

VOLLEYBALL FOR LIFE:

LONG-TERM ATHLETE DEVELOPMENT FOR VOLLEYBALL IN CANADA





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by
Volleyball Canada

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Introduction

In Canada the sport of volleyball is popular at all levels from elementary school to recreational both indoors and on the beach. There are literally hundreds of thousands of Canadians who are playing volleyball. Despite the large participant base the popularity of the indoor version of our sport has not translated into any significant results internationally. In the beach discipline, we have achieved some success and primarily by the men's team of Heese and Child who won a bronze medal at the Atlanta Games in 1996, and who have consistently maintained a Top 20 world ranking. Moreover, current competitive results strongly suggest that we are continuing to lose ground to other countries.

Volleyball Canada's current strategic plan identified the following objectives for our high performance teams:

- qualify the maximum number of teams for both the 2012 Olympic and Paralympic Games.
- win at least two medals.

Since indoor volleyball was included in the Olympic Games in 1964 we have had 22 Olympic qualifying opportunities, but have only qualified a total of 6 times—with no podium finishes. Other volleyball disciplines have fared a little better, yet we have managed to win only two Olympic

medals (1996 bronze in beach, 2000 silver in the Paralympics). Still, the goal in six years is to qualify all teams and win two medals while continuing to support and adhere to the same athlete development model.

Volleyball is not unique in its inability to achieve consistent, international success. There are many other sports in Canada that are also struggling. This reality prompted Sport Canada to undertake a thorough review of the Canadian sports landscape to determine what we need to do in order to achieve our objectives as a sporting nation. The bottom-line is, if we want to achieve different results we need to change.

The Federal, Provincial and Territorial Ministers of Sport identified Long-Term Athlete Development (LTAD) as the framework for sport development in Canada. Ministers agreed to proceed with the implementation of this new approach to sport and physical activity in consultation with National, Provincial and Territorial Sport Organizations. Through the improvement of physical literacy (fundamental skills such as throwing, running and jumping), the LTAD model will help develop a life-long involvement of Canadians in physical activity and sport participation as well as producing future athletes.

The definition of insanity is doing the same thing over and over and expecting different results.

—Benjamin Franklin

In December of 2004, over 60 of the most prominent and experienced volleyball coaches, players and administrators in Canada gathered in Toronto to discuss the current state of our sport, the desired state and what we need to do in order to achieve the desired state. Following this meeting, Volleyball Canada in partnership with Sport Canada made a strategic decision to embrace and implement the LTAD model.

LTAD offers a pragmatic and scientific approach to developing our athletes. To date, competition was not defined for volleyball it “just happened”.

LTAD represents a systematic, integrated system that is built around developing athletes and identifying appropriate levels of competition at each stage. LTAD is about “volleyball for life”.

Finally, and possibly most importantly, we as a volleyball community need to accept a collective responsibility for the development, growth, successes and failures of our National Teams. We need to take greater interest and pride in our high performance athletes and recognize that we all have an important role to play in their success.

Why Do We Need Long-Term Athlete Development?

Successful athletes who want to continue to do well must continue to learn and improve. If their development stops, they will get left behind. The same is true of the Canadian volleyball system. We must continue to learn and improve if we want to be successful. As well, Canadian volleyball players have not been consistent performers at the international level. What can we do to improve our performances and make our programs consistently strong year after year? How and to what extent does the existing system enhance athlete development and performance? How does it interfere? Where can we improve? LTAD will guide us in analyzing the Canadian volleyball system, highlighting its gaps and shortcomings, and aid in developing solutions.

LTAD will also contribute to domestic development. It can help programs address issues such as:

- How to attract people to volleyball and retain them.
- How to provide effective and enjoyable programs for all participants.
- How our school, club, and talent identification systems (as well as others) can meet the needs of volleyball players across Canada and at all stages of development.
- What programs should be developed to encourage athletes with a disability.

Shortcomings

Sport technical experts have identified a list of shortcomings in the Canadian sport system and their consequences for athletic participation and performance. LTAD was developed by sport scientists and technical experts to address these shortcomings. Some of the key observations are listed below:

- Training and competition are based on chronological age, rather than developmental age.
- Training programs fail to take full advantage of critical periods of accelerated adaptation to training.
- Training and competition in the developmental stages place too much emphasis on short-term outcomes (winning) rather than on process (training and development).

- Developing athletes tend to under-train and over-compete.
- Adult training and competition programs are imposed on developing athletes.
- Training methods and programs developed for male athletes are imposed on female athletes.
- Fundamental movement and sport skills are not taught properly.
- Physical education programs in schools, recreational programs, and high performance programs are poorly integrated.
- The most knowledgeable and experienced coaches are encouraged to work with older high performance athletes; coaches who work with developing athletes often lack the necessary training, skills, expertise, and experience.

Consequences of these shortcomings include:

- Children not having fun because the programs are designed for adults and focus on outcome rather than process.
- Children and adults with poor movement abilities, poor skills, and lack of a proper fitness base.
- Athletes pulled in different directions by school, club, provincial, and national team demands.
- Athletes who “fall through the cracks” in the system; that is who fail to achieve their potential and leave the sport.
- Athletes frustrated by the lack of consistent and integrated support that will help them to perform well.
- A lack of systemic development for the next generation of international athletes.
- Inconsistent international performances.
- Injuries, burn-out, and frustration.

The overall sport system and the volleyball system must consider the principles of growth and maturation in order to provide athletes with what they need at different stages in their development.

What is Long-Term Athlete Development?

LTAD is a training, competition, and recovery program. It establishes guidelines for coaches, athletes, administrators, and parents in all areas, including planning, training, competition, and recovery. It takes into account the ever-changing competitive program and the overall demands on the athletes. Long-term athlete development is also about identifying potential and providing appropriate developmental pathways for that potential to be fully realized. It is about ensuring that everyone who wants to learn sport has the opportunity. ... The best sport development programs have a long-term vision, adapt and account for the rates at which an athlete matures rather than planning programs based solely on chronological age, are athlete centered, coach driven, but strongly supported by administration, sport science, and sponsors.

—Robertson and Way

Simply put, LTAD is a sustained and progressive raising of capacity over an extended period of time of ten years or more. Rome wasn't built in a day and neither are successful athletes. But it is more than just a training program. It takes into consideration the entire sporting environment in which the athlete exists to ensure that the entire system is structured such that it provides the greatest benefit to the participant.

Sport for Life

LTAD enables athletes to experience training and competition programs that consider their biological and training ages and prepares them for a life in sport. It will help to cultivate a culture of lifelong participation by highlighting sport's value in improving health and well being, and identifying

an optimal path for athletes to meet their sporting goals—whether they are recreational in nature or have podium aspirations. It will ensure that all individuals achieve “physical literacy” and are well-grounded in basic movement skills and patterns, enabling a life-long enjoyment of sporting activities.

The 10-year Rule

Scientific research has identified that it takes at least 10 years and 10,000 hours of training for a talented athlete to reach the top levels. For example, the United States Olympic Committee found that, on average, it took 13 years for an athlete to make the Olympic team and 15 years to win an Olympic medal. Athlete development is not a short-term process. Short-term performance goals must not be allowed to undermine long-term development.

The FUNdamentals

Fundamental movement skills—agility, balance, coordination—and fundamental sport skills—running, jumping, throwing, kicking, catching, and swimming—are the basis for all sports. Children should develop these skills before the onset of their growth spurt in adolescence. An individual who is not competent in the basic movement skills will have difficulty participating in a range of sports and will have fewer opportunities for athletic success and life-long enjoyment of physical activity.



Figure 1 – Circle of a Physically Active Life

Specialization

Volleyball is a late-specialization sport. We depend on other components of the sport system such as schools, recreation centres, and other sports to provide children with opportunities to develop physical literacy and early speed and suppleness. Athletes need to participate in a variety of sports and physical activity during their early sport years to succeed in a late-specialization sport such as volleyball.

Identification of Sport Pathways

Long-Term Athlete Development encourages the creation of clear pathways for athletes to progress within their chosen sport. However, it is not just a high performance sport framework. It is important that any Long-Term Athlete Development strategy for volleyball ensure that those young people who want to get better at volleyball have the right sort of opportunities to do so. However, it is equally important that the volleyball system encourages fun and participation and promotes it as an enjoyable, healthy and valuable part of their overall leisure lifestyle so that all players—no matter their skill level or performance aspirations—are able to enjoy the sport and receive the lifestyle benefits it has to offer. In essence, it recognizes that the health and well-being of the nation and the medals won at the international level are a by-product of the same system.

Integrated and Aligned Sports Systems

LTAD provides the opportunity to develop and build an integrated sports system that aligns the needs of young people's development to the elements of the system that are being provided (e.g. coaching, competition, club structures and so on). Therefore, when developing our 'sport framework' for

volleyball, we will need to challenge and adapt or develop the key elements of the 'system' that are integral to delivery, including coaching and player support structures, against the Long-Term Athlete Development model with the needs of the athlete fundamentally central to all discussions. Each element in the system plays a crucial role in athlete development. For the system to work well, they must be mutually supportive, clear in their roles and responsibilities, and understand how they contribute to the "bigger picture" of athlete development.

LTAD will allow volleyball players (and their parents) to identify the opportunities available to them and to understand the pathway they need to follow. If they have high performance goals, they will know (in general terms) what type of training, competition, and recovery they require at each stage of their development, when they need to become more committed to one sport and what they need to do to move up through the system. They will have the knowledge to advocate for programs, coaching, and other services that will support their long-term development. This will lead to a better horizontal and vertical integration of the key elements of the sporting system across the stages of LTAD, which will help to determine what needs to be done, at what level and by whom, thus leading to better coordination from a delivery perspective by all those involved in volleyball.

Developmental Age

It is important when discussing LTAD that developmental age instead of just chronological age is considered when creating sport programs. Children develop at different rates. Children between the ages of 9-16 can differ by up to four

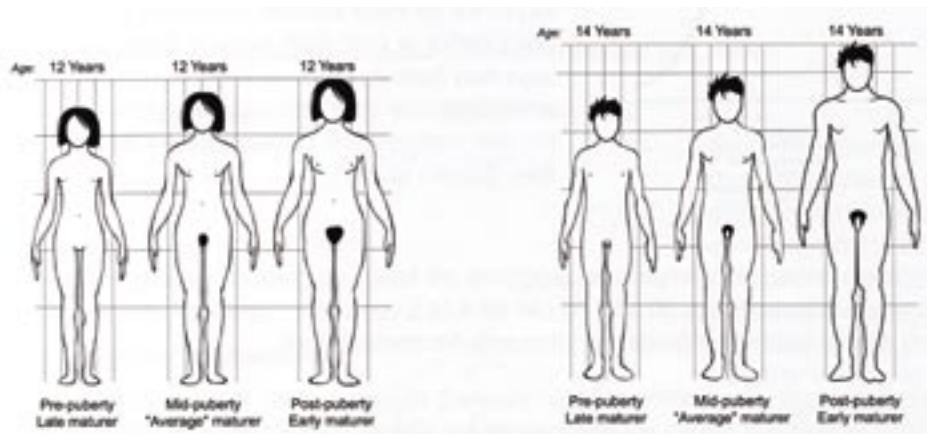


Figure 2 - Maturation in Girls and Boys
(adapted from "Growing Up" by J.M. Tanner, Scientific American, 1973)

years in their level of biological maturation. Often the Canadian volleyball development system (coaches, administrators, parents, etc.) wholly ignores these different rates of development. Instead we often see adult programs imposed on developing athletes. This approach to athlete development has significant shortcomings which have a great impact on athlete development over the long-term.

Developing systemic methods of identifying early, average, and late maturers in our programs is very important in determining an athlete's optimal trainability and readiness. The development of athletic capacities such as technical skill, strength, speed, etc. is closely linked to growth

and development.

When introduced at the appropriate time, future development in these areas can be optimized. However if training in one of these areas begins too soon, it will likely be at the expense of another critical area; or if training of these areas begins too late, then maximum potentials will likely never be reached.

Currently most volleyball programs for youth are based on chronological age, but it is a poor guide to segregate adolescents for competitions. Early developers will usually have a significant advantage over other individuals in most youth programs. However, after all athletes have

Windows of Trainability	
Trainability refers to how responsive an individual is to a training stimulus at different stages during growth and maturation. Although all physiological capacities are always trainable, there are critical periods in the development of a specific capacity during which training has the most effect. These are referred to as “critical windows of accelerated adaptation to training.” Correct training during these windows is essential for individuals to achieve their genetic potential.	
Scientific evidence shows that humans vary considerably in the magnitude and rate of their responses to a given stimulus. This variability underlines the need for a long-term approach to athlete development, so that athletes who respond slowly are not short-changed.	
Sport scientists have identified five physical capacities (the five “S’s” of training and performance): Stamina, Strength, Speed, Skill, and Suppleness. For stamina and strength, the critical periods of trainability are based on developmental age. Note that, on average, girls reach these windows of trainability at a younger chronological age than boys.	
Stamina (Endurance)	The critical window of trainability occurs at the onset of Peak Height Velocity (PHV), which is the adolescent growth spurt. Athletes should focus on aerobic capacity training as their growth rate accelerates; aerobic power should be introduced progressively after their growth rate decelerates.
Strength	For girls, there are two critical windows of trainability for strength. The first is immediately after PHV and the second is at the onset of menarche. For boys, there is one strength window and it starts 12 to 18 months after PHV.
Speed	There are two critical periods of trainability of speed. During the first speed window, training should focus on developing agility and quickness. During the second speed window, training should focus on developing the anaerobic alactic energy system. For girls, the first speed-training window occurs between the ages of six and eight years and the second window occurs between the ages of eleven and thirteen years. For boys, the first speed training window occurs between the ages of seven and nine years and the second window occurs between the ages of thirteen and sixteen years.
Skill	For girls, the window of optimal skill training occurs between the ages of eight and eleven years and for boys it occurs between the ages of nine and twelve years. During this window, children should be developing physical literacy; that is, competence in the fundamental movement and sports skills that are the foundation for all sports. Competence in these skills makes it easier for children to learn and excel in late-specialization sports such as volleyball.
Suppleness (Flexibility)	For both girls and boys, the critical window of trainability for suppleness occurs between the ages of six and ten. In addition, special attention should be paid to flexibility during PHV.
For more information refer to www.ltad.ca	

gone through their growth spurt, it is often later maturers who have greater potential to become top athletes provided they experience quality coaching throughout that period.

Physical, Mental, Cognitive, and Emotional Development: A Holistic Approach

Coaches, other athlete support personnel, as well as sport planners should consider the *whole* athlete. At each stage, the emotional, mental, and cognitive development of each athlete, in addition to their physical development, needs to be considered when planning training, competition, and recovery programs.

Continuous Improvement

LTAD is based on the best available scientific research and empirical evidence, but knowledge and understanding evolve. LTAD must respond to, integrate, and in some case, stimulate volleyball-related research and innovation.

Periodization

Periodization provides the framework for organizing training (for example, mode, volume, intensity, and frequency of training), competition, and recovery into a logical and scientifically based schedule in order to achieve optimum performance at the required time. A periodization

plan that takes into account growth, maturation, and trainability principles should be developed for each stage of athlete development.

Participant Tracking

Knowing who is involved in a sport, what types of qualities they possess, and how they access programs and services is critical to achieving a full understanding of a sport's situation and identifying "gaps" in the system. Full knowledge of a sport's clientele is fundamental to ensuring that the most appropriate programs are being implemented and that the entire sport community is being appropriately serviced.

Calendar Planning for Competition

The system of competition makes or breaks athletes. The competition system and calendar should support and be consistent with LTAD. Different stages of development have different requirements for the type, frequency, and level of competition. At some stages of development, training and development should take precedence over formal competition and short-term success. At later stages, it becomes more important for the athlete to experience a variety of competitive situations and to perform well in high-level competition.

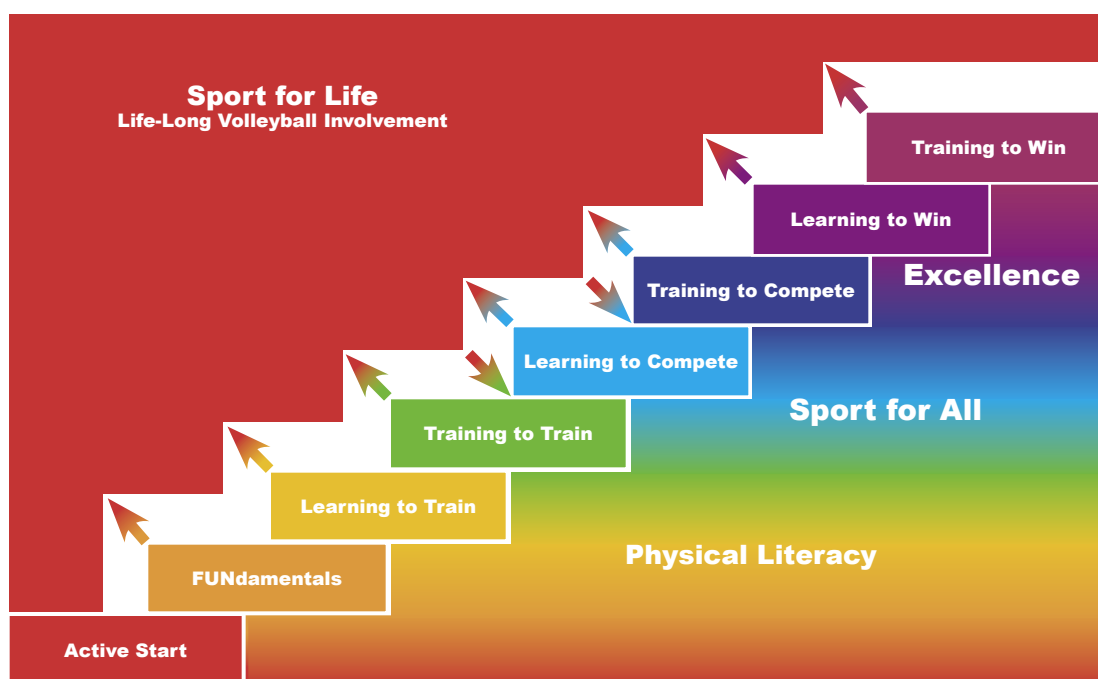


Figure 3 – Steps to Athletic Success

A specific and well-planned practice, training, competition and recovery regime will ensure optimum development throughout an athlete's career. Ultimately, sustained success comes from training and performing well over the long-term rather than winning in the short-term. There is no short cut to success in athletic preparation. Overemphasizing competition in the early phases of training will always cause shortcomings in athletic abilities later in an athlete's career.

