



# BOWLS A Sport for Life



BOWLS CANADA BOULINGRIN

## **Long-Term Athlete Development:**

A systematic approach to maximizing athlete potential and participant involvement





*FOR TOO LONG we've  
played and ignored practice*

*FOR TOO LONG  
coaching meant getting  
tips from friends*

*FOR TOO LONG  
we've underachieved  
internationally*

*FOR TOO LONG our  
champions have been  
mostly champions by chance*

*IT'S TIME to make  
champions BY DESIGN and  
PARTICIPANTS FOR LIFE*

## FOREWORD

Canadians love two things: watching fellow Canadians win gold medals and being the best at what they do.

Long-Term Athlete Development (LTAD) is a systematic framework encompassing every element of bowls, with the athlete/participant as the central focus. LTAD will help Canadians regularly reach the top of the podium, due to the system supporting them, not just by chance.

LTAD gives Canadian Bowlers the ability to identify support structure gaps. It will enable the bowling community to adapt infrastructure and program delivery to provide the best opportunities to those who bowl; whatever their motivation or level of play. This may mean dramatically changing the way Canadian bowlers do things. The key benefits of LTAD are:

- everyone will see where they fit and what their role is
- coaches will have a guide in the design of practice planning, annual plans and programs
- every bowler will understand what they need to do
- stakeholders will make decisions that benefit long-term development

While there are many people who share in an athlete's success and enjoyment in bowls, Bowls Canada Boulingrin and the LTAD framework recognize **that clubs are central to the long-term development of bowlers.**

The competitive nature of sport implies that only a few bowlers will achieve the level to be in elite programs. However, remember that LTAD is not just an elite model; rather it provides a solid foundation for all bowlers at all ages and levels, allowing long-term participation, enjoyment and achievement. Let's celebrate the best and cheer on the rest.





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## What is Long Term Athlete Development?

Long Term Athlete Development (LTAD) is a systematic approach being developed and adopted by Bowls Canada Boulingrin to maximize athlete potential and participant involvement. The LTAD framework aims to define optimal training, competition and recovery based on biological age rather than chronological age and thus takes into account early entry and late entry sport participants. It is athlete centered, coach driven and administration, sport science and sponsor supported.

By tailoring an athlete's/participant's instruction, coaching and training to the development of fundamental physical literacy skills and sport technical skills we are best positioning the participant to:

- Reach full potential
- Increase lifelong participation in bowls and other physical activities
- Improving health and well-being

This framework will set out recommended training sequences and skills developments for the participant from the 'Social Bowler' to the 'Elite Bowler' and back to the 'Active for Life Bowler'. It addresses the physical, mental, emotional and technical needs of the athlete as they pass through each stage of development.



## Where Did LTAD Come From?

As a result of the implementation of the 2005 Canadian Sport Policy, Canada began a major project to re-invigorate its national sport system. This new approach was undertaken in response to: concerns about Canada's lack of physical activity; a growing obesity epidemic, particularly among children; and the perceived poor performance of Canadian teams internationally. Under the direction of Sport Canada, the Canadian Sports Centre - Vancouver and Pacific Sport were given the monumental task of transforming the Canadian sport system and took an innovative approach to this challenge. An Expert Group was established to lead the transformation. The Expert Group's approach was:

