to be done at each stage of human development to give every child the best chance of engaging in lifelong, health-enhancing physical activity; and for those with the drive and talent, the best chance of athletic success?* Effective long-term athlete development focuses not on short-term gains and early success, but on what is best for the sport participant throughout life.

Many sport leaders are reinventing sport to better contribute to the well-being of society, the ethical development of athletes, and the development of higher-quality sporting experiences for everyone. To do this, they work diligently to link traditionally disconnected institutions (within sport and physical activity) as well as to link sport and physical activity to other sectors of civil society, such as education and health. This collaboration is needed so that the developing athlete is not harmed by the cumulative, and sometimes contradictory, demands of school, club, and representative teams, on which they might play a single sport. Because athletes develop within a number of systems, those systems need to work together to ensure optimum player development.

Part I of this text is organized into two chapters. Chapter 1 provides an overview of LTAD that briefly covers the history of athlete development models. Following a description of the shortcomings of current sport systems, and the consequences for individuals, sport, and society that result from these shortcomings, is a description of the evolution and development of the LTAD model.

Because LTAD represents a fundamental shift in the way sport is delivered, chapter 1 identifies the desired changes to sport and outlines the three major goals of the model: developing physical literacy, improving sport performance, and increasing levels of physical activity. The current fragmentation of the sport experience caused by the “us versus them” mentality of physical education, school sport, club teams, and national and regional representative and development programs is addressed along with the need to ensure that programs do what is best for the participant rather than what is best for the program.

LTAD is both a guide for developing athletes and physical activity participants and a powerful tool for change within sport systems. Its goals are to make sport more inclusive, more integrated, and of higher quality, while making the development of high-performance athletes more systematic.

Chapter 2 reinforces the critical idea that LTAD is a process for everyone by describing how the model can be applied to people with disabilities. Following a brief description of the way sport for those with disabilities is organized, and the types of people with disabilities who engage in sport, the chapter presents the LTAD process for athletes born with disabilities (congenital disabilities) and those who acquire disability through accident or illness.

In addition to the seven stages of the able-bodied LTAD model, the model for those with disabilities has two additional stages (awareness and first contact). Variations in the seven stages of LTAD as a result of disability are presented, along with some special considerations when dealing with specific types of disability.

Chapter 2 presents ways to support athletes with disabilities throughout their development and emphasizes the importance of properly

classifying these athletes. Guidance is given concerning ways to audit facilities to ensure that they are accessible to all athletes, and changes to the sport system that would encourage participation in sport by athletes with disabilities are presented.

Chapter 2 concludes with the observation that there are far more similarities between LTAD for able-bodied athletes and LTAD for athletes with disabilities than there are differences. Adapting LTAD for athletes with disabilities is relatively easy if there is a willingness on the part of coaches and sport administrators.

Limitations of LTAD

Any attempt to fundamentally change an institution as old and as important as sport will face challenges, and for this reason it is important to address the limitations of the LTAD model. The strength of the LTAD model is that it is based on three solid foundations:

1. What is known about the stages of human growth and development
2. The academic and scientific information regarding enhancing physical capacity, particularly for children and youth
3. What effective youth sport coaches have found to work

Combining theory and practice into a single model is both the great strength of long-term athlete development and the focus of criticism aimed against it. The model is an attempt to be “roughly right” about the whole process rather than “exactly right” in every detail while risking missing the big picture.

LTAD also fills a void. In the past, information about how to systematically develop sporting excellence and increase active participation has been lacking. In fact, in many instances high performance and participation have been seen as an either-or choice for sport systems and particularly for national sport organizations (NSOs). NSOs were originally developed to govern participation in particular sports and to organize and sanction events and championships, and they were good at these tasks. In more recent years, NSOs have invested more

time and energy in development, although this development is more frequently of the sport than of the athletes in the sport.

One criticism of LTAD is the lack of proof that it is better than the “old” way of developing athletes. In one sense this is true. First, there is no single “old” way of developing athletes, just an accumulation of practices and activities passed down within every sport. Second, no real-world experiment could ever be conducted in which young athletes are assigned to traditional or LTAD development pathways for the decade or two required for full athlete development. What we do understand are the many problems with the unsystematic athlete development systems currently in place. LTAD is designed to eliminate as many of those problems as possible. It is a model that relies on face validity. The question, based on what we know about children and youth and about sport, is: Does it make sense?

LTAD is based on the Japanese concept of *kaizen*, a word that can be translated as “improvement,” or “change for the better.” This philosophy has been imported to North America and applied to many types of business and social undertakings. At its heart is the idea that everyone in the system is responsible for the quality of the final product; as such, everyone is responsible for looking for ways to reduce errors and make things better. It is in this spirit of continuous improvement that leaders have developed, and continue to develop, LTAD.

As new information becomes available, and as the body of evidence from sports that have adopted LTAD increases, continual fine-tuning of the process will take place. There is no claim that LTAD as currently formulated is “exactly right,” but a great interest exists in getting it right, and that will require a process of constant evolution and updating.

Long-Term Athlete Development Model



Bill filled the van with equipment, preparing for another big weekend of sports with the kids. Today was special, though, because Grandpa (his father) was coming to this morning's games. He hadn't been to a game in a long time, and with Grandpa getting older, there wouldn't be too many games left for him to see.

As Bill loaded the equipment, he reflected on the Youth Sport Association meeting he'd attended the previous evening. An approach called long-term athlete development (LTAD) had been introduced. Based on LTAD, a number of changes were suggested with regard to how the association ran its competitions. The leaders also talked about the need to focus on the needs and stages of development of the participants. Other things were said at the meeting, but, he had to admit, he had stopped listening because he just wasn't comfortable with all of the recommended changes.

Bill snapped back to reality. Where were the kids? They had to get going to pick Grandpa up and make it to the game on time. He found the kids where they usually were—in front of the screen, gaming. This drove Bill crazy because he felt he had little control over how much time the kids spent playing these games. He set limits at home, but the kids always seemed to find friends who had no limits. What really troubled Bill was that he could see that his kids were a bit heavy. Not really heavy, but heavier than he had been as a child.

Finally, they were out the door. They picked up Grandpa and they were soon in the stands. It was a good game—a bit of a blowout, but Bill's kids were on the winning team when the game ended so he didn't care. "So Dad, what did you think of the game?" he asked. Much to Bill's surprise, Grandpa launched into a rant about how the game wasn't like it had been when he was a kid. "There were girls playing! The equipment was different! Everything was different!" he railed. This hit Bill hard. Just the night before at the meeting, he had been arguing to keep the game the same because that was how it was traditionally played. But Grandpa was saying that many changes had happened even since his day.

Bill wondered if he was behind the times. Was he thinking about sport too conventionally? He was shocked that his father couldn't enjoy his kids' game just because of a few changes in format and style. Considering his own reaction to LTAD, was he thinking like Grandpa? Bill's mind came back to reality again as he looked around for his children. He noticed that when the game was over, only a few players remained on the field to play around; his kids were already in the van with their eyes locked on their handheld screens. Their definition of fun sure was different from his. Perhaps it was time for Bill to consider these LTAD changes.

This chapter provides a brief history of the evolution of the LTAD model and outlines the seven stages and 10 key factors of the model. It also describes how participation and performance work together to promote excellence and make people active for life. The shortcomings and consequences of the current sport system are also addressed, as is how

LTAD can be used as a philosophy, guide, and tool for positive change.

Beginnings of LTAD

In 1983 Harsanyi reviewed the literature of athlete development models from the 1950s to the 1980s and concluded that most of them

were characterized by four stages: child, juvenile, junior, and adult—or basic, intermediate, advanced, and elite. All of the models were based on chronological age and did not consider biological or developmental age. This pyramid model, shown in figure 1.1, systematically excludes people along the sport development pathway, focusing only on athletes who make the cut to the next level. As the arrow depicts in figure 1.1, the pyramid system eliminates participants at every level until only a few remain to represent their country. In this system of exclusion, those not progressing to the next level are not valued. This traditional pyramid model, created in the 1960s, is still used in many sports today. The systematic elimination of participants from the club and national levels results in only a few high performers remaining at the highest level. The sport system did not care where these excluded participants went. This pyramid model disconnected sport and recreation in North America: recreation valued participating outside the athlete development pathway, whereas many in sport did not.

In 1989 Sanderson introduced an athlete development model in his article “Growth and Development Considerations for the Design of Training Plans for Young Athletes.” This model took into consideration the growth and maturation processes of young, developing athletes. Sanderson’s work was important because it considered developmental age a crucial factor in athlete development, whereas other models were based only on chronological age. In 1995

Balyi and Way developed a four-stage model called long-term athlete development that, by 2005, had evolved into seven stages. This book is based on this model.

The original impetus of the Balyi and Way LTAD model was to improve the quality of sport programs so all participants, including top athletes, could reach their potential. In 2005 Balyi and colleagues built on the 1995 model to develop LTAD as a practical pathway incorporating empirical coaching observations and experiences; coaching science; and human growth, development, and maturation principles. Similarities also exist between LTAD and the emerging field of developing expertise in sport.

LTAD was created to improve the quality of sport and physical activity so participants could realize their potential, whatever it may be. To improve the current sport system’s structure for people at all levels of involvement, a fundamental change is necessary. Central to this change is the clear identification of principles and guidelines that focus on the needs and goals of participants throughout the life cycle. This is the aim of LTAD: to address the many shortcomings and resulting consequences that impede the current system and to provide positive experiences for participants of all abilities.

The shortcomings of the current system of developing athletes to become excellent or to become active for life are the following:

Poor Training, Practice, and Competition Theories

- In team sports, young athletes overcompete and undertrain.
- Adult training and competition programs are superimposed on developing athletes.
- Training methods and competition programs designed for male athletes are superimposed on female athletes.
- Preparation is geared toward the short-term outcome (winning) and not toward the process of long-term development.
- Chronological rather than developmental age is used in training and competition planning.

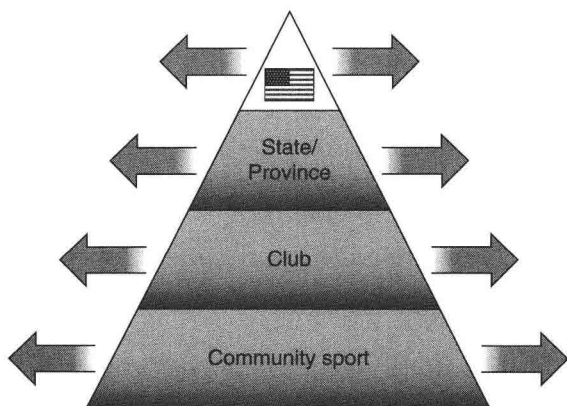


FIGURE 1.1 The traditional athlete development model.

- Coaches largely neglect the sensitive periods of accelerated adaptation to training.
- Fundamental movement skills and sport skills are either not taught properly or not taught at all.
- The developmental training needs of athletes with disabilities are not well understood.

Ill-Structured Programs

- The most knowledgeable coaches work at the elite level; volunteers coach at the developmental level, where quality, trained coaches are essential.
- Parents are not educated about LTAD.
- In most sports, the competition system interferes with athlete development.
- There are ineffective talent identification (TID) systems.
- There is no integration of school physical education programs, recreational community programs, and elite competitive programs.
- Sports have athletes specialize too early in an attempt to attract and retain participants.

Inactive and Unhealthy Lifestyles

- An unhealthy, sedentary lifestyle dominates everyday life.
- People lack knowledge about active and healthy lifestyles.
- People have poor nutritional habits.

Lack of Working Together

The following areas lack integration and communication:

- Education
- Health
- Sport
- Recreation

The consequences of these shortcomings are the following:

Serious Health Issues

- Lack of participation resulting in a sedentary way of life
- Significant pressure on government revenues to deliver rehabilitation programs

Limits to Athletic Development

- Poor movement abilities
- Lack of proper fitness
- Poor skill development
- Bad habits developed from a focus on winning
- Children not having fun as they play adult-based programs
- Undeveloped and unrefined skills as a result of undertraining
- Female athletes not reaching their potential because of inappropriate programs
- Athletes failing to reach their genetic potential and optimal performance level

Ineffective Collaboration and Inefficient Delivery of Programs

- Lack of coordinated policies
- Lack of communication and collaboration among education, health, sport, and recreation
- Failure to reach optimal performance levels in international competitions
- Athletes pulled in different directions by school, club, and provincial teams because of the structure of competition programs
- Lack of remedial programs, implemented by provincial and national team coaches, to counteract the shortcomings of athlete preparation
- No systematic development of the next generation of successful international athletes
- Fluctuating national performances as a result of a lack of TID and a developmental pathway