—Balyi, Hamilton, 2004

Stage Feature	FUNDamental	Learning to Train	Training to Train
Overall Goal	Fun and participation	Overall sports skills and the introduction of certain volleyball skills	Develop physical capacities and volleyball skills
Chronological Ages	Males: 6-9 Females: 6-8	Males: 9-12 Females: 8-11	Males: 12-16 Females: 11-15 Age is growth spurt dependent
Focus	Play	Initiation	Identification
Skill Development	The first contact the athlete has with the skill. The athlete may have no idea of what to do in order to perform the skill.	The coordination of the key components of skills and executing them in the correct order is now possible. Movements are not yet well synchronized or under control, and lack rhythm and flow. Execution is inconsistent, lacks precision and deteriorates rapidly when the athlete tries to execute quickly or under pressure.	A more personal athletic style is developing but performance remains inconsistent. Skills performed under easy and stable conditions demonstrate consistency, control, and precision. Some performance elements can be maintained when the athlete is under pressure, conditions change, or demands increase.
Goals	<ul style="list-style-type: none"> • General, overall development • Runs, jumps, throws • ABCs of athleticism - agility, balance, coordination, speed • Medicine ball, Swiss ball, own body strength exercises • Introduction to simple rules and ethics of sport • Introduction to generic sport tactics (use of speed, power, endurance) 	<ul style="list-style-type: none"> • Major skill learning phase: basic sport skills should be learned before entering next phase • Mental, cognitive and emotional development • Introduction to mental preparation • Medicine ball, Swiss ball, own body strength exercise • Introduction to ancillary capacities • Participation in complimentary sports 	<ul style="list-style-type: none"> • Major fitness development phase (aerobic and strength-PHV is the reference point) • Mental, cognitive and emotional development • Development of further mental preparation • Introduction of free weights • Development of further ancillary capacities • Frequent musculoskeletal evaluations during PHV
Discipline Integration	Separate indoor and beach programs do not exist	Separate indoor and beach programs do not exist	Indoor and beach competitions should not conflict
Periodization	No periodization, but well-structured programs	Single periodization	Single or double periodization
Training to Competition Ratios	No ratio recommended (wide range of activities)	50:50	70:30
The proposed ratios represent an average throughout one competitive season. These ratios will vary in each stage depending on the period of the season (GPP, SPP, CPP)			

The Developmental Stages of the Volleyball Player

The Long-Term Athlete Development strategy created for volleyball is largely based on a LTAD model developed by the Sport Canada LTAD expert team. Most practitioners are now agreed that this model (or variations thereof) should underpin the development of sport in Canada and increasingly become the common language of sports development.

By applying this Canadian LTAD model to volleyball, development has been divided into a series of stages with each stage having unique development goals. Only by building a sport

foundation in each phase can players be optimally prepared to meet their volleyball goals.

The identified eight stages build on much of the existing good practice within volleyball's development programs and essentially are an evolution of the system, rather than a revolution, but will undoubtedly challenge some of the existing practices and structures. LTAD also focuses on a truly athlete centered approach and it is an approach that everyone involved in volleyball's development will need to familiarize themselves with.

Learning to Compete	Training to Compete	Learning to Win	Training to Win	Stage Feature
Consolidate volleyball skills and develop fitness	Refine volleyball skills and further develop fitness	Maintain volleyball skills and develop the ability to sustain high volume and high intensity training	Optimize performance for peaking at selective competitive events	Overall Goal
<i>Indoor Volleyball</i> <ul style="list-style-type: none"> • Males: 17-19± • Females: 16-18± <i>Beach Volleyball</i> <ul style="list-style-type: none"> • Males: 16-20± • Females: 15-19± 	<i>Indoor Volleyball</i> <ul style="list-style-type: none"> • Males: 20-21± • Females: 19-20± <i>Beach Volleyball</i> <ul style="list-style-type: none"> • Males: 18-24± • Females: 17-23± 	<i>Indoor Volleyball</i> <ul style="list-style-type: none"> • Males: 22-25± • Females: 21-24± <i>Beach Volleyball</i> <ul style="list-style-type: none"> • Males: 22-28± • Females: 21-27± 	<i>Indoor Volleyball</i> <ul style="list-style-type: none"> • Males: 26-34± • Females: 25-32± <i>Beach Volleyball</i> <ul style="list-style-type: none"> • Males: 26-34± • Females: 25-32± 	Chronological Ages
Specialization	Refinement	Optimization	Professionalization	Focus
Athlete personal style continues to evolve. Movement control, synchronization, and rhythm are stable when performing the skill under more complex conditions. However when the athlete is under pressure, conditions change, or demands increase, performance still remains inconsistent.	Athlete personal style is well established. Movements are executed similar to the ideal model in terms of form and speed. Performance is consistent and precise under very demanding conditions. Movements have been automated allowing increased external focus to make rapid adjustments as necessary.	A fairly definitive personal style is established. Movements are performed according to the ideal model. Performance is consistent, precise, and all movements are automated. A greater ability to focus on the environment during execution is leading to unique responses in specific competitive situations.	Achieved only by the best athletes in the world. The movements can be performed according to the ideal model, and the athlete has developed a personal style that is efficient. Personal interpretation of movements or personal movements can be combined into unique patterns in response to specific competitive situations.	Skill Development
<ul style="list-style-type: none"> • Position-specific technical and tactical preparation • Sport-specific and position-specific technical and tactical development • The development of playing skills under competitive conditions • Advanced mental preparation • Optimization of ancillary capacities 	<ul style="list-style-type: none"> • Position-specific technical and tactical preparation • Sport-specific and position-specific technical and tactical development • The development of playing skills under competitive conditions • Advanced mental preparation • Optimization of ancillary capacities 	<ul style="list-style-type: none"> • Further development of technical and tactical abilities or playing skills • Modeling all possible aspects of training and performance • Planned breaks • Maximization of ancillary capacities 	<ul style="list-style-type: none"> • Further development of technical and tactical abilities or playing skills • Modeling all possible aspects of training and performance • Planned breaks • Maximization of ancillary capacities 	Goals
Indoor and beach competitions should be minimized	Indoor and beach competitions can conflict	Indoor and beach competitors exist in separate development pathways	Indoor and beach competitors exist in separate development pathways	Discipline Integration
Single or double periodization	Double or triple periodization	Double or triple periodization	Double, triple, or multiple periodization	Periodization
60:40	70:30	70:30	70:30	Training to Competition Ratios
The proposed ratios represent an average throughout one competitive season. These ratios will vary in each stage depending on the period of the season (GPP, SPP, CPP)				



Photo by Jackie Neill

1

Active Start

Age: 0-6 years

Physical activity is essential for healthy child development. Among its other benefits, physical activity:

- enhances development of brain function, coordination, social skills, gross motor skills, emotions, leadership, and imagination.
- helps children to build confidence and positive self esteem.
- helps to build strong bones and muscles, improves flexibility, develops good posture and balance, improves fitness, reduces stress, and improves sleep.
- promotes healthy weight.
- helps children to move skillfully and enjoy being active.

Organized physical activity should be fun and a part of the child's daily life, not something required. Active play is the way young children are physically active.

Organized physical activity and active play are particularly important for the healthy development of children with a disability if they are to acquire habits of lifelong activity.

Because this is a period when children rapidly outgrow their mobility aids, communities need to find effective ways—equipment swaps or rentals, for example—to ensure that all children have access to the equipment they need to be active.

No matter what the level of ability, you have more potential than you can ever develop in a lifetime.

—James T. McCay

Principle Focus

To learn fundamental movements and link them together into play.

Principal Activities

- Provide organized physical activity for at least 30 minutes a day for toddlers and at least 60 minutes a day for preschoolers.
- Provide unstructured physical activity—active play—for at least 60 minutes a day, and up to several hours per day for toddlers and preschoolers. Toddlers and preschoolers should not be sedentary for more than 60 minutes at a time except while sleeping.
- Provide physical activity every day regardless of the weather.
- Starting in infancy, provide infants, toddlers, and preschoolers with opportunities to participate in daily physical activity that promotes fitness and movement skills. Provide parents and care givers with age-appropriate information.
- Ensure that children acquire movement skills that build towards more complex movements. These skills help lay the foundation for lifelong physical activity.
- Encourage basic movement skills—they do not just happen as a child grows older, but develop depending on each child's heredity, activity experiences, and environment. For children with a disability, access to age and disability appropriate adapted equipment is an important contributor to success.
- Focus on improving basic movement skills such as running, jumping, twisting, wheeling, kicking, throwing, and catching. These motor skills are the building blocks for more complex movement.
- Design activities that help children to feel competent and comfortable participating in a variety of fun and challenging sports activities.
- Ensure that games for young children are non-competitive and focus on participation.
- Because girls tend to be less active than boys and children with a disability less active than their peers, ensure that activities are gender-neutral and inclusive so that active living is equally valued and promoted for all children.



Often neglected, the FUNdamental stage is characterized by enhancing overall general athletic development. Improving basic movement abilities such as agility, balance, speed, and coordination and improving fundamental sport skills such as running, jumping, throwing, catching, passing, kicking, and striking are the primary focus. Fun is critical in all aspects of training as one of the primary objectives of the stage is to encourage participation in sport and physical activity in the hopes of creating life-long interest.

Using modified games, volleyball fundamentals such as, the volley, the forearm pass, spiking, blocking, and serving can be introduced. However,

this should be done in only the most simple and basic of ways, used primarily as tools to enhance the development of all fundamental movements, and as part of a program which encourages exposure to a multitude of different sports. When selecting additional sports for children to participate in, “basic” sports such as gymnastics and athletics should be high on the list since agility, balance and coordination, as well as running, jumping and throwing skills are represented in those sports. Most of these skills are highly transferable to the volleyball player, will enhance future volleyball development, and ultimately assist in creating a life-long enjoyment of all sports.

Principle Focus

To develop physical literacy—learn all fundamental movement skills and build overall motor skills.

Principal Activities	Training to Competition Ratios	Critical Periods Reached
<ul style="list-style-type: none"> Develop fundamental movement skills. Develop general physical capacities for speed, power, endurance, and flexibility through the use of a wide variety of games. Athletic participation 4-6 times per week. If a child has a favourite sport, participation up to twice per week in that activity is suggested so long as there is also participation in many other sports to ensure future excellence. Develop an awareness of as many sports as possible and promote a life-long love of sport and physical activity. 	<ul style="list-style-type: none"> No ratio recommended All activity FUN based Suggested annual activity (sports including volleyball): 168-480 hrs. Suggested annual VOLLEYBALL activity: 84-240 hrs. 	<ul style="list-style-type: none"> 1st accelerated adaptation for speed (girls ages 6-8, boys ages 7-9). Suppleness and flexibility (girls and boys ages 6-10)

Suggested Annual Volleyball Activity Breakdown

	Volleyball Training	General Preparation	Competition Season
Season Length	12 - 24 weeks		
Hours per Week	2 - 3	4 - 6	1
Sessions per Week	2	4 - 6	1 match
Session Length	60 - 90 min	60 min	2 sets
Session Content	Individual techniques and generic (non-volleyball specific) sport tactics (use of teamwork, speed, accuracy, deception, etc.)	ABC's (Agility, Balance, Coordination), speed, and flexibility	Transferability of individual techniques and tactics to competitive situations.
		Other Sports 4+	Competition Level Local



3

Learning to Train

Males: 9-12 years
Females: 8-11 years

At this stage, children are developmentally ready to acquire the general sports skills that are the cornerstones of all athletic development. Volleyball fundamentals such as, the volley, the forearm pass, spiking, blocking, and serving should be developed with more

emphasis now put on the execution of proper technique. However, specialization in one sport must be resisted at this stage, as it can be detrimental to later stages of skill development and the refinement of fundamental motor skills.

Little League baseball is a very good thing because it keeps parents off the streets.

—Yogi Berra

Principle Focus

To learn overall sports skills and to introduce basic volleyball skills.

Principal Activities	Training to Competition Ratios	Critical Periods Reached
<ul style="list-style-type: none"> • Further develop all fundamental movement skills. • Further develop flexibility, agility, and change of direction skills. • Develop strength—using the child’s body weight—and introduce hopping or bounding exercises to aid in strength development. • Develop endurance through games and relays. • Encourage unstructured play. 	<ul style="list-style-type: none"> • 50% training • 50% competition • Suggested annual activity (sports including volleyball): 320-530 hrs. • Suggested annual VOLLEYBALL activity: 170-295 hrs. 	<ul style="list-style-type: none"> • Accelerated adaptation for acquiring skills (girls ages 8-11, boys ages 9-12) • Suppleness and flexibility (males and females ages 6-10) • Endurance (at onset of PHV)

Suggested Annual Volleyball Activity Breakdown

	On Court Training	Physical Preparation	Mental Preparation	Competition Season
Season Length	16 - 28 weeks			
Hours per Week	3	4	1	3
Sessions per Week	2	4	1	3 matches
Session Length	60 - 90 min	60 min	30 min	2 - 3 sets
Session Content	Basic skills and basic team tactics	ABC's (Agility, Balance, Coordination)	Relaxation skills, self esteem and team spirit	Transferability of individual techniques and tactics to competitive situations.
Relative Importance	85%	10%	5%	N/A
	Other Sports 3		Competition Level Local	



During this stage, basic volleyball skills and tactics should be consolidated and three critical periods of physical development— aerobic capacity (for males and females), speed (for males and females), and strength (for females only)—addressed. To properly accommodate all the development that will be done, an increase in the time commitment in the training schedule will be required.

Maturation levels play a critical role in the trainability of both aerobic capacity and strength during this stage. Most children reach their maximum rate of growth or Peak Height Velocity (PHV) during

this period and it is the onset of PHV that is the best determiner of when to increase the training focus on aerobic and strength development. Therefore, chronological age should not be the only consideration when developing fitness programs during this stage.

During competitions, athletes play to win and do their best, but the major focus of training is on learning basic volleyball skills and tactics and successfully applying those skills and tactics in competitive situations as opposed to actual competition success.

Principle Focus
To build an aerobic base, develop speed (and strength towards the end of the stage for females), and to further develop and consolidate volleyball skills

Principal Activities	Training to Competition Ratios	Critical Periods Reached
<ul style="list-style-type: none"> Aerobic training becomes a priority after the onset of PHV while maintaining or further developing levels of speed, strength, and flexibility. Basic individual volleyball skills and tactics are consolidated. The 6 vs 6 game is introduced creating the need to learn team systems and position specialization. 	<ul style="list-style-type: none"> 70% Training 30% Competition Suggested annual activity (sports including volleyball): 520-1050 hrs. Suggested annual VOLLEYBALL activity: 340-715 hrs. 	<ul style="list-style-type: none"> Aerobic development (at onset of PHV) Speed development Strength development for girls (at the onset of menarche)

Suggested Annual Volleyball Activity Breakdown

	Volleyball Training	Physical Preparation	Mental Preparation	Competition Season
Season Length	26 - 34 weeks			
Hours per Week	6 - 10	2 - 5	1	4 - 5
Sessions per Week	4 - 5	2 - 3*	2	1 tournament (4 - 5 matches)
Session Length	90 - 120 min	60 - 90 min	30 min	2 - 3 sets
Session Content	<ul style="list-style-type: none"> Develop basic skills Develop team tactics 	<ul style="list-style-type: none"> ABC's (Agility, Balance, Coordination) Aerobic development Flexibility Strength (females) 	<ul style="list-style-type: none"> Concentration Stress management Coping skills 	Transferability of individual techniques and tactics to competitive situations.
Relative Importance	80%	15%	5%	N/A
	Other Sports 2		Competition Level Years 1 and 2: Provincial Years 3 and 4: Interprovincial	

* Early in the stage, these sessions can be integrated within the volleyball session.



5 Learning to Compete

Males: 17-19± yrs.
Females: 16-18± yrs.

Males: 16-20± yrs.
Females: 15-19± yrs.

Indoor
Beach

The main objectives of this stage are to optimize fitness preparation, volleyball-specific skills, and position-specific skills and to commit to a pathway which will also optimize performance. Individual and position-specific training is provided to players with training volumes and intensities gradually raised to high levels. Volleyball skills are performed under a variety of competitive conditions during

training and athletes are exposed to international competition for the first time.

In many athletes this is also the time at which peak strength velocity and peak weight velocity coincide with the period of opportunity for greatest strength gain. Therefore this stage should also emphasize the development of strength and aerobic power, two athletic qualities important to volleyball success.

Principle Focus

The consolidation of fitness preparation and volleyball skills.

Principal Activities	Training to Competition Ratios	Critical Periods Reached
<ul style="list-style-type: none"> • Increase training intensities to optimum levels. • Volleyball skill variations and advanced tactics are introduced and volleyball skills are performed under a variety of competitive conditions during training. More complex team systems are learned. Training should be position specific. • Fitness, recovery, psychological, and technical development programs are individually tailored to a greater degree. 	<ul style="list-style-type: none"> • 60% training • 40% competition • Suggested annual activity (sports including volleyball): 520-1150 hrs. • Suggested annual VOLLEYBALL activity: 390-920 hrs. 	<ul style="list-style-type: none"> • Accelerated adaptation for developing strength (boys and late developers girls) • Aerobic power is introduced progressively after growth rate decreases.

Suggested Annual Volleyball Activity Breakdown

	Volleyball Training	Physical Preparation	Mental Preparation	Competition Season
Season Length	30 - 40 weeks			
Hours per Week	8 - 12	3 - 6	1	1 - 4
Sessions per Week	4 - 5	3 - 4	2	1 - 2 matches
Session Length	120 - 150 min.	60 - 90 min.	30 min	3 - 5 sets
Session Content	<ul style="list-style-type: none"> • Maintain basic skills • Introduce and develop advanced techniques and tactics 	<ul style="list-style-type: none"> • Strength* • Aerobic power 	<ul style="list-style-type: none"> • Time management • Visualization 	Transferability of individual techniques and tactics to competitive situations.
Relative Importance	80%	15%	5%	N/A
	Other Complementary Sports 1		Competition Level National	

*"There is now increasing evidence that impressive performance gains can be achieved with young athletes through sound, carefully monitored and progressive strength training programmes that use free weights"

—Sport England LTAD, 2004

Indoor Males: 20-21± yrs.
Females: 19-20± yrs.
Beach Males: 18-24± yrs.
Females: 17-23± yrs.

Training to Compete

6



The main objectives of this stage are to optimize fitness preparation, volleyball-specific skills, position-specific skills, and performance. Individual and position-specific training is provided to players with high volume workloads but with increasing intensity. Volleyball skills are performed under a variety of competitive conditions during training and optimum preparation is emphasized by “modeling” priority competitions.

This is also the stage where the athlete will be exposed to national multi-sport games and begin the transition from national to international age class competition. The spring and summer training experienced within the national multi-sport games programs and international age class competitions will initiate the athlete to multiple periodization training.

Principle Focus

To refine volleyball skills and further develop fitness.

Principal Activities	Training to Competition Ratios	Critical Periods Reached
<ul style="list-style-type: none"> High volume workloads with increasing intensity. Volleyball skill variations and advanced tactics are consolidated and volleyball skills are performed under a variety of competitive conditions during training. More complex team systems are learned. Training is position-specific. Fitness, recovery, psychological, and technical development programs are individually tailored with an emphasis on developing individual strengths and working on weaknesses. For optimal development the athlete specializes in one sport. 	<ul style="list-style-type: none"> 70% training 30% competition Suggested annual activity (sports including volleyball): 700-1450 hrs. Suggested annual VOLLEYBALL activity: 700-1450 hrs. 	<ul style="list-style-type: none"> Accelerated adaptation for developing strength (late developing males) Aerobic power is introduced progressively after growth rate decreases.

Suggested Annual Volleyball Activity Breakdown

	On Court Training	Physical Preparation	Mental Preparation	Competition Season
Season Length	35 - 45 weeks			
Hours per Week	10 - 20	4 - 6	1½	2 - 4
Sessions per Week	5 - 7	4	2	1 - 2 matches
Session Length	120 - 180 min.	60 - 90 min.	45 min	3 - 5 sets
Session Content	<ul style="list-style-type: none"> Maintain basic skills Maintain advanced techniques and tactics 	<ul style="list-style-type: none"> Aerobic power Strength 	<ul style="list-style-type: none"> Distraction control Relaxation Visualization 	<ul style="list-style-type: none"> Transferability of individual techniques and tactics to competitive situations
Relative Importance	75%	20%	5%	N/A
	Other Sports 0		Competition Level National with some international opportunities	



7

Learning to Win Internationally

Males: 22-25± yrs.
Females: 21-24± yrs. Indoor

Males: 22-28± yrs.
Females: 21-27± yrs. Beach

This stage matures an athlete to compete at the highest international level. The athlete should be exposed to international competition and special considerations should be given to developing mental abilities necessary to deal with the unique demands of competing on the international stage (travel, food considerations, culture, etc.).

Emphasis is on specialization and performance enhancement. The volleyball player's physical, technical, tactical, mental and ancillary capacities are tweaked and given time to mature. Focus is on preparing to regularly give the best possible performance. During this stage training should continue to develop core body strength, volleyball specific strength and power, and maintain suppleness.

Principle Focus

To prepare our athletes physically, technically, tactically, and cognitively to join the best professional leagues/events in the world and to prepare our athletes to win internationally for Canada.

Principal Activities	Training to Competition Ratios	Critical Periods Reached
<ul style="list-style-type: none"> High intensity and relatively high volume training. Advanced volleyball skills and tactics are performed under a variety of competitive conditions similar to those experienced in international competition during training. International team systems are learned and mastered. Training is highly position specific. Fitness, recovery psychological, and technical development programs are highly specialized for the individual athlete. Competition is at the highest level available. 	<ul style="list-style-type: none"> 70% training 30% competition Suggested annual activity (sports including volleyball): 780-2160 hrs. Suggested annual VOLLEYBALL activity: 780-2160 hrs. 	<ul style="list-style-type: none"> N/A

Suggested Annual Volleyball Activity Breakdown

	On Court Training	Physical Preparation	Mental Preparation	Competition Season
Season Length	40 - 48 weeks			
Hours per Week	12 - 30	4 - 7½	1½	2 - 5
Sessions per Week	6 - 10	4 - 5	2	1 - 2 matches
Session Length	120 - 180 min.	60 - 90 min.	45 min	3 - 5 sets
Session Content	<ul style="list-style-type: none"> Individual techniques and tactics: 35% Competition specific training: 65% 	<ul style="list-style-type: none"> Core strength/stability Aerobic power Individual weaknesses 	<ul style="list-style-type: none"> Optimum Performance State Relaxation Visualization 	Best possible performances.
Relative Importance	75%	20%	5%	N/A
	Other Sports 0		Competition Level International	

Training to Win 8 Internationally



By this stage, the athlete should have acquired the necessary mental skills to deal with the pressures of performing both at the professional club level and in the international season. Special attention should be given to regular monitoring of recovery and regeneration and the maintenance of physical preparation.

This is the final stage of athletic preparation. The emphasis in this stage is on maximizing preparation and performance. The volleyball player's physical, technical, tactical, mental and ancillary capacities are fully established. Focus is on refining all skills and abilities and preparing to peak for major competitions.

Coming together is a beginning; keeping together is progress; working together is success.

—Henry Ford

Principle Focus
To have our athletes achieve podium performances at major international competitions.

Principal Activities	Training to Competition Ratios	Critical Periods Reached
<ul style="list-style-type: none"> High intensity and relatively high volume training. Frequent preventative breaks to prevent physical and mental burnout. Preparatory frameworks are highly periodized. Competition is at the highest level available. 	<ul style="list-style-type: none"> 70% training 30% competition Suggested annual activity (sports including volleyball): 890-1835 Suggested annual VOLLEYBALL activity: 890-1835 	<ul style="list-style-type: none"> N/A

Suggested Annual Volleyball Activity Breakdown

	On Court Training	Physical Preparation	Mental Preparation	Competition Season
Season Length	40 - 48 wks.			
Hours per Week	12 - 24	4 - 6	2¼	4 - 6
Sessions per Week	6 - 8	4	3	2 matches
Session Length	120 - 180 min.	60 - 90 min.	45 min.	3 - 5 sets
Session Content	<ul style="list-style-type: none"> Individual techniques and tactics: 35% Competition specific training: 65% 	<ul style="list-style-type: none"> Core strength/stability Aerobic power Individual weaknesses 	<ul style="list-style-type: none"> Optimum Performance State Relaxation Visualization 	Best possible performances.
Relative Importance	75%	20%	5%	N/A
	Other Sports 0		Competition Level International	

Beach and Indoor Volleyball

Discipline Integration

Volleyball contains both disciplines. The indoor and beach volleyball share many common attributes and both offer excellent participation and performance opportunities. Just as we are unable to accurately determine what position a developing indoor player in the Training to Train stage will be physically and athletically best suited for, we also will be unable to accurately predict which volleyball discipline will best suit a player's athletic qualities until later in their development. Therefore, volleyball leaders have a responsibility to expose and encourage players to participate in both disciplines, to ensure they have the opportunity—if they desire—to reach their maximum potential in the discipline they are most interested in and/or suited for. Thus, it is especially important that developmental training and competition programs are planned in such a way as to integrate both disciplines and to minimize conflicts between them.

Although research is limited, some anecdotal evidence may suggest that those players who participate in both volleyball disciplines benefit greatly from the experience. Some skills and abilities seem to improve at accelerated rates and when an athlete is trained correctly, there seems to be positive performance transfer from one discipline to the next.

Beach volleyball appears to have some potential to help address identified shortcomings apparent in the indoor game and enhance indoor training.

- It provides a volleyball training and competition experience in the spring and summer off-season for indoor players.
- It provides high volume additional training in areas with strong transfer potential to the indoor discipline. Some likely areas of enhancement:
 - The defender's ability to read attacker cues.
 - Individual blocking.
 - The overall number of repetitions an athlete experiences.
 - Increase awareness of skill weaknesses within the athlete.
 - Encourage the development of all around skill.

- Increase an attacker's repertoire of tactical responses (especially for soft shots and overall directional control).

- It could be used as a tool to aid in stability and core strength training since sand is an unstable surface and creates a natural environment for this type of training.
- Due to the limited position specialization experienced in beach volleyball, it could address some of the early specialization issues our athletes are experiencing.
- Coach-player interaction is reduced in competition which should help to create athlete autonomy.
- It can provide a psychological break from the indoor situation for those athletes who desire it.
- The high physical demands experienced in the discipline will aid in the raising of some physical capacities.

Conversely, indoor volleyball also has the potential to aid in the development of beach volleyball players.

- It provides a volleyball training and competition experience in the fall and winter off-season.
- It provides additional training in areas with strong transfer potential to the beach discipline. Some likely areas of enhancement:
 - Improving the defender's ability to defend against hard driven attacks.
 - It helps players identify technical strengths and weaknesses.
 - Hitting against multiple blockers improves attackers offensive capabilities.
 - The less-forgiving ball encourages proper technique.
 - Setting versatility is created for those participants who play the setting position.
- The faster indoor game encourages the development of speed-strength capacities.
- It provides a psychological break from the outdoor situation for those who desire it.

Clearly, there are significant opportunities for each discipline to benefit from the other and the athlete-centered LTAD model clearly identifies the need to introduce each volleyball player to both

disciplines if we desire to help each athlete reach their potential within the sport. Therefore it is important that volleyball's training and competition models for beach volleyball are structured so that conflicts between the disciplines are minimized

and that the athlete is encouraged to become involved in both disciplines to both aid in their development as a player and to provide them with additional life-long enjoyment options.

Indoor and Beach Volleyball Integration Pathway

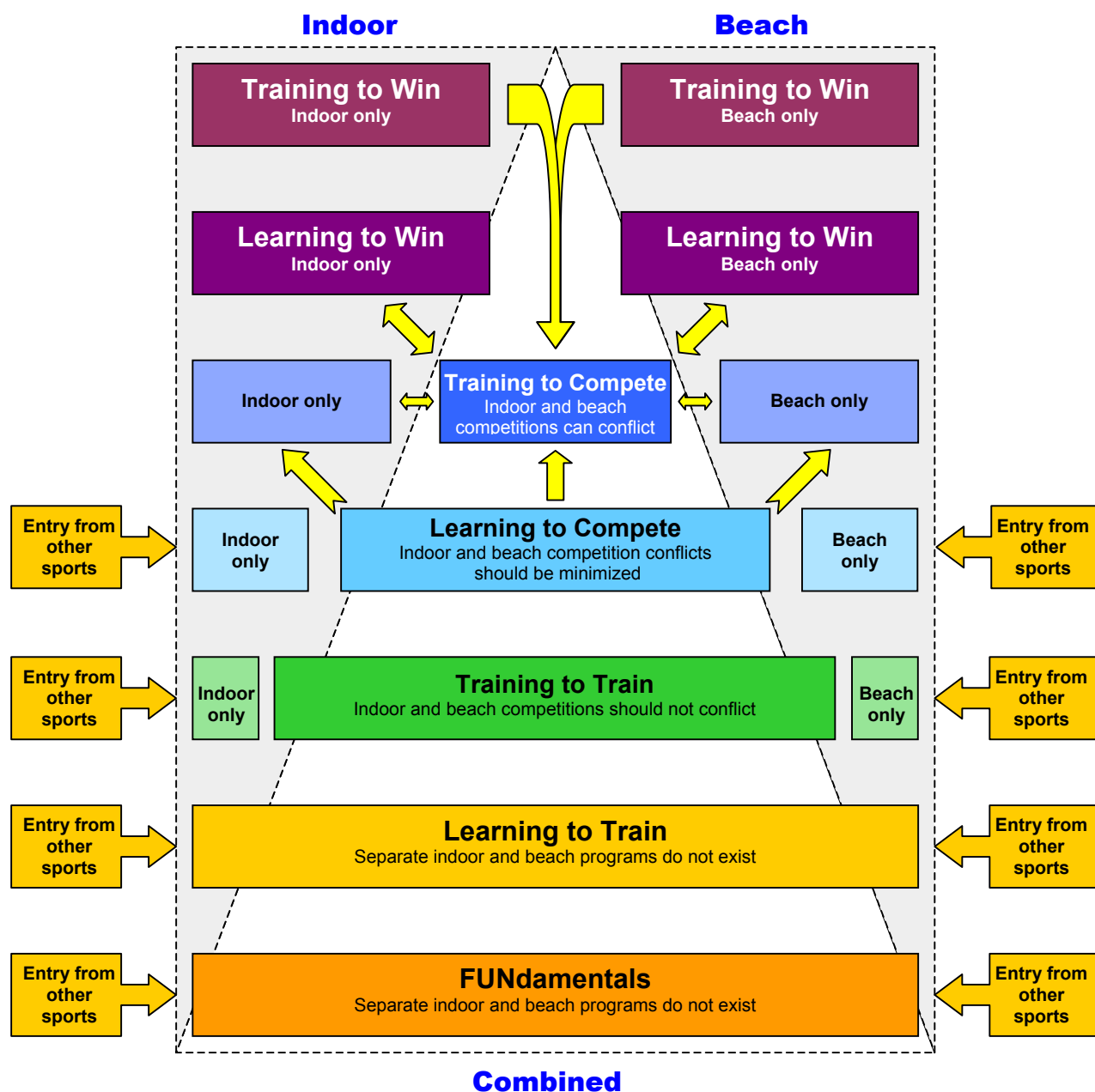


Figure 4 - The Proposed Beach and Indoor Integration Pathway for Volleyball



The Way Forward

The need for LTAD arises in part from the declining international performances of Canadian athletes in some sports and the difficulty other sports are having in identifying and developing the next generation of internationally successful athletes. In addition, participation in recreational sport and physical activity has been declining and physical education programs in the schools are being marginalized.

—Canadian Sport for Life Resource Paper, 2005

Performance evidence would suggest that our volleyball programs are gradually losing ground to other developed volleyball nations. Canadian volleyball players once held an international reputation for being highly skilled, fit, hardworking, and highly motivated. Unfortunately this reputation is not as strong as it once was.

Since the mid 1980's, many countries have made significant changes to their sport systems which have greatly enhanced the image of volleyball in those countries, improved the quantity and quality of the athletes they are developing, and added to the health and well being of their citizens and overall quality of life. In essence, they have adopted many LTAD practices which have enabled their programs to surge ahead and benefit their citizens to a greater degree. Meanwhile, although we are continuing to attract more participants to the sport, Canada's volleyball development system has remained relatively stagnant with few significant or well-planned structural changes occurring in our development system. If volleyball does not embrace change and begin to develop

a sport system based on LTAD principles the "status quo" is the best we can hope for.

At its core, LTAD is about athletes, coaches, quality training, appropriate competition, the application of sport science, and the identification of stakeholder roles and responsibilities all integrated and aligned in a way that provides optimal benefit for all involved. For each one of these components, key issues need to be addressed and solutions implemented by the volleyball system if we wish to change our sport model to better reflect the concept of LTAD.

The LTAD Working Group has looked closely at all these areas and with input from many different sources has proposed solutions which if implemented, will help to better align the volleyball development system and address many athlete development concerns. The following sections will discuss beach, indoor, and standing volleyball-related issues as they pertain to LTAD principles in more detail and propose some solutions to improve the Canadian development system.

Athletes	– attraction, talent identification, retention, monitoring, and the development of appropriate role models are areas of concern.
Coaching	– education, remuneration, and retention are areas of concern.
Training	– quantity, quality, appropriateness, and developmental vs. chronological age are areas of issue.
Competition	– quantity, quality, appropriateness, and developmental vs. chronological age are areas of issue.
Sport Science	– application, testing, and data collection.
Stakeholders	– identification, recognition, and roles are areas of concern.



Beach Volleyball

Although Canada is typically identified as a “winter” sport country, the game of beach volleyball—usually a sport for warmer climates—has been well embraced by volleyball enthusiasts. Canada has also posted good international results in the past decade—especially in men’s competition. However, our top international players are moving towards retirement and there are no obvious “heirs apparent” to replace them. Without significant investment in emerging talent, Canada may no longer be challenging for podiums.

Beach volleyball is still a relatively young sport in Canada which provides us with a great development opportunity as well as great challenges. As with indoor volleyball and other sports in Canada, beach volleyball also suffers from several significant shortcomings in the Canadian sport system:

- There is no systemic identification process which is limiting our ability to attract, train, and retain top players.
- Coaches have not embraced the discipline so training opportunities are limited in both quantity and quality.
- Competitive opportunities—especially for young people—are limited in some areas of the country.
- Club development has not proceeded at a

rapid enough pace significantly impacting all facets of the development system.

However, beach volleyball’s greatest challenge may be overcoming its own sport culture and the sport qualities that in the past attracted players to the game. These may now be the very traits that pose some of the greatest performance limitations on our athletes. Players were initially attracted to the game because it existed outside volleyball’s traditional milieu. Informal, relatively unstructured, and highly athlete-controlled it provided an exciting volleyball outlet for those players who were disenchanted with the indoor game’s development system or a fun competitive change for others in the off-season. In this environment, beach volleyball has flourished in Canada as a summer activity and a different kind of sport for indoor players, one free of coaches, sport administrators and other bureaucratic mechanisms found elsewhere.

Regrettably, the informal style seen in the game’s past is now the very thing limiting athlete development as no significant athlete support structure has developed. This severely reduces an athlete’s ability to achieve their potential. Systemic beach volleyball support structures must now be put into place—as is happening in other countries—if Canada wishes to continue to be among the world’s leading beach volleyball nations.



Athletes

The athlete is the central component to LTAD. One of the central objectives of LTAD is to make better athletes out of all Canadians in the hopes that it will encourage Canadians to be more active in sport, adopt healthy life styles, and engage in active living pursuits for life, thereby improving the quality of life for all Canadians.

In an athlete-centered model, the recruitment, identification, and retention of athletes are of

paramount importance—areas where beach volleyball continues to under perform. Programming for youth is still quite limited in many areas of the country and once recruited, many areas of their athletic development (i.e. raising of physical capacities) are not appropriately planned, supervised, or adequately tracked. For those athletes interested in high performance, few programs exist to help them reach their potential.

Encouragement from a good coach can turn an athlete's life around.
—Anonymous

	Issues	Main Actions
FUNDAMENTALS	<ul style="list-style-type: none"> Children are not being systematically introduced to volleyball across the country during this stage. Children are not being introduced to the basic elements of athletics (running, jumping, throwing, etc.) 	<ul style="list-style-type: none"> Mini volleyball needs to continue to be promoted and established country wide in all communities—especially within the school system. The school system needs to incorporate daily physical activity—in a fun and exciting way—as part of their curriculum; ideally utilizing physical education professionals.
Learning to Train	<ul style="list-style-type: none"> Basic volleyball techniques are not being taught to young people at the stage when they are most receptive to learning new motor skills. Grassroots novice volleyball programs are not widespread, well promoted or easily accessible. Athletes are inadequately trained in the ABC's (agility, balance, coordination.) 	<ul style="list-style-type: none"> Atomic volleyball or other introductory volleyball programs need to continue to be promoted and established country wide in all communities—especially within the school system. Clubs need to embrace this age group and offer additional programming for those children who are demonstrating interest in the sport of volleyball.
Training to Train	<ul style="list-style-type: none"> No formal national athlete identification program (with standardized data, testing programs, monitoring, etc.) is in place. Athletes are rewarded for competitive success (winning) and not rewarded or recognized enough for skill improvement. Athlete exposure to beach volleyball is limited. 	<ul style="list-style-type: none"> Participants need to be properly registered with their respective provincial and national volleyball associations so that their support needs can be identified and properly addressed. (participant tracking). Identification programs for emerging talent need to be coordinated at the provincial level, but delivered at the local level. Where identification programs for emerging talent exist, not enough athletes are identified or programs operated. 3000 athletes per sex should be identified across the country. Provincial Games programs should be used as the primary means for the identification and recruitment of emerging talent. A national standardized testing program that tracks skill, stamina, strength, suppleness, size, and psychological factors and a national data tracking system to record the data and help in developing normative values needs to be created. Schools need to deliver beach volleyball programs as part of their curriculum and a volleyball club structure that includes beach volleyball needs to be developed.



	Issues	Main Actions
Learning to Compete	<ul style="list-style-type: none"> • No formal national athlete identification program (with standardized data, testing programs, monitoring, etc.) is in place. • Athlete exposure to beach volleyball is limited. 	<ul style="list-style-type: none"> • Identification programs for emerging talent need to be coordinated at the national level, but delivered at the provincial level. Where identification programs for emerging talent exist, more athletes need to be identified and more programs operated. • 300 athletes per sex should be identified across the country. • A national program needs to be developed for this athlete population to use as primary means for the identification and recruitment of emerging talent. • A national standardized testing program that tracks skill, stamina, strength, suppleness, size, and psychological factors and a national data tracking system to record the data and help in developing normative values needs to be created. • Schools need to deliver beach volleyball programs as part of their curriculum and a volleyball club structure that includes beach volleyball needs to be developed.
Training to Compete	<ul style="list-style-type: none"> • High performance athlete identification tends to be limited to and based on only competitive success. • Not enough athletes are being identified. 	<ul style="list-style-type: none"> • A provincial and national registry for ALL (including recreational league players) participants needs to be created. • 30-50 athletes per sex should be identified across the country. • A national standardized testing program that tracks skill, stamina, strength, suppleness, size, and psychological factors and a national data tracking system to record the data and help in developing normative values needs to be created. • A volleyball club structure that includes beach volleyball needs to be developed.
Learning to Win	<ul style="list-style-type: none"> • An insufficient number of athletes are identified for national team potential in this stage. 	<ul style="list-style-type: none"> • 12-16 athletes per sex should be identified across the country for inclusion in National Training Centre programs. • A national standardized testing program that tracks skill, stamina, strength, suppleness, size, and psychological factors and a national data tracking system to record the data and help in developing normative values needs to be created.
Training to Win	<ul style="list-style-type: none"> • Talent pool is not deep enough. There is an insufficient number of international caliber players who can consistently finish in top 10 at international events. 	<ul style="list-style-type: none"> • Identification programs for national team talent need to be coordinated by a High Performance Manager and delivered by National Team Coaches. • 6-8 athletes per sex who have demonstrated international caliber talent should be identified for senior national team programs.

Coaches

Coaches represent many different roles to many different people and have a significant impact on the sport system. Coaches are teachers, sport administrators, mentors, role models, friends, and leaders in the volleyball community. They usually have the most direct contact with the participant and the most influence on their development in sport. Coaches contribute significantly to Canadian society and have an enormous effect on the development of our youth.

Good coaching is fundamental to a successful sport system. By becoming a valued member of the community, good coaches can share the positive aspects of an active lifestyle. Good coaches must be equipped with the necessary

coaching and personal skills to develop players to their full potential. They need to have the right qualifications and training in order to effectively deliver their services—especially when young people are involved—if we wish to optimize their impact on the sport system.

Beach volleyball has traditionally been a sport without coaches, but today's players want and need coaching support. It is only with regular, high-quality coaching support that an athlete will be able to achieve their potential. Currently, there is a shortage of coaches and more coaches need to be trained, recruited, and appropriately rewarded for the contributions they make.

	Issues	Main Actions
FUNDAMENTALS	<ul style="list-style-type: none"> • Sport instructors are not well educated on the most effective methods to introduce volleyball-related skills to children. • Sport instructors are not effectively introducing the ABC's of athletics to children. • Inadequate parental involvement and participation. 	<ul style="list-style-type: none"> • More widespread exposure to the mini volleyball approach. • More widespread exposure to LTAD and its related training principles. • Parents need to be integrated into coaching support roles.
Learning to Train	<ul style="list-style-type: none"> • Sport instructors are not well educated on the most effective methods to introduce volleyball to children. • Sport instructors are not effectively creating physical literacy (motor skill learning) in children. • Appropriate physical training methodologies are not well understood or applied. • Inadequate parental involvement and participation. 	<ul style="list-style-type: none"> • More widespread exposure to atomic volleyball and/or other introductory approaches. • More widespread exposure to LTAD and its related training principles. • Parents need to be integrated into coaching support roles.
Training to Train	<ul style="list-style-type: none"> • There are not enough NCCP certified beach coaches; and many regions are not allocating sufficient focus to beach coach recruitment and certification. • Coaches do not adequately understand the growth and development needs of their athletes especially as they relate to optimal windows of trainability and LTAD. • The sport knowledge base of beach volleyball coaches needs improvement. • Appropriate physical training methodologies are not well understood or applied. 	<ul style="list-style-type: none"> • LTAD principles—especially around the identification and training of those capacities with accelerated periods of development—need to be given a greater emphasis in volleyball's NCCP Program. • A national clinic/symposia structure needs to be created. Symposia/clinics for coaches who work with athletes in the Training to Train stage would be delivered in each province annually as a supplement to the NCCP program, with content jointly determined by the province and national bodies. • A recognition and accountability framework for coaches who develop athletes based on LTAD principles needs to be created (e.g. club mark program, skills competitions, etc.). • Regional associations need to become more proactive in the organization and delivery of beach coach certification clinics. • The number of coaches who have NCCP Level 3 certification needs to increase in certain regions. • Implement a recruitment strategy to recruit more coaches to beach volleyball.

A successful coach is one who is still coaching.
—Ben Schwartzwalder

	Issues	Main Actions
Learning to Compete	<ul style="list-style-type: none"> • There are not enough NCCP certified beach coaches: and many regions are not allocating sufficient focus to beach coach recruitment and certification. • Coaches do not adequately understand the growth and development needs of their athletes especially as they relate to optimal windows of trainability and LTAD. • The sport knowledge base of beach volleyball coaches needs improvement. • Appropriate physical training methodologies are not well understood or applied. • Coach to coach communication (i.e. indoor & beach integration) - athletes play in numerous programs (school, club, provincial team, etc) which need to be coordinated by those coaches involved. 	<ul style="list-style-type: none"> • LTAD principles—especially around the identification and training of those capacities with accelerated periods of development—need to be given a greater emphasis in volleyball’s NCCP Program. • A national clinic/symposia structure needs to be created. Symposia/clinics for coaches who work with athletes in the Learning to Compete stage would be delivered in each province annually as a supplement to the NCCP program. With content jointly determined by the province and national bodies. • A recognition and accountability framework for coaches who develop athletes based on LTAD principles needs to be created (e.g. club mark program, skills competitions, etc.). • Regional associations need to become more proactive in the organization and delivery of beach coach certification clinics. • The number of coaches who have NCCP Level 3 certification needs to increase in certain regions. • Beach coaches (including Provincial team, club coaches, etc.) need to display leadership and contact the coaches of any additional programs with which their athletes are involved with the goal of improved program synchronization.
Training to Compete	<ul style="list-style-type: none"> • There are not enough NCCP certified beach coaches: and many regions are not allocating sufficient focus to beach coach recruitment and certification. • The number of professional development opportunities for coaches in this context is limited. • The sport knowledge base of beach volleyball coaches needs improvement. • Coach to coach communication (i.e. indoor & beach integration) - athletes play in numerous programs (school, club, provincial team, etc) which need to be coordinated by those coaches involved. • Appropriate physical training methodologies are not well understood or applied. 	<ul style="list-style-type: none"> • A recognition and accountability framework for coaches who develop athletes based on LTAD principles needs to be created. • A greater number of professional development and mentoring opportunities for coaches in this context need to be created. • Regional associations need to become more proactive in the organization and delivery of beach coach certification clinics. • The number of coaches who have NCCP Level 3 certification needs to increase in certain regions. • Beach coaches (including Provincial team, club coaches, etc.) need to display leadership and contact the coaches of any additional programs with which their athletes are involved with the goal of improved program synchronization.
Learning to Win	<ul style="list-style-type: none"> • There is not a structured program to adequately prepare coaches for this level of athlete development and competition (FIVB satellite, FISU, NORCECA, etc.). 	<ul style="list-style-type: none"> • A greater number of professional development and mentoring opportunities for coaches in this context need to be created. • A structured coaching program for NCCP Level 4 certification needs to be developed. • The number of opportunities for coach exposure to international training and competition needs to increase.
Training to Win	<ul style="list-style-type: none"> • A larger pool of potential national team coaches is required. • There is not a structured program to adequately prepare coaches for this level of athlete development and competition (FIVB World Tour and Olympic Games). 	<ul style="list-style-type: none"> • The number of opportunities for coach exposure to international training and competition needs to increase. • A greater number of professional development and mentoring opportunities for coaches in this context need to be created. • A structured coaching program for NCCP Level 4 certification needs to be developed.

Training

Training is usually considered one of the most critical elements in athlete development. Unless an athlete is getting regular, appropriate and high quality training over a period of many years it is almost certain that they will fall short of achieving their ultimate potential and not receive maximum benefit from their sporting experiences.

Unfortunately, beach volleyball has a significant lack of quality training opportunities—especially

for youth players. Few structured training opportunities exist for athletes and most athletes are left on their own to plan, organize, and deliver their own training. In many regions, the pick-up game has become the primary means of training and preparation for competition.

Details on related training issues in beach volleyball are listed below.

	Issues	Main Actions
FUNDamentals	<ul style="list-style-type: none"> • The ABC's of movement and athletics or the development of physical literacy is underemphasized. • There is insufficient focus on the development of beach volleyball-related movements (in the sand). • Activity programs do not recognize or incorporate into training the accelerated periods of adaptability (i.e. speed) that occur during this stage. • Insufficient emphasis on fun activities. • Parents do not spend enough time on fun physical activities with their children. • Athletes are encouraged to specialize in one or two sports too early in their development. 	<ul style="list-style-type: none"> • Provide community activity leaders with more information and training/learning opportunities for the ABC's of movement and the development of physical literacy. • Mini volleyball needs to be promoted and established country wide for use on all surfaces (including sand and grass) and in all communities. • Children should be encouraged to participate in as many sports as possible (4 or more).
Learning to Train	<ul style="list-style-type: none"> • The ABC's of movement and athletics or the development of physical literacy is underemphasized. • The development of basic fitness is underemphasized. • There is insufficient focus on the development of basic volleyball skills in a beach environment. • Activity programs do not recognize or incorporate into training the accelerated periods of adaptability that occur during this stage. • Athletes are encouraged to specialize in one or two sports too early in their development. • Parents do not spend enough time on fun physical activities with their children. 	<ul style="list-style-type: none"> • Provide community activity leaders with more information and training/learning opportunities for the ABC's of movement and the development of physical literacy. • Atomic volleyball needs to be promoted and established country wide for use on all surfaces (including sand and grass) and in all communities. • Children should be encouraged to participate in several other sports (3 or more).
Training to Train	<ul style="list-style-type: none"> • Training when it occurs focuses too much on competition and not enough on skill development. • Accelerated periods for adaptation are not recognized or included in physical preparation strategies. • Physical preparation is inadequate and often without appropriate supervision and expertise. 	<ul style="list-style-type: none"> • Time dedicated to volleyball training should be at least 6 hours per week and ratio of training to competition should favour training. • The time dedicated to the development of physical capacities should be at least 3 hours per week. • Training needs to begin ahead of the competition schedule so that appropriate General Preparation and Specific Preparation periods can take place. • The development of physical capacities needs to be lead and supervised regularly by coaches or other fitness experts. Athletes should not be left responsible for their own physical preparation. • Growth and development issues related to physical capacity development need to be recognized and planned for in physical preparation strategies.

To get people to do what they don't want to do in order to achieve what they want to achieve. That is what coaching is all about.

—Tom Landry

	Issues	Main Actions
Learning to Compete	<ul style="list-style-type: none"> • Training when it occurs focuses too much on competition and not enough on skill development. • Accelerated periods for adaptation are not recognized or included in physical preparation strategies. • Physical preparation is inadequate and often without appropriate supervision and expertise. 	<ul style="list-style-type: none"> • Time dedicated to volleyball training should be at least 10 hours per week and ratio of training to competition should favour training. • The time dedicated to the development of physical capacities should be at least 5 hours per week. • Training needs to begin ahead of the competition schedule so that appropriate General Preparation and Specific Preparation periods can take place. • The development of physical capacities needs to be lead and supervised regularly by appropriately trained/certified coaches or other fitness experts who are capable of safely introducing and monitoring advanced fitness principles and techniques. Athletes should not be left responsible for their own physical preparation. • Growth and development issues related to physical capacity development need to be recognized and planned for in physical preparation strategies. • Training needs to continue to be broad in scope and not always position specific.
Training to Compete	<ul style="list-style-type: none"> • Athlete's beach and indoor training are not appropriately integrated. • Not enough time is spent on the development of physical capacities especially in the off-season and it is occurring with inadequate supervision and without access to appropriate expertise. 	<ul style="list-style-type: none"> • Training programs need to be carefully prepared and monitored, especially during periods where beach and indoor training overlap. • The time dedicated to the development of physical capacities needs to increase to at least 5 hours per week. • The development of physical capacities needs to be directed and supervised regularly by coaches or other fitness experts. Athletes should not be left responsible for their own physical preparation.
Learning to Win	<ul style="list-style-type: none"> • In some regions athletes do not have access to high performance training opportunities. • Access to outdoor training opportunities—especially during Canada's winter season. • Cross-training opportunities with international programs are not being pursued. • Current sport science information is not being applied to the design of high performance training programs. 	<ul style="list-style-type: none"> • National Training Centres need to be established countrywide. • International training exchanges especially during Canada's winter season need to occur (i.e. invite other countries to train in Canada and vice versa) to give Canadians exposure to high level/intensity training environments. • National Training Centres need to keep abreast and seek out the latest in sports science research and training techniques.
Training to Win	<ul style="list-style-type: none"> • Access to outdoor training opportunities—especially during Canada's winter season. • Cross-training opportunities with international programs are not pursued. • Current sport science information is not being applied to the design of high performance training programs. 	<ul style="list-style-type: none"> • International training exchanges especially during Canada's winter season need to occur (i.e. invite other countries to train in Canada and vice versa) to give Canadians exposure to high level/intensity training environments. • National Training Centres needs to keep abreast and seek out the latest in sports science research and training techniques.

Competition

It has been regularly stated by Canada's LTAD experts that competition is driving our athlete development programs when it should be integrated as part of an larger structure designed to improve and enhance athlete development and overall performance. Competitive opportunities need to be in line with the age and stage of development of the players as well as other developmental goals. Beach volleyball offers

many excellent competitive opportunities however, there are many areas of the country where leagues and competitive opportunities for particular target groups are non-existent, thus leaving large gaps in the player pathway.

Beach volleyball needs to establish a clear, consistent, and agreed upon framework for competitions which directly supports the goals of LTAD.

	Issues	Main Actions
FUNDAMENTALS	<ul style="list-style-type: none"> Fun volleyball competitions on outdoor surfaces do not exist in most regions. 	<ul style="list-style-type: none"> Outdoor Mini volleyball programs need to be promoted and established country wide in all communities—especially within the school system.
Learning to Train	<ul style="list-style-type: none"> Fun volleyball competitions on outdoor surfaces do not exist in most regions. 	<ul style="list-style-type: none"> Outdoor Atomic volleyball programs need to continue to be promoted and established country wide in all communities—especially within the school system.
Training to Train	<ul style="list-style-type: none"> In some regions there is inadequate training related to competition; in other regions there are simply not enough competitions. Age categories do not reflect the developmental ages of the competitors in some regions which may cause inequity in competition. Equipment and playing area dimensions may not be suitable for the size and physical abilities of the participants early in this stage. 	<ul style="list-style-type: none"> Develop an integrated competition/training model where competition is used to optimize athlete development. Some regions need to offer and aggressively promote more competitive opportunities for this group. Offer age categories with 1-year age divisions (12U, 13U, 14U, 15U, etc.) and provide opportunities for early developers to “play up” with older competitors and late developers the opportunity to “play down” with younger competitors and/or provide an appropriate age division tiering structure. Experiment with different court dimensions (i.e. 7m x 7m).
Learning to Compete	<ul style="list-style-type: none"> In some regions there is inadequate training related to competition; in other regions there are simply not enough competitions. Age categories do not reflect the developmental ages of the competitors in some regions which may cause inequity in competition. 	<ul style="list-style-type: none"> Develop an integrated competition/training model where competition is used to optimize athlete development. Some regions need to offer and aggressively promote more competitive opportunities for this group. Offer age categories with 1-year age divisions (17U, 18U, etc.) and provide opportunities for early developers to “play up” with older competitors and late developers the opportunity to “play down” with younger competitors and/or provide an appropriate age division tiering structure.
Training to Compete	<ul style="list-style-type: none"> Interprovincial competition is not occurring regularly which limits the number of high performance competitive opportunities. In some regions there is inadequate training related to competition; in other regions there are simply not enough competitions. 	<ul style="list-style-type: none"> Regions need to collaborate to establish cross border competitions among neighbouring provinces. Some regions need to offer and aggressively promote more age group competitive opportunities for this group. Develop an integrated competition/training model where competition is used to optimize athlete development.
Learning to Win	<ul style="list-style-type: none"> A structured competition plan that accesses appropriate international competitions (i.e. FIVB Satellite and Challenger events) has not been developed and financially supported. 	<ul style="list-style-type: none"> An annual competitive schedule needs to be developed and appropriately integrated with national competitions.
Training to Win	<ul style="list-style-type: none"> Current sport science information is not being applied to the design of competition schedules to enable timely high performance (i.e peaking for World Championships). 	<ul style="list-style-type: none"> An annual plan that incorporates appropriate performance peaks for the FIVB competitive season needs to be implemented.

Sport Science

The utilization and application of sport science has become common practice among sport practitioners worldwide. Regular testing and monitoring of an athlete's training, physical development, and physical capacities is an important part of ensuring that their preparation will be of maximum benefit. Unfortunately, beach volleyball seldom takes advantage of

what sport science has to offer. Little or no sport science data on beach volleyball participants is being collected, there are no standardized testing procedures for beach volleyball athletes developed, Canada's sport scientists are not actively engaged in beach volleyball research activities, and sport science is not regularly used to enhance or modify training programs.

	Issues	Main Actions
FUNDAMENTALS	<ul style="list-style-type: none"> • Sport science data on volleyball participants in this group is not being collected. • Sport science testing procedures for the sport have not been standardized. 	<ul style="list-style-type: none"> • Develop a national standardized testing program that is scientifically valid, gender specific, tracks skill, stamina, strength, suppleness, size, and psychological factors. • Develop a national data tracking system to record testing data and help in the development of normative values.
Learning to Train	<ul style="list-style-type: none"> • Sport science data on volleyball participants in this group is not being collected. • Sport science testing procedures for the sport have not been standardized. 	<ul style="list-style-type: none"> • Develop a national standardized testing program that is scientifically valid, gender specific, tracks skill, stamina, strength, suppleness, size, and psychological factors. • Develop a national data tracking system to record testing data and help in the development of normative values.
Training to Train	<ul style="list-style-type: none"> • Sport science data on volleyball participants in this group is not being collected. • Sport science testing procedures for beach volleyball have not been standardized. 	<ul style="list-style-type: none"> • Develop a national standardized testing program that is scientifically valid, gender specific, tracks skill, stamina, strength, suppleness, size, and psychological factors. • Develop a national data tracking system to record testing data and help in the development of normative values.
Learning to Compete	<ul style="list-style-type: none"> • Sport science data on volleyball participants in this group is not being collected. • Sport science testing procedures for the sport have not been standardized. • Poor utilization of sport science to develop and/or modify training programs. 	<ul style="list-style-type: none"> • Develop a national standardized testing program that is scientifically valid, gender specific, tracks skill, stamina, strength, suppleness, size, and psychological factors. • Develop a national data tracking system to record testing data and help in the development of normative values. • Incorporation and integration of appropriate sport science expertise into volleyball training programs.
Training to Compete	<ul style="list-style-type: none"> • Sport science data on volleyball participants in this group is not being collected. • Sport science testing procedures for the sport have not been standardized. • Canadian sport science experts are insufficiently engaged in volleyball research activities. • Poor utilization of sport science to develop and/or modify training programs. 	<ul style="list-style-type: none"> • Develop a national standardized testing program that is scientifically valid, gender specific, tracks skill, stamina, strength, suppleness, size, and psychological factors. • Develop a national data tracking system to record testing data and help in the development of normative values. • Incorporation and integration of appropriate sport science expertise into volleyball training programs.
Learning to Win	<ul style="list-style-type: none"> • Sport science testing procedures for the sport have not been standardized. • Canadian sport science experts are insufficiently engaged in volleyball research activities. • Poor utilization of sport science to develop and/or modify training programs. 	<ul style="list-style-type: none"> • Develop a national standardized testing program that is scientifically valid, gender specific, tracks skill, stamina, strength, suppleness, size, and psychological factors. • Incorporation and integration of appropriate sport science expertise into volleyball training programs.
Training to Win	<ul style="list-style-type: none"> • Sport science testing procedures for the sport have not been standardized. • Canadian sport science experts are insufficiently engaged in volleyball research activities. • Poor utilization of sport science to develop and/or modify training programs. 	<ul style="list-style-type: none"> • Develop a national standardized testing program that is scientifically valid, gender specific, tracks skill, stamina, strength, suppleness, size, and psychological factors. • Incorporation and integration of appropriate sport science expertise into volleyball training programs.

Stakeholders

In a LTAD sport framework, a sport's stakeholders are instrumental to success. Stakeholders must be clearly aware of their roles and be appropriately integrated within the system if we wish to reach our goals of improved performances, a physically active population, life-long sport participation and ultimately, a healthier society.

Parents play a vital role in many aspects of their children's development in volleyball. Many get involved in coaching, fundraising, administration, and transporting children to and from training and competitions. It is essential that parents understand their role in assisting children to achieve their full potential within sport. Parents

need to be encouraged to always be involved in the physical development of their children—especially in their children's introductory years—and educated on the concept of LTAD, physical literacy, and facilitate the understanding of special requirements such as proper hydration, nutrition, and recovery for the growing child.

Officials perform a vital role in the sport and with the growth in the popularity of volleyball, the demand for officials is increasing. Therefore, programs which focus on the retention and recruitment of officials need to be enhanced.

Effective administrators and volunteers play an essential and pivotal role in successful

	Issues	Main Actions
FUNDamentals	<ul style="list-style-type: none"> • School systems do not offer a well-balanced physical education program utilizing the latest sport science to encourage optimal physical and motor development. • Grassroots introductory multi-sport programs are not widespread, well promoted or easily accessible. • Decreasing direct parental involvement in enjoyable physical activity with their children. 	<ul style="list-style-type: none"> • Mini volleyball needs to be promoted, incorporated into multi-sport programs, and established country wide in all communities—especially within the school system. • Parental education and sustained participation in their children's early physical and athletic development needs to be emphasized at this stage. • A joint responsibility including government, schools, parents, activity leaders, etc. to develop and implement a strategy to promoting physical activity and sport for life needs to be developed.
Learning to Train	<ul style="list-style-type: none"> • School systems do not offer a well-balanced physical education program utilizing the latest sport science to encourage optimal physical and motor development. • Grassroots introductory volleyball programs are not widespread, well promoted or easily accessible. • Decreasing direct parental involvement in enjoyable physical activity with their children. 	<ul style="list-style-type: none"> • Atomic volleyball needs to be promoted and established country wide in all communities. • Parental education and sustained participation in their children's physical and athletic development needs to continue. • A joint responsibility strategy between government, schools, parents, activity leaders, etc. for promoting physical activity and sport for life needs to be developed.
Training to Train	<ul style="list-style-type: none"> • Lack of club participation in beach volleyball delivery. • Lack of communication or an integrated approach amongst stakeholders (schools, clubs, ADP, other sports, etc.) to collectively develop programs which best serve the athlete's interests. • Lack of appropriate evaluation programs which recognize those groups who continually provide high quality athlete development environments. • The majority of school-based participants are not registered with provincial and national governing bodies. 	<ul style="list-style-type: none"> • Existing indoor clubs need to be encouraged to develop a beach volleyball component and new beach volleyball clubs need to be developed. • A "Clubmark" program needs to be established to identify and provide recognition for groups who provide high quality athlete development environments. • PSO's in concert with clubs need to take a leadership role in communicating with all relevant stakeholders the objective of achieving a unified and integrated approach to athlete development. • A lobby effort needs to be undertaken to establish volleyball sports schools in all provinces.

organizations, clubs, and events. Improved recognition for their efforts is crucial if we want to continue to attract and retain good administrators and volunteers long-term.

Finally, schools, clubs, and facilities provide broad opportunities for participation, create competitive opportunities and encourage coaching development. Significant benefits are accrued from having a structure of community-

based clubs which operate a number of programs and are well managed. A key task for beach volleyball is to provide a pathway that enables and encourages clubs to develop and achieve safe, quality beach volleyball opportunities for all sections of the community.

All these groups require a sport structure and adequate support if we wish to properly engage them in LTAD.

	Issues	Main Actions
Learning to Compete	<ul style="list-style-type: none"> • Lack of communication or an integrated approach amongst stakeholders (schools, clubs, ADP, other sports, etc.) to collectively develop programs which best serve the athlete's interests. • Lack of appropriate evaluation programs which recognize those groups who continually provide high quality athlete development environments. • The majority of school-based participants are not registered with provincial and national governing bodies. 	<ul style="list-style-type: none"> • A "Clubmark" program needs to be established to identify and provide recognition for clubs who provide high quality athlete development environments. • PSO's in concert with clubs need to take a leadership role in communicating with all relevant stakeholders the objective of achieving a unified and integrated approach to athlete development. • A lobby effort needs to be undertaken to establish volleyball sports schools in all provinces.
Training to Compete	<ul style="list-style-type: none"> • The relevant stakeholders (colleges, universities, PSO's, NSO, and clubs) have not accepted a shared responsibility to cooperate and collectively develop the next generation of high performance athletes. • Lack of appropriate evaluation programs which recognize those groups who continually provide high quality athlete development environments. • The majority of school-based participants and participants who participate in semi-competitive and recreational programs are not registered with provincial and national governing bodies. 	<ul style="list-style-type: none"> • A "Clubmark" program needs to be established to identify and provide recognition for colleges and universities who provide high quality athlete development environments. • NSO's in concert with colleges, universities, and PSO's need to take a leadership role in communicating with all relevant stakeholders the objective of achieving a unified and integrated approach to high performance athlete development.
Learning to Win	<ul style="list-style-type: none"> • NSO and the National Team Training Centre have not established a clearly defined development and competitive pathway along with programming (i.e. national training centers) for athletes in this group. • The majority of school-based participants and participants who participate in semi-competitive and recreational programs are not registered with provincial and national governing bodies. 	<ul style="list-style-type: none"> • NSO, National Teams, and PSO's need to collaborate to establish multiple full time National Training Centres. • National Teams, CIS, and CCAA need to work together to develop an appropriate competitive schedule. • NSO, National Teams, CIS, and CCAA need to work together to extend the training season beyond the current 6-month schedule.
Training to Win	<ul style="list-style-type: none"> • All stakeholders do not take responsibility for the development and achievements of national teams (collective pride). 	<ul style="list-style-type: none"> • NSO needs to work with all stakeholders to create a stronger identity for and awareness of national teams.



Indoor Volleyball

When our athletes are done their development in our domestic system, they are not close to being international athletes. Even looking at them compared to the competition makes us look like boys vs. men or girls vs. women.
—Bruce Kent, Former Canadian Men's Team Coach

Performance evidence would suggest that our volleyball programs are gradually losing ground to other developed volleyball nations. Since the mid 1980's, our international teams have steadily become less competitive with victories over the top international teams becoming fewer and fewer, the number of players getting opportunities to play in the top European Leagues is on the decline, and more and more university-aged developing athletes are looking south for their training and competitive opportunities.

Recent comparative studies (see the Canadian Sport for Life Resource Paper) with other top sporting nations have identified significant shortcomings in the Canadian sport system and recent gatherings of some of Canada's top volleyball minds at high performance summits and Long-Term Athlete Development workshops identified many areas which need to be rapidly addressed if we wish to improve the quality of indoor volleyball in this country.

- Developing athletes over-compete and under-train.
- Preparation is geared to the short-term outcome—winning—and not the process, which leads to position specialization occurring too early.
- Chronological, rather than developmental age is used in training and competition planning and coaches largely neglect the critical periods of accelerated adaptation to training.

- There is no integration between physical education programs in the schools, recreational community programs, and high performance programs.
- There is no integrated talent identification and athlete tracking system.
- Our best coaches work primarily at the elite level not the developmental level where quality, trained coaches are essential.

These gatherings have identified many issues as well as solutions to change the existing volleyball model into an inclusive one that encourages individuals to get involved in volleyball as a lifelong pursuit. It does so by trying to better connect and integrate physical education programs in the school system with high performance programs and recreational sport programs within the community. It suggests solutions that will ensure that all participants have a better chance to correctly learn fundamental movement skills and basic volleyball skills and that these skills are introduced during the optimum point in their physical development. By implementing the changes suggested, Canada's indoor volleyball system's alignment and integration will be improved. Players developed using LTAD principles will feel more confident on the court and want to continue to improve, enjoy the overall health benefits volleyball provides, and allow all players to embark on a pathway of development suitable to their abilities.

Athletes

The athlete is the central component to LTAD. One of the main objectives of LTAD is to make better athletes out of all Canadians in the hopes that it will encourage Canadians to be active in sport, adopt healthy life styles, and engage in active living pursuits for life, thereby improving the quality of life for all Canadians.

In an athlete-centered model, the recruitment, identification, and retention of athletes are of paramount importance. These are all areas where indoor volleyball can make improvements. Athletes identified with international potential must be encouraged to remain in Canada where

they can be more effectively monitored, become involved with the best development programs, and provided additional training and competition opportunities when appropriate. Playing for Canadian national teams needs to be established as the penultimate goal for all Canadian volleyball players.

In addition, programming for children under the age of twelve is still quite limited in many areas of the country, and many areas of a player's athletic development (i.e. raising of physical capacities) are not appropriately planned, supervised, or adequately tracked.

	Issues	Main Actions
FUNDamentals	<ul style="list-style-type: none"> • Children are not being systemically introduced to volleyball across the country during this stage. • Children are not being introduced to the basic elements of athletics (running, jumping, throwing, etc.) 	<ul style="list-style-type: none"> • Mini volleyball needs to continue to be promoted and established country wide in all communities—especially within the school system. • The school system needs to incorporate daily physical activity—in a fun and exciting way—as part of their curriculum; ideally utilizing physical education professionals.
Learning to Train	<ul style="list-style-type: none"> • Basic volleyball techniques are not being taught to young people at the stage when they are most receptive to learning new motor skills. • Grassroots novice volleyball programs are not widespread, well promoted or easily accessible. • Athletes are inadequately trained in the ABC's (agility, balance, coordination.) 	<ul style="list-style-type: none"> • Atomic volleyball or other introductory volleyball programs need to continue to be promoted and established country wide in all communities—especially within the school system. • Clubs need to embrace this age group and offer additional programming for those children who are demonstrating interest in the sport of volleyball.
Training to Train	<ul style="list-style-type: none"> • No formal national athlete identification program (with standardized data, testing programs, monitoring, etc.) is in place. • The majority of school-based participants are not registered with provincial and national governing bodies. • Athletes are rewarded for competitive success (winning) and not rewarded or recognized enough for skill improvement. 	<ul style="list-style-type: none"> • School-based participants need to be properly registered with their respective provincial and national volleyball associations so that their support needs can be identified and properly addressed. (participant tracking) • Identification programs for emerging talent need to be coordinated at the provincial level, but delivered at the local level. Where identification programs for emerging talent exist, not enough athletes are identified or programs operated. • 6000 athletes per sex should be identified across the country. • Provincial Games programs should be used as the principal tool for the identification and recruitment of emerging talent. • A national standardized testing program that tracks skill, stamina, strength, suppleness, size, and psychological factors and a national data tracking system to record the data and help in developing normative values needs to be created.

	Issues	Main Actions
Learning to Compete	<ul style="list-style-type: none"> • The majority of school-based participants are not registered with provincial and national governing bodies. • No formal national athlete identification program (with standardized data, testing programs, monitoring, etc.) is in place. • Limited Identification (from existing NTCC & CG programs): approximately 150 athletes are identified per sex annually when a population of 600-800 is desired. • Each province identifies the same number of athletes even though there are significant differences in provincial populations. Many athletes with future potential in provinces with high population densities are not identified and/or attracted to the sport. 	<ul style="list-style-type: none"> • Identification programs for emerging talent need to be coordinated at the national level, but delivered at the provincial level. Where identification programs for emerging talent exist, more athletes need to be identified and more programs operated. • 600-800 athletes per sex should be identified across the country. • A national program needs to be developed for this athlete population to use as the principle tool for the identification and recruitment of emerging talent. • A national standardized testing program that tracks skill, stamina, strength, suppleness, size, and psychological factors and a national data tracking system to record the data and help in developing normative values needs to be created.
Training to Compete	<ul style="list-style-type: none"> • Only athletes who have educational goals/abilities that include post secondary education have the opportunity to become involved in high performance programs. • The retention in Canada of athletes who look to compete outside the country (i.e. at US colleges, professionally, etc.). • The tracking and reintegration of athletes who compete outside Canada (i.e. at US colleges, professionally, etc.). • Identification of emerging talent occurs at the national level (i.e. via national team programs). • Programs for emerging talent are not systemic and do not focus on all population areas equally. • Approximately 15-30 athletes are identified per sex annually when a population of 100 is needed. 	<ul style="list-style-type: none"> • A provincial and national registry for ALL (including recreational league players) participants needs to be created. • 100 athletes per sex should be identified across the country. • Provincial team programs for athletes aged 20 and under need to be developed. • A national standardized testing program that tracks skill, stamina, strength, suppleness, size, and psychological factors and a national data tracking system to record the data and help in developing normative values needs to be created. • Improved communication with athletes competing out of country is necessary for athlete retention long-term. • Program restructuring that provides incentives for athletes to remain and train in Canada (i.e. scholarship programs, athlete carding, etc.). • Improved communication/relationships with non-Canadian programs is necessary to improve access to and monitoring of athletes.
Learning to Win	<ul style="list-style-type: none"> • An insufficient number of athletes are identified for national team potential in this stage. 	<ul style="list-style-type: none"> • 40+ athletes per sex should be identified across the country for inclusion in National Training Centre programs. • Identification programs for national team talent need to be coordinated by a High Performance Manager and delivered by National Training Centre Coaches. • A national standardized testing program that tracks skill, stamina, strength, suppleness, size, and psychological factors and a national data tracking system to record the data and help in developing normative values needs to be created.
Training to Win	<ul style="list-style-type: none"> • Commitment from top female athletes has been intermittent • Talent pool is not deep enough (e.g. left side hitting & passing deficiencies, weak serving). • There is an inadequate number of international caliber players. 	<ul style="list-style-type: none"> • Playing for Canadian national teams needs to be established as the penultimate goal for all Canadian volleyball players. • Identification programs for national team talent need to be coordinated by a High Performance Manager and delivered by National Team Coaches. • 20+ athletes who have demonstrated international caliber talent should be identified for senior national team programs.

Coaches

Coaches represent many different roles to many different people and have a significant impact on the sport system. Coaches are teachers, mentors, role models, friends, and leaders in the volleyball community. They usually have the most direct contact with the participant and the most influence on their development in sport. Coaches contribute significantly to Canadian society and have an enormous effect on the development of our youth.

Good coaching is fundamental to a successful sport system. By becoming a valued member of the community, good coaches can share the positive aspects of an active lifestyle. Good

coaches must be equipped with the necessary coaching and personal skills to develop players to their full potential. They need to have the right qualifications and training in order to effectively deliver their services—especially when young people are involved—if we wish to optimize their impact on the sport system.

Indoor volleyball has a lot of dedicated coaches, but even more are needed if we wish to continue to expand our reach. Improved recognition and appropriate compensation for the contributions coaches make will be critical issues moving forward.

	Issues	Main Actions
FUNDamentals	<ul style="list-style-type: none"> • Sport instructors are not well educated on the most effective methods to introduce volleyball-related skills to children. • Sport instructors are not effectively introducing the ABC's of athletics to children. • Inadequate parental involvement and participation. 	<ul style="list-style-type: none"> • There is a need for more widespread exposure to the Mini volleyball approach. • There is a need for more widespread exposure to LTAD and its related training principles. • Parents need to be integrated into coaching support roles.
Learning to Train	<ul style="list-style-type: none"> • Sport instructors are not well educated on the most effective methods to introduce volleyball to children. • Sport instructors are not effectively creating physical literacy (motor skill learning) in children. • Appropriate physical training methodologies are not well understood or applied. • There exists inadequate parental involvement and participation. 	<ul style="list-style-type: none"> • More widespread exposure to Atomic volleyball and/or other introductory approaches. • More widespread exposure to LTAD and its related training principles. • Parents need to be integrated into coaching support roles.
Training to Train	<ul style="list-style-type: none"> • Coaches do not adequately understand the growth and development needs of their athletes especially as they relate to optimal windows of trainability and LTAD. • Most coaches are not adequately compensated for their time investment which significantly limits athlete support and the coach's desire to improve professionally. • Coaches are too focused on and rewarded for competitive success (winning) and not rewarded or recognized enough for their role in LTAD. • Coaches are not accountable for preparing athletes for the next phase of their developmental cycle. • The sport knowledge base of volleyball coaches needs improvement. • Appropriate physical training methodologies are not well understood or applied. • There are not enough female coaches. 	<ul style="list-style-type: none"> • LTAD principles—especially around the identification and training of those capacities with accelerated periods of development—need to be given a greater emphasis in volleyball's NCCP Program. • A national clinic/symposia structure needs to be created. Symposia/clinics for coaches who work with athletes in the Training to Train stage would be delivered in each province annually as a supplement to the NCCP program, with content jointly determined by the province and national bodies. • A recognition and accountability framework for coaches who develop athletes based on LTAD principles needs to be created (e.g. club mark program, skills competitions, etc.). • The number of coaches who have NCCP Level 1 certification in the school system needs to increase. • The contributions that coaches make to society need to be recognized and rewarded.



	Issues	Main Actions
Learning to Compete	<ul style="list-style-type: none"> Coaches do not adequately understand the needs of their athletes especially as they relate to optimal windows of trainability and LTAD. Most coaches are not adequately compensated for their time investment which significantly limits athlete support and the coach's desire to improve professionally. Coaches are not accountable for preparing athletes for the next phase of their developmental cycle. The sport knowledge base of volleyball coaches (especially as it applies to periodization) needs improvement. Appropriate physical training methodologies are not well understood or applied. Coach to coach communication needs to be improved - athletes play in numerous programs (school, club, provincial team, etc) which need to be coordinated by those coaches involved. There are not enough female coaches. 	<ul style="list-style-type: none"> LTAD principles—especially around the identification and training of those capacities with accelerated periods of development—need to be given a greater emphasis in volleyball's NCCP Program. A national clinic/symposia structure needs to be created. Symposia/clinics for coaches who work with athletes in the Learning to Compete stage would be delivered in each province annually as a supplement to the NCCP program, with content jointly determined by the province and national bodies. A recognition and accountability framework for coaches who develop athletes based on LTAD principles needs to be created (e.g. club mark program, skills competitions, etc.). The number of coaches who have NCCP Level 2 certification in this context needs to increase. The contributions that coaches make to society need to be recognized and rewarded. Provincial team and club coaches need to display leadership and contact the coaches of any additional programs in which their athletes are involved with the goal of improved program synchronization.
Training to Compete	<ul style="list-style-type: none"> The number of professional development opportunities for coaches in this context is limited. There are not enough full time professional coaching opportunities which significantly limits athlete support. Coaches over emphasize specialization at the risk of limiting further all round skill development/refinement. Coaches have only minimal accountability for preparing athletes for the next phase in LTAD. 	<ul style="list-style-type: none"> A recognition and accountability framework for coaches who develop athletes based on LTAD principles needs to be created. A greater number of professional development and mentoring opportunities for coaches in this context need to be created. The number of coaches who have NCCP Level 3 certification in the college and university system needs to increase. All head coaches at post secondary educational institutions should be full time positions.
Learning to Win	<ul style="list-style-type: none"> There is no structured program to adequately prepare coaches for this level of athlete development and competition (national B and U teams and beyond). 	<ul style="list-style-type: none"> A greater number of professional development and mentoring opportunities for coaches in this context need to be created. The number of coaches who have started or are working towards the completion of NCCP Level 4 certification needs to increase. The number of opportunities for coach exposure to international training and competition needs to increase.
Training to Win	<ul style="list-style-type: none"> Our National Team Coaches need to be able to focus the majority of their time on coaching-related issues and not other issues (administrative, personnel, marketing, etc). A larger pool of potential national team coaches is required. There is a lack of participation in professional development opportunities. 	<ul style="list-style-type: none"> Hire support staff to deal with non-coaching related issues. The number of opportunities for coach exposure to international training and competition needs to increase. A greater number of professional development and mentoring opportunities for coaches in this context need to be created. The number of coaches who are NCCP Level 4 certified needs to increase.

Training

Training is usually considered one of the most critical elements in athlete development. Unless an athlete is getting regular, appropriate and high quality training over a period of many years, it is almost certain that they will fall short of achieving their ultimate potential and not receive maximum benefit from their sporting experiences.

Several significant training indoor volleyball issues have been identified and need to be corrected if we wish to optimize our training environments:

- Basic volleyball skills are not being introduced at an early enough age.
- Accelerated learning opportunities which appear early in a child's development are not being taken advantage of.
- Indoor players do not appear to be training enough at some stages of their development when compared with other volleyball nations.
- Players are specializing too early in their development.

	Issues	Main Actions
FUNDamentals	<ul style="list-style-type: none"> • The ABC's of movement and athletics or the development of physical literacy is underemphasized. • There is insufficient focus on the development of volleyball-related movements. • Activity programs do not recognize or incorporate into training the accelerated periods of adaptability that occur during this stage. • There is insufficient emphasis on fun activities. • Parents do not spend enough time on fun physical activities with their children. • Athletes are encouraged to specialize in one or two sports too early in their development. 	<ul style="list-style-type: none"> • We need to provide community activity leaders with more information and training/learning opportunities for the ABC's of movement and the development of physical literacy. • Mini volleyball needs to be promoted and established country wide in all communities—especially within the school system. • Children should be encouraged to participate in as many sports as possible (4 or more).
Learning to Train	<ul style="list-style-type: none"> • The ABC's of movement and athletics or the development of physical literacy is underemphasized. • The development of basic fitness is underemphasized. • There is insufficient focus on the development of basic volleyball skills. • Activity programs do not recognize or incorporate into training the accelerated periods of adaptability that occur during this stage. • Athletes are encouraged to specialize in one or two sports too early in their development. • Parents do not spend enough time on fun physical activities with their children. 	<ul style="list-style-type: none"> • We need to provide community activity leaders with more information and training/learning opportunities for the ABC's of movement and the development of physical literacy. • Atomic volleyball needs to be promoted and established country wide in all communities. • Children should be encouraged to participate in several other sports (3 or more).
Training to Train	<ul style="list-style-type: none"> • There exists inadequate training related to competition. Our athletes under-train when compared to athletes from top volleyball nations and the latest research findings (Ericsson, Krampe, and Tesch-Romer, 1993) on athlete development. • Player role specialization occurs too early. • Volleyball training focuses too much on preparation for competition and not enough on basic skill development. • Accelerated periods for adaptation are not recognized or included in physical preparation strategies. • Physical preparation when it occurs is occurring with inadequate supervision and without access to appropriate expertise. 	<ul style="list-style-type: none"> • The ratio of training to competition should favour training. • Time dedicated to volleyball training and preparation should be at least 6 hours per week. • The time dedicated to the development of physical capacities should be at least 3 hours per week. • Training needs to begin ahead of the competition schedule so that appropriate General Preparation and Specific Preparation periods can take place. • The development of physical capacities needs to be lead and supervised regularly by coaches or other fitness experts. Athletes should not be left responsible for their own physical preparation. • Growth and development issues related to physical capacity development need to be recognized and planned for in physical preparation strategies. • Competitive rules need to be reviewed to ensure they do not encourage specialization before it is developmentally appropriate.

	Issues	Main Actions
Learning to Compete	<ul style="list-style-type: none"> • There exists inadequate training related to competition. Our athletes under-train when compared to athletes from top volleyball nations and the latest research findings (Ericsson, Krampe, and Tesch-Romer, 1993) on athlete development. • There is too much emphasis on specialization at the expense of continued refinement and improvement of fundamental skills. • Volleyball training focuses too much on preparation for competition and not enough on skill development. • Accelerated periods for adaptation are not recognized or included in physical preparation strategies. • Physical preparation when it occurs is occurring with inadequate supervision and without access to appropriate expertise. 	<ul style="list-style-type: none"> • The ratio of training to competition should favour training. • Time dedicated to volleyball training and preparation should be at least 10 hours per week. • The time dedicated to the development of physical capacities should be at least 5 hours per week. • Training needs to begin ahead of the competition schedule so that appropriate General Preparation and Specific Preparation periods can take place. • The development of physical capacities needs to be lead and supervised regularly by appropriately trained/certified coaches or other fitness experts who are capable of safely introducing and monitoring advanced fitness principles and techniques. Athletes should not be left responsible for their own physical preparation. • Growth and development issues related to physical capacity development need to be recognized and planned for in physical preparation strategies. • Training needs to continue to be broad in scope and not always position specific.
Training to Compete	<ul style="list-style-type: none"> • The annual training period is too short (e.g. CIS/CCAA programs last 6 months). Our athletes under-train when compared to athletes from top volleyball nations and the latest research findings (Ericsson, Krampe, and Tesch-Romer, 1993) on athlete development. • Year round training which allows an appropriate and the gradual raising of physical, and technical/tactical capacity does not occur. • There is too much emphasis on specialization at the expense of continued refinement and improvement of fundamental skills. Winning is important at this stage, however winning should not overshadow the holistic development of the athlete. • Not enough time is spent on the development of physical capacities especially in the off-season and it is occurring with inadequate supervision and without access to appropriate expertise. 	<ul style="list-style-type: none"> • Training—especially the pre-competition periods—needs to increase in length. Ways need to be found to extend the training season beyond the 6 months currently experienced with CCAA/CIS institutions. • The time dedicated to the development of physical capacities needs to increase to at least 5 hours per week • The development of physical capacities needs to be directed and supervised regularly by coaches or other fitness experts. Athletes should not be left responsible for their own physical preparation. • Training needs to continue to be broad in scope and not always position specific.
Learning to Win	<ul style="list-style-type: none"> • The majority of athletes across the country do not have access to high performance training opportunities. • No cross-training opportunities with international programs exist. • Latest sport science techniques are not regularly applied. 	<ul style="list-style-type: none"> • National Training Centres need to be established countrywide. • International training exchanges need to occur (i.e. invite other countries to train in Canada) to give Canadians exposure to other training methodologies and training techniques. • National Training Centres need to keep abreast and seek out the latest in sports science research and training techniques.
Training to Win	<ul style="list-style-type: none"> • Volleyball's National Team Centre is not a year round program leading up to the Olympics (Center only operates when professional athletes are available). • No cross-training opportunities with international programs exist. • Latest sport science techniques are not regularly applied. 	<ul style="list-style-type: none"> • National Team Centre needs to operate year round leading up to the Olympic Games. • International training exchanges need to occur (i.e. invite other countries to train in Canada) to give Canadians exposure to other training methodologies and training techniques. • National Team Centre needs to keep abreast and seek out the latest in sports science research and training techniques.

Competition

It has been regularly stated by Canada's LTAD experts that competition is driving our athlete development programs when it should be integrated as part of an over all structure designed to improve and enhance athlete development and overall performance. Competitive opportunities need to be in line with the age and stage of development of the players as well as other

developmental goals. Indoor volleyball has had some success with competition integration, but too much focus on winning at some stages of development, inadequate competition programming at other levels, and competition programs that categorize participants by chronological age instead of developmental age are still issues.

If you're not just a little bit nervous before a match, you probably don't have the expectations of yourself that you should have.

—Hale Irwin

	Issues	Main Actions
FUNDAMENTALS	<ul style="list-style-type: none"> • Fun volleyball competitions do not exist in most regions. 	<ul style="list-style-type: none"> • Mini volleyball needs to continue to be promoted and established country wide in all communities—especially within the school system.
Learning to Train	<ul style="list-style-type: none"> • Fun volleyball competitions do not exist in most regions. 	<ul style="list-style-type: none"> • Atomic volleyball needs to continue to be promoted and established country wide in all communities—especially within the school system.
Training to Train	<ul style="list-style-type: none"> • There is inadequate training related to competition. Competitions dictate the training schedule rather than the reverse situation. • Volleyball programs focus too much on winning and not enough on the process of LTAD. • Competition regulations are leading to player specialization earlier than desirable. • Age categories do not reflect the developmental ages of the competitors. • Equipment and playing area dimensions are not suitable for the size and physical abilities of the participants. • Competition inequity—not enough matches against equal opponents. 	<ul style="list-style-type: none"> • Develop an integrated competition/training model where competition is used to optimize athlete development. • Rules that encourage player specialization, limit player contribution, or do not reflect the size and physical abilities of participants (i.e. the Libero, 6-substitutes, playing dimensions, etc.) need to be adapted to encourage all-round player development and encourage athlete participation. • The physical characteristics of the individual can vary widely during this period. Therefore it is important to offer age categories with 1-year age divisions (12U, 13U, 14U, 15U, etc.) and provide opportunities for early developers to “play up” with older competitors and late developers the opportunity to “play down” with younger competitors. • Competitions should be reflective of the level of the athletes so that all players are competing against oppositions of similar abilities. (e.g. tiered competitions)



	Issues	Main Actions
Learning to Compete	<ul style="list-style-type: none"> • There exists inadequate training related to competition. Competitions dictate the training schedule rather than the reverse situation. • Volleyball programs focus too much on winning and not enough on the process of LTAD. • Age categories do not reflect the developmental ages of the competitors. • Access to competition programs for high performance athletes is limited to too few participants. • Competition inequity—not enough matches against equal opponents. 	<ul style="list-style-type: none"> • Develop an integrated competition/training model where competition is used to optimize athlete development. • The physical characteristics of the individual can vary widely during this period. Therefore it is important to offer age categories with 1-year age divisions (17U, 18U, etc.) and provide opportunities for early developers to “play up” with older competitors and late developers the opportunity to “play down” with younger competitors. • Competitions should be reflective of the level of the athletes so that all players are competing against oppositions of similar abilities (e.g. tiered competitions). • An interprovincial competition program needs to be developed (to replace NTCC) to use as the principal tool for the identification, recruitment, and training of emerging talent.
Training to Compete	<ul style="list-style-type: none"> • Elite competition opportunities for emerging talent are limited in number and accessibility (i.e. too few athletes involved). 	<ul style="list-style-type: none"> • Canada Games and NTCC age should be raised to 20 for females and 21 for males. This will provide a significant college and university off-season program which will provide required additional training and competitive opportunities for emerging talent, ensure an appropriate number of athletes are identified nationally in each sex, and create a high performance program that is accessible to athletes not enrolled in an educational institution. • The men’s U20 club program should be raised to include U21 athletes so that all participants in the Training to Compete stage have access to an appropriate competitive opportunity.
Learning to Win	<ul style="list-style-type: none"> • International competition opportunities for emerging talent are poorly accessed (too few opportunities utilized) and there are too few athletes involved. 	<ul style="list-style-type: none"> • An annual competitive schedule needs to be developed and appropriately integrated with national competitions.
Training to Win	<ul style="list-style-type: none"> • There is a lack of high level international competitive opportunities (i.e. World League and Grand Prix). • There is a need to develop a competitive schedule that is compatible with professional player commitments. • Our top female players do not regularly play in the top European leagues. 	<ul style="list-style-type: none"> • National Teams need to gain entry into the World League and the Grand Prix events. • Promote and encourage our athletes (especially female) to play with the best overseas teams.



Sport Science

The utilization and application of sport science has become common practice among sport practitioners worldwide. Regular testing and monitoring of an athlete's training, physical development, and physical capacities is an important part of ensuring that their preparation will be of maximum benefit. Unfortunately, indoor volleyball often does not take advantage of what

sport science has to offer. Little sport science data on indoor volleyball participants is being collected, there are no scientifically valid standardized testing procedures for indoor volleyball athletes developed, Canada's sport scientists are poorly engaged in volleyball research activities, and sport science is not regularly used to enhance or modify training programs at all stages.

	Issues	Main Actions
FUNDamentals	<ul style="list-style-type: none"> • Sport science data on volleyball participants in this group is not being collected. • Sport science testing procedures for the sport have not been standardized. 	<ul style="list-style-type: none"> • Develop a national standardized testing program that is scientifically valid, gender specific, tracks skill, stamina, strength, suppleness, size, and psychological factors. • Develop a national data tracking system to record testing data and help in developing normative values.
Learning to Train	<ul style="list-style-type: none"> • Sport science data on volleyball participants in this group is not being collected. • Sport science testing procedures for the sport have not been standardized. 	<ul style="list-style-type: none"> • Develop a national standardized testing program that is scientifically valid, gender specific, tracks skill, stamina, strength, suppleness, size, and psychological factors. • Develop a national data tracking system to record testing data and help in developing normative values.
Training to Train	<ul style="list-style-type: none"> • Sport science data on volleyball participants in this group is not being collected. • Sport science testing procedures for the sport have not been standardized. 	<ul style="list-style-type: none"> • Develop a national standardized testing program that is scientifically valid, gender specific, tracks skill, stamina, strength, suppleness, size, and psychological factors. • Develop a national data tracking system to record testing data and help in developing normative values.
Learning to Compete	<ul style="list-style-type: none"> • Sport science data on volleyball participants in this group is not being collected. • Sport science testing procedures for the sport have not been standardized. • Sport science is not utilized to develop and/or modify training programs. 	<ul style="list-style-type: none"> • Develop a national standardized testing program that is scientifically valid, gender specific, tracks skill, stamina, strength, suppleness, size, and psychological factors. • Develop a national data tracking system to record testing data and help in developing normative values.
Training to Compete	<ul style="list-style-type: none"> • Sport science data on volleyball participants in this group is not being collected. • Sport science testing procedures for the sport have not been standardized. • Canadian sport science experts are insufficiently engaged in volleyball research activities. • Sport science is not utilized to develop and/or modify training programs. 	<ul style="list-style-type: none"> • Develop a national standardized testing program that is scientifically valid, gender specific, tracks skill, stamina, strength, suppleness, size, and psychological factors. • Develop a national data tracking system to record testing data and help in developing normative values needs. • Coaches need to incorporate and integrate appropriate sport science expertise into volleyball training programs.
Learning to Win	<ul style="list-style-type: none"> • Sport science testing procedures for the sport have not been standardized. • Canadian sport science experts are insufficiently engaged in volleyball research activities. • Sport science is not utilized to develop and/or modify training programs. 	<ul style="list-style-type: none"> • Develop a national standardized testing program that is scientifically valid, gender specific, tracks skill, stamina, strength, suppleness, size, and psychological factors. • Coaches need to incorporate and integrate appropriate sport science expertise into volleyball training programs.
Training to Win	<ul style="list-style-type: none"> • Sport science testing procedures for the sport have not been standardized. • Canadian sport science experts are insufficiently engaged in volleyball research activities. • Sport science is not utilized to develop and/or modify training programs. 	<ul style="list-style-type: none"> • Develop a national standardized testing program that is scientifically valid, gender specific, tracks skill, stamina, strength, suppleness, size, and psychological factors. • Coaches need to incorporate and integrate appropriate sport science expertise into volleyball training programs.

Stakeholders

In a LTAD sport framework, a sport's stakeholders are instrumental to success. Stakeholders must be clearly aware of their roles and be appropriately integrated within the system if we wish to reach our goals of improved performances, a physically active population, life-long sport participation and ultimately, a healthier society.

Parents play a vital role in many aspects of their children's development in volleyball. Many get involved in coaching, fundraising, administration, and transporting children to and from training and competitions. It is essential that parents understand their role in assisting children to achieve their full potential within sport. They need to be encouraged to always be involved in the physical development of their children as well as educated on the concept of LTAD and physical literacy. Then, they need to be encouraged to play a role in facilitating the understanding of special requirements such as proper hydration, nutrition, and recovery with their children.

Officials perform a vital role in the sport and with the growth in the popularity of volleyball;

the demand for officials is increasing. We need to place an emphasis on recruiting new, young officials into the system, retain those who are in the system, and improve recognition programs to create better awareness for the vital service they provide within the volleyball community.

Effective administrators and volunteers play an essential and pivotal role in successful organizations, clubs, and events. Improved recognition for their efforts is crucial long-term if we want to continue to attract and retain good administrators and volunteers.

Finally, schools, clubs, and facilities provide broad opportunities for participation, create competitive opportunities and encourage coaching development, but must better understand their role in the LTAD process, improve communication amongst each other, and become better integrated.

All these groups require a sport structure and adequate support if we wish to properly engage them in LTAD.

	Issues	Main Actions
FUNDamentals	<ul style="list-style-type: none"> • School systems do not offer a well-balanced physical education program utilizing the latest sport science to encourage optimal physical and motor development. • Grassroots introductory multi-sport programs are not widespread, well promoted or easily accessible. • Direct parental involvement in enjoyable physical activity with their children is on the decline. 	<ul style="list-style-type: none"> • Mini volleyball needs to be promoted, incorporated into multi-sport programs, and established country wide in all communities—especially within the school system. • Parental education and sustained participation in their children's early physical and athletic development needs to be emphasized at this stage. • A joint responsibility strategy between government, schools, parents, activity leaders, etc. for promoting physical activity and sport for life needs to be developed.
Learning to Train	<ul style="list-style-type: none"> • School systems do not offer a well-balanced physical education program utilizing the latest sport science to encourage optimal physical and motor development. • Grassroots introductory volleyball programs are not widespread, well promoted or easily accessible. • Direct parental involvement in enjoyable physical activity with their children is on the decline. 	<ul style="list-style-type: none"> • Atomic volleyball needs to be promoted and established country wide in all communities. • Parental education and sustained participation in their children's physical and athletic development needs to continue. • A joint responsibility strategy between government, schools, parents, activity leaders, etc. for promoting physical activity and sport for life needs to be developed.
Training to Train	<ul style="list-style-type: none"> • There is a lack of communication or an integrated approach amongst stakeholders (schools, clubs, ADP, other sports, etc.) to collectively develop programs which best serve the athlete's interests. • There is a lack of appropriate evaluation programs which recognize those groups who continually provide high quality athlete development environments. • The majority of school-based participants are not registered with provincial and national governing bodies. 	<ul style="list-style-type: none"> • A "Clubmark" program needs to be established to identify and provide recognition for groups who provide high quality athlete development environments. • PSO's in concert with clubs need to take a leadership role in communicating with all relevant stakeholders the objective of achieving a unified and integrated approach to athlete development. • A lobby effort needs to be undertaken to establish volleyball sports schools in all provinces.



	Issues	Main Actions
Learning to Compete	<ul style="list-style-type: none"> • There is a lack of communication or an integrated approach amongst stakeholders (schools, clubs, ADP, other sports, etc.) to collectively develop programs which best serve the athlete's interests. • There is a lack of appropriate evaluation programs which recognize those groups who continually provide high quality athlete development environments. • The majority of school-based participants are not registered with provincial and national governing bodies. 	<ul style="list-style-type: none"> • A "Clubmark" program needs to be established to identify and provide recognition for clubs who provide high quality athlete development environments. • PSO's in concert with clubs need to take a leadership role in communicating with all relevant stakeholders the objective of achieving a unified and integrated approach to athlete development. • A lobby effort needs to be undertaken to establish volleyball sports schools in all provinces.
Training to Compete	<ul style="list-style-type: none"> • The relevant stakeholders (colleges, universities, PSO's, NSO, and clubs) have not accepted a shared responsibility to cooperate and collectively develop the next generation of high performance athletes. • There is a lack of appropriate evaluation programs which recognize those groups who continually provide high quality athlete development environments • The majority of school-based participants and participants who participate in semi-competitive and recreational programs are not registered with provincial and national governing bodies. 	<ul style="list-style-type: none"> • A "Clubmark" program needs to be established to identify and provide recognition for colleges and universities who provide high quality athlete development environments. • NSO's in concert with colleges, universities, and PSO's need to take a leadership role in communicating with all relevant stakeholders the objective of achieving a unified and integrated approach to high performance athlete development.
Learning to Win	<ul style="list-style-type: none"> • NSO and the National Team Training Centre have not established a clearly defined development and competitive pathway along with programming (i.e. national training centers) for athletes in this group. • The majority of school-based participants and participants who participate in semi-competitive and recreational programs are not registered with provincial and national governing bodies. 	<ul style="list-style-type: none"> • NSO, National Teams, and PSO's need to collaborate to establish multiple full time National Training Centres. • National Teams, CIS, and CCAA need to work together to develop an appropriate competitive schedule. • NSO, National Teams, CIS, and CCAA need to work together to extend the training season beyond the current 6-month schedule.
Training to Win	<ul style="list-style-type: none"> • All stakeholders do not take responsibility for the development and achievements of national teams (collective pride). 	<ul style="list-style-type: none"> • NSO needs to work with all stakeholders to create a stronger identity for and awareness of national teams.



Athletes With A Disability

The Standing Volleyball Discipline

“Athletes with a disability (AWADs) are first and foremost athletes, and for this reason, virtually everything in the able-bodied Long-Term Athlete Development (LTAD) model is applicable.”
—No Accidental Champions, 2006

The above statement holds true for volleyball, as well. Many of the same LTAD principles for the able-bodied volleyball player apply to the volleyball player with a disability. There are differences, however, and this section will discuss certain factors that are specific to the volleyball player with a disability.

Standing Volleyball is a dynamic, fast-paced game that is bound by the same rules and regulations as the traditional indoor game. The sport of standing volleyball was integrated within Volleyball Canada in 1998. Since this time, the Men's National Standing Volleyball Team has consistently achieved podium performances and has been an example of success for the Canadian volleyball community. Even with these outstanding successes, going forward there are still major issues that need to be overcome if standing volleyball is to remain a flagship program in Canadian sport:

- Awareness of disabled volleyball within the sport community continues to be a major challenge for the sport.
- There is a lack of a systemic identification process which is limiting our ability to attract, train and retain top disabled volleyball players.
- There is a lack of domestic competition opportunities in Canada.

Many of our national team athletes have been actively involved with the program for up to 15 years and there is concern that our current national team rosters will be depleted as aging players decide to retire. Volleyball Canada must aggressively identify and develop new athletes if we wish to maintain our current competitive status within the world.

What is the Volleyball AWAD?

The standing volleyball athlete is typically an

individual who has a physical disability which may limit functional mobility, but is nonetheless able to stand. Historically, the sport was only open to amputees, but since the 1980's has been open to other disability classes as well.

AWADs have a wide variety of conditions, ranging from intellectual disability, physical disability, amputations, cerebral palsy, brain injury, sensory impairment, as well as others. Some AWADs are able to manage all the demands of daily living alone, while others, particularly those with a severe disability, may need assistance. The extent and type of assistance will vary by individual and with the stage of development.

The onset of a physical disability can occur at any age for an individual. This situation has a significant effect on how each individual fits into any LTAD model and makes chronological age a poor tool to use in evaluating an individual's place within the LTAD framework. Also, the nature of a disability will have an effect on the individual's place within the LTAD model.

Physical disabilities generally take fall into two categories: congenital (from birth) or acquired. Those individuals with congenital disabilities have had to adapt various elements of their daily lives since birth, whereas a person with an acquired disability—depending on the age at time of injury or illness—will undergo a time of significant change and transition in their lives.

AWADs with either a congenital or an acquired disability can play a significant role in any AWAD development structure. The present roster of the Men's National Standing Volleyball Team is made up of athletes with both congenital and acquired disabilities. Some have played volleyball for their entire lives, whereas others only after injury or illness.

Some of the activities in which they were previously engaged may no longer be open to them in the same form, and they may not be aware of the many sporting and recreation activities that are available.

—No Accidental Champions, 2006

Coaching the Volleyball Player with a Disability

Coaching a volleyball player with a disability in most ways is no different than coaching an able-bodied player. Coaches will need to identify areas of strength and weakness in the athlete and place the volleyball AWAD in the program accordingly. Most of the challenges for the standing player are related to on-court mobility, and the coach should be prepared to adjust techniques, tactics, court positions, etc. to maximize strengths and minimize weaknesses. It is also advisable for coaches to encourage the standing athlete to provide input into what they can and cannot do, and to work with the athlete in an appropriate way to extend the intensity, duration and complexity of their athletic activities.

However, selecting and coaching a full team of

volleyball AWADs is a greater challenge. The classification system and the related eligibility rules for volleyball AWADs are complex. In simple terms, the classification system is made up of three classes – A, B, and C, where ‘A’ is the most functionally able, and ‘C’ is the least. Classification can become quite complicated depending on the nature of the disability, as the sport is not only for amputees, but for other forms of disability as well. Teams are also limited in how many athletes from each of the three classifications are allowed on the floor at one time, further complicating the selection and utilization of team personnel. Therefore not only do the coaches have to select the best players for each position, but they also have to consider the best players *per classification* per position, while ensuring there are enough players on the roster of each classification in case of injury.

Awareness and First Contact/Recruitment are particularly important for individuals with an acquired disability who, prior to injury or illness, may have had no contact with, and no knowledge of, sport for AWADs.

—No Accidental Champions, 2006

Athletes With A Disability – Unique Considerations

Awareness

It goes without saying that all Canadians are aware of the existence of sport. However, Canadians are generally not well informed about the options in sport for athletes with a disability—even within the disabled community. While visibility for some of the higher profile Paralympic sports is improving, many of the sports that do not have the benefit of media coverage remain largely unknown, even within their own sport-specific

communities. This is particularly true in the case of standing volleyball, where awareness is quite strong within the Volleyball Canada organization and several organizations for AWADs, but is largely unknown to the Provincial/Territorial Volleyball Associations and other groups within the volleyball community.

Improved awareness needs to be created among several important groups if standing volleyball is to continue to grow and develop.

Athletes	All potential athletes within this unique population need to be made aware that they can begin or continue a sport they are interested in, despite their disability. The knowledge that there are opportunities to train and compete against one's peers on the world's stage is a significant motivator and can play an important role in physical and social rehabilitation.
Parents and Family Members	Parents' and family members' awareness of sport for AWADs is as important as the athletes'. They provide the direct pillars of support and encouragement for the athletes themselves. Improved understanding among immediate family members about the sport—about the organizations that coordinate various programs, and about other athletes' experiences within the disabled volleyball community—will help to encourage the athlete to become involved with volleyball.
The Sport Community	In general the volleyball community is not aware that disabled volleyball is a viable opportunity for Canada's AWADs, is unaware of what qualifies an athlete for AWAD sport, and is unfamiliar with how to access the AWAD sport system.
The Disabled Community	Within the disabled community, there is the awareness that disabled sport exists however, there is general lack of understanding of the eligibility requirements for and opportunities within various AWAD sports.

Athlete Recruitment/Identification

Unlike able-bodied sport, where there tends to be a focus on early recruitment of participants during childhood, identification and recruitment can occur at a variety of ages for AWAD sport and the standing volleyball athlete. It could be at a very early age within a school environment for someone with a congenital disability or it could be at any age for someone with an acquired disability.

In either case, having a positive first exposure to the sport environment is very important. Families with disabled individuals often are more sensitive to activities which may involve a degree of physical risk and are more aware of the necessity of support systems and the impact they have on disabled individuals. Therefore, additional time and effort must also be taken to educate and reassure influential family members that an appropriate support network exists, that the coaching and administrative staff are appropriately qualified, that staff are available to support and assist them, and that a safe and positive environment will be provided.

Depending on the age of the AWAD in question, recruitment and identification may simply be exposure to sport in general, or exposure to the sport of their choosing – in this particular case, it would be standing volleyball.

Integration with Able-Bodied Athletes

Since standing volleyball utilizes the same competitive rules as traditional volleyball, standing volleyball athletes are easily integrated into the able-bodied game and usually comfortably train

and compete in traditional leagues and clubs. Integration with able-bodied athletes is a good situation for standing volleyball athletes and greatly increases their training and competitive opportunities during the sport's introductory stages. However, training and competitive opportunities become fewer and fewer as the participants advance in skill level and the able-bodied advantages become more evident. Securing positions on teams becomes more and more challenging for the volleyball AWAD.

The Training to Train and Learning to Compete stages are where athlete retention starts to be a major issue. AWADs begin to find it difficult in these stages to find appropriate training and competitive opportunities within the able-bodied system. However, the standing volleyball community has the ability to assist standing players with finding appropriate training and competition opportunities within the able-bodied community—a key athlete support service. If the standing volleyball player is not successfully identified and exposed to standing volleyball programs by this time, then the likelihood that he or she will have the opportunity to remain with a volleyball program is lessened significantly.

Inclusion of AWADs within the able-bodied volleyball communities is one of the objectives of the program, but ironically it also provides standing volleyball with a great challenge. It makes athlete identification difficult because volleyball's AWADs do not compete in separate categories; these athletes are usually registered as any other (able-bodied) volleyball participant within their club or province and not specifically identified as AWADs.

Competitive Structure

There are no specific standing volleyball leagues or national championships in Canada and instead—as mentioned above—all standing participants are integrated into the able-bodied game. The lack of an exclusive standing volleyball national championship or regular regional and national competitions is hurting sport awareness, athlete recruitment, and athlete retention.

Sport Science

As previously mentioned, the LTAD model for the able-bodied athlete applies equally well to the AWAD. When it comes to standing volleyball, there are two significant additional considerations in the sport science field.

Classification – Classification is an essential component of disabled sport and it is very useful to have trained classifiers available throughout Canada to assess new and potential athletes to ensure athletes are correctly classified prior to entry into competition.

Prosthetics – Many standing volleyball athletes compete with prosthetic devices and it is important that these athletes are exposed to the wide variety of options available to them and are able to take advantage of the latest prosthetic technologies.

Exposure to High-Energy Physical Play at a Young Age

For children with disabilities, opportunities for exposure to high-energy physical play at a young age can be limited and AWADs with congenital or acquired disabilities can be equally impacted. This can be due to several reasons: extended or repeated hospital stays, the lack of suitable recreational programs in community centres or schools, or even the over-protectiveness of parents. This limited exposure can result in a late entry into sport, further reinforcing that chronological age is poor determiner when considering athlete development as it relates to the AWAD.



Standing Volleyball Considerations

	Issues	Main Actions
Athletes	<ul style="list-style-type: none"> • Standing volleyball is largely unknown within the volleyball community • Not enough standing volleyball players are being identified. • No potential female standing volleyball players are being identified. • Athletes with less visible disabilities are not being identified. • Current registration systems do not request/include information on possible disabilities. 	<ul style="list-style-type: none"> • Exposure to standing volleyball among the grassroots community needs to improve. • The provincial and national registry for all volleyball participants needs to include the ability to identify AWADs and to describe the nature of their disability.
Coaching	<ul style="list-style-type: none"> • Not enough coaches are aware that standing volleyball programs exist in Canada. • Coaches are not always aware how to best coach an AWAD in volleyball 	<ul style="list-style-type: none"> • Exposure to standing volleyball among the grassroots coaches needs to improve. • Supplemental materials educating coaches on issues relating to AWADs should be available through the Level 1 Volleyball NCCP program.
Training	<ul style="list-style-type: none"> • Not enough training opportunities for the national teams. • There are too few appropriate training opportunities for developing AWADs. 	<ul style="list-style-type: none"> • Ways need to be found to increase the number of training opportunities for our national teams. • A player placement program needs to be developed to assist volleyball AWADs with finding able-bodied clubs to train and compete with.
Competition	<ul style="list-style-type: none"> • There are not enough opportunities for competition against other Standing Volleyball teams either domestically or in the Pan Am zone. • No female standing volleyball competitions exist. • Standing Volleyball has been removed from the Paralympic Program for 2008 	<ul style="list-style-type: none"> • Ways need to be found to increase the number of competitive opportunities for our national teams—especially within our own zone. • A lobbying strategy needs to be developed to promote the re-inclusion of standing volleyball in the Paralympic Games. This strategy should include ensuring that regular international competitions take place, that growth within the sport is evident, and that Canada is able to maintain a high-quality standing volleyball national team program.
Sport Science	<ul style="list-style-type: none"> • There is a need for more certified classifiers in Canada. 	<ul style="list-style-type: none"> • Ways need to be found to increase the number of certification opportunities for potential classifiers.
Stakeholders	<ul style="list-style-type: none"> • Standing volleyball sport awareness is too low among the majority of stakeholders. • There is a lack of communication or an integrated approach amongst stakeholders (schools, other AWAD sports, domestic AWAD multi-sport organizations, rehabilitation programs, etc.). • The majority of school-based AWADs or AWADs who participate in semi-competitive and recreational programs are not registered with provincial or national governing bodies. • There is a lack of appropriate evaluation programs which recognize those groups who continually provide high-quality athlete development environments for AWADs. 	<ul style="list-style-type: none"> • Exposure to standing volleyball among all stakeholders needs to improve. • Volleyball Canada's disabled volleyball committee in concert with the PSO's needs to take a leadership role in communicating with all stakeholders, with the objective of achieving a unified and integrated approach to AWAD identification and development. • School-based AWADs or AWADs who participate in semi-competitive and recreational programs need to be included in the provincial and national registry for all volleyball participants. • "Clubmark" programs need to recognize those groups who include AWAD development initiatives in their programming.

Implementation

The LTAD Working Group was tasked with reviewing Canada's existing volleyball development structure as it relates to LTAD principles, identify any gaps or shortcomings in the country's development pathways, and to make restructuring recommendations with the potential to create a more integrated and aligned sport system. The group was not tasked with the development of a detailed implementation plan. However, as implementation will be critical to the success of any restructuring, significant consideration was given to the practicality of all suggested future actions as they related to the challenging task of implementation.

One item became self-evident as the working group undertook its task; moving forward, Volleyball Canada will need to take a lead role in the restructuring of the volleyball system in Canada if the working group's recommendations are to be successfully implemented. However, the entire volleyball community must support, accept, develop, and enhance their roles within the LTAD framework. Volleyball Canada will need to develop a detailed plan which ensures that this happens as well as:

- Educate the volleyball community on the concepts of LTAD and what it means for volleyball in Canada.
- Aggressively lobby to bring all stakeholders "on board" and achieve the necessary buy-in that will be required to create an environment for change.
- Work to overcome—with the help of stakeholders—significant financial obstacles.
- Use LTAD as a framework for future strategic planning within their organization.

As a further part of the review process, the LTAD working group was able to identify a series of priority items which should be addressed by the volleyball community as soon as possible:

- Athlete retention – from the Training to Train stage forward.
- Participant identification and tracking – all volleyball participants in the country need to be identified and tracked; regardless of what programs they are involved with.
- The professionalization of the volleyball coaching system – required improvements in coaching will not likely be seen until coaches are adequately compensated for their efforts.
- Recognition – for coaches who successfully develop athletes based on LTAD principles.
- National Training Centres – several National Training Centres need to be established for athlete in the Learning to Win stage.
- Planning and periodization – the training our athletes are doing must be in line with LTAD principles in terms of amounts, type, and durations.
- Rule changes – rules that inhibit the LTAD process must be reviewed.
- Competitions – need to be appropriately aligned and competition calendar planning must reflect LTAD competition and development principles.
- Sport programs – need to be aligned and properly integrated.
- Officials – a plan needs to be developed for long-term officials development in terms of attraction, training, retention, and compensation.

I don't know the key to success, but the key to failure is trying to please everybody.

—Bill Cosby

Summary

Canadian volleyball has progressed significantly since its humble beginnings. Canada boasts volleyball participation rates that are envied by much of the world, yet our development systems lack the integration and sophistication of many volleyball nations and our programs fall short for a large group of athletes who strive for excellence and desire to reach their full potential.

We could argue for hours about the problems we have in Canada with our volleyball structure. But in order to solve the problems and improve ourselves as a sporting nation, we must put aside some of our regional differences and act in a

unified fashion for the collective good. Few things worthwhile are ever easy.

The volleyball LTAD Working Group—a group of some of Canada’s foremost volleyball experts—was tasked with devising this “made in Canada” solution to volleyball’s development woes. This Long-Term Athlete Development Strategy is their vision. It is an affirmation of the potential they see in our nation. It is what we could be if we look for solutions instead of problems. It is what we could be if we all agree to strive for a common goal.

Now is the time to write a new course for volleyball development in Canada.

Now is the time for action.



Appendix – Volleyball LTAD System Alignment Beach Males

LTAD PHASE		FUNdamentals				Learning to Train				Training to Train				Learning to Compete				Training to Compete				Learning to Win				Training to Win			
AGE	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	22	23	24	25	26	27	28	26	27	28+
Motor Skills <i>(agility, balance, coordination)</i>	Introduce & Develop				Training Priority				Develop								Maintain/Refine												
	ALO: Physical				Library ALO: Basic Sports																								
ENERGY SYSTEMS																													
Aerobic	Introduce								Develop ALO: Endurance								Maintain/Refine												
Anaerobic Alactic	Develop								Training Priority								Develop				Maintain/Refine								
Anaerobic Lactic													Introduce				Develop				Maintain/Refine								
MUSCULAR QUALITIES	Speed	Intro	Develop				ALO: Speed 1				ALO: Speed 2								Develop										
	Strength <i>(body weight/light load)</i>	Introduce				Develop				Training Priority				Develop								ALO = Accelerated Learning Opportunity							
	Strength <i>(additional Load)</i>									Introduce				Develop/Training				ALO: Strength				Training Priority				Develop			
	Power <i>(strength-speed)</i>	Introduce				Develop				Training Priority								Develop				Maintain/Refine							
	Flexibility	Introduce				ALO: Flexibility												Develop								Maintain/Refine			
Competition Focus	Fun				House Leagues				Provincial & National Championships				Provincial & National Championships				National Championships, Canada Games, North American Events, FIVB Age Class Events, FIVB Championships				FIVB Satellite & Challenger Events				FIVB World Tour Events, Olympic Games				
Competition Categories	Mini Volleyball (1 vs 1, 2 vs 2, 3 vs 3)				Atomic Volleyball (4 vs 4)				13U 14U 15U 16U				17U				20U				24U				Senior/Open				
Coach Education	Community Coach Level 1				Community Coach Level 2				Level 1 Instruction Beginner				Level 2 Competition Introduction				Level 3 Competition Development				Level 3/4 Transition				Level 4 Comp - High Perf.				

Appendix – Volleyball LTAD System Alignment Beach Females

FEMALES																															
LTAD PHASE				Fundamentals				Learning to Train				Training to Train				Learning to Compete				Training to Compete				Learning to Win				Training to Win			
Age				6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+					
Motor Skills <i>(agility, balance, coordination)</i>	Introduce & Develop				Training Priority				Develop								Maintain/Refine														
	ALO: Physical Literacy				ALO: Basic Sports Skills																										
Energy Systems				Introduce				Develop				Training Priority				Develop				Maintain/Refine											
Aerobic				Introduce				ALO: Endurance																							
Anaerobic Alactic				Develop								Training Priority				Develop				Maintain/Refine											
Anaerobic Lactic												Introduce				Develop				Maintain/Refine											
Speed				ALO: Speed 1				Training Priority				ALO: Speed 2								Develop											
Strength <i>(body weight/light load)</i>				Introduce				Develop				Training Priority				Develop								ALO = Accelerated Learning Opportunity							
Strength <i>(additional load)</i>								Introduce				Training Priority				Develop				Maintain/Refine											
Power <i>(strength+speed)</i>				Introduce				Develop				Training Priority				Develop				Maintain/Refine											
Flexibility				Introduce				ALO: Flexibility								Develop				Maintain/Refine											
Competition Focus				Fun				House Leagues				Provincial & National Championships				Provincial & National Championships				National Championships, Canada Games, North American Events, FIVB Age Class Events, FISU Championships				FIVB Satellite & Challenger Events				FIVB World Tour Events, Olympic Games			
Competition Categories				Mini Volleyball (1 vs 1, 2 vs 2, 3 vs 3)				Atomic Volleyball (4 vs 4)				13U 14U 15U				16U 17U 18U				20U				24U				Senior/Open			
Coach Education				Community Coach Level 1				Community Coach Level 2				Level 1 Instruction Beginner				Level 2 Competition Introduction				Level 3 Competition Development				Level 3/4 Transition				Level 4 Comp - High Perf			

Appendix – Volleyball LTAD System Alignment Indoor Males

MALES																																										
LTAD PHASE			FUNDamentals					Learning to Train					Training to Train				Learning to Compete			Training to Compete			Learning to Win				Training to Win															
AGE			6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+																	
Motor Skills <i>(agility, balance, coordination)</i>			Introduce & Develop					Training Priority					Develop					Maintain/Refine																								
			ALO: Physical Literacy					ALO: Basic Sports Skills																																		
Aerobic			Introduce					Develop					Develop					Maintain/Refine																								
Anaerobic Alactic			Develop					Training Priority					Develop					Maintain/Refine																								
Anaerobic Lactic								Introduce					Develop					Maintain/Refine																								
Speed			Intro.	ALO: Speed 1		Develop			Training Priority					ALO: Speed 2		Develop					Develop																					
Strength <i>(body weight/light load)</i>			Introduce					Develop					Training Priority		Develop			ALO = Accelerated Learning Opportunity					Develop																			
Strength <i>(additional Load)</i>								Introduce					Develop/Training Priority		Training Priority								Maintain/Refine																			
Power <i>(strength+speed)</i>			Introduce					Develop					Training Priority					Develop					Maintain/Refine																			
Flexibility			Introduce					ALO: Flexibility										Develop					Maintain/Refine																			
Competition Focus			Fun					House Leagues					School Leagues Club Prov. Championship					School Leagues Club Regional Championship					Provincial & National Championships					CIS/CCAA National Champs. Can Games/NTCC					CIS FISU					NORCECA, World Champs, World Cup, Olympics, Pan Am Games, World League, European Leagues				
Competition Categories			Mini Volleyball (1 vs 1, 2 vs 2, 3 vs 3)					Atomic Volleyball (4 vs 4)					13U 14U 15U 16U					17U 18U					21U					Senior/Open														
Coach Education			Community Coach Level 1					Community Coach Level 2					Level 1 Instruction Beginner					Level 2 Competition Introduction					Level 3 Competition Development					Level 3/4 Transition					Level 4 Competition High Performance									

MALES

MUSCULAR QUALITIES

ENERGY SYSTEMS

Appendix – Volleyball LTAD System Alignment Indoor Females

FEMALES																											
LTAD PHASE				Fundamentals			Learning to Train				Training to Train				Learning to Compete			Training to Compete		Learning to Win				Training to Win			
AGE				6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28+	
Motor Skills <i>(agility, balance, coordination)</i>				Introduce & Develop			Training Priority				Develop							Maintain/Refine									
				A.O.: Physical Literacy																							
				A.O.: Basic Sports Skills																							
Aerobic				Introduce			A.O.: Endurance				Develop				Maintain/Refine												
Anaerobic Alactic				Develop			Training Priority				Develop				Maintain/Refine												
Anaerobic Lactic							Introduce				Develop				Maintain/Refine												
ENERGY SYSTEMS																											
Speed				A.O.: Speed 1 Develop			Training Priority								Develop												
Strength <i>(body weight/light load)</i>				Introduce			Develop				Training Priority				Develop				A.O. = Accelerated Learning Opportunity								
Strength <i>(additional Load)</i>							Introduce				Training Priority				Develop				Develop			Maintain/Refine					
Power <i>(strength-speed)</i>				Introduce			Develop				Training Priority				Develop				Develop			Maintain/Refine					
Flexibility				Introduce A.O.: Flexibility											Develop							Maintain/Refine					
MUSCULAR QUALITIES																											
Competition Focus				Fun			House Leagues				School Leagues Club Regional Championships				Provincial & National Championships			CIS/CAA National Champs. Can Games/NTCC		CIS FISU		NORCECA, World Champs, World Cup, Olympics, Pan Am Games, World League, European Leagues					
Competition Categories				Mini Volleyball (1 vs 1, 2 vs 2, 3 vs 3)			Atomic Volleyball (4 vs 4)				13U 14U 15U			16U 17U 18U			20U		Senior/Open								
Coach Education				Community Coach Level 1			Community Coach Level 2				Level 1 Instruction Beginner			Level 2 Competition Introduction			Level 3 Competition Development		Level 3/4 Transition				Level 4 Competition High Performance				

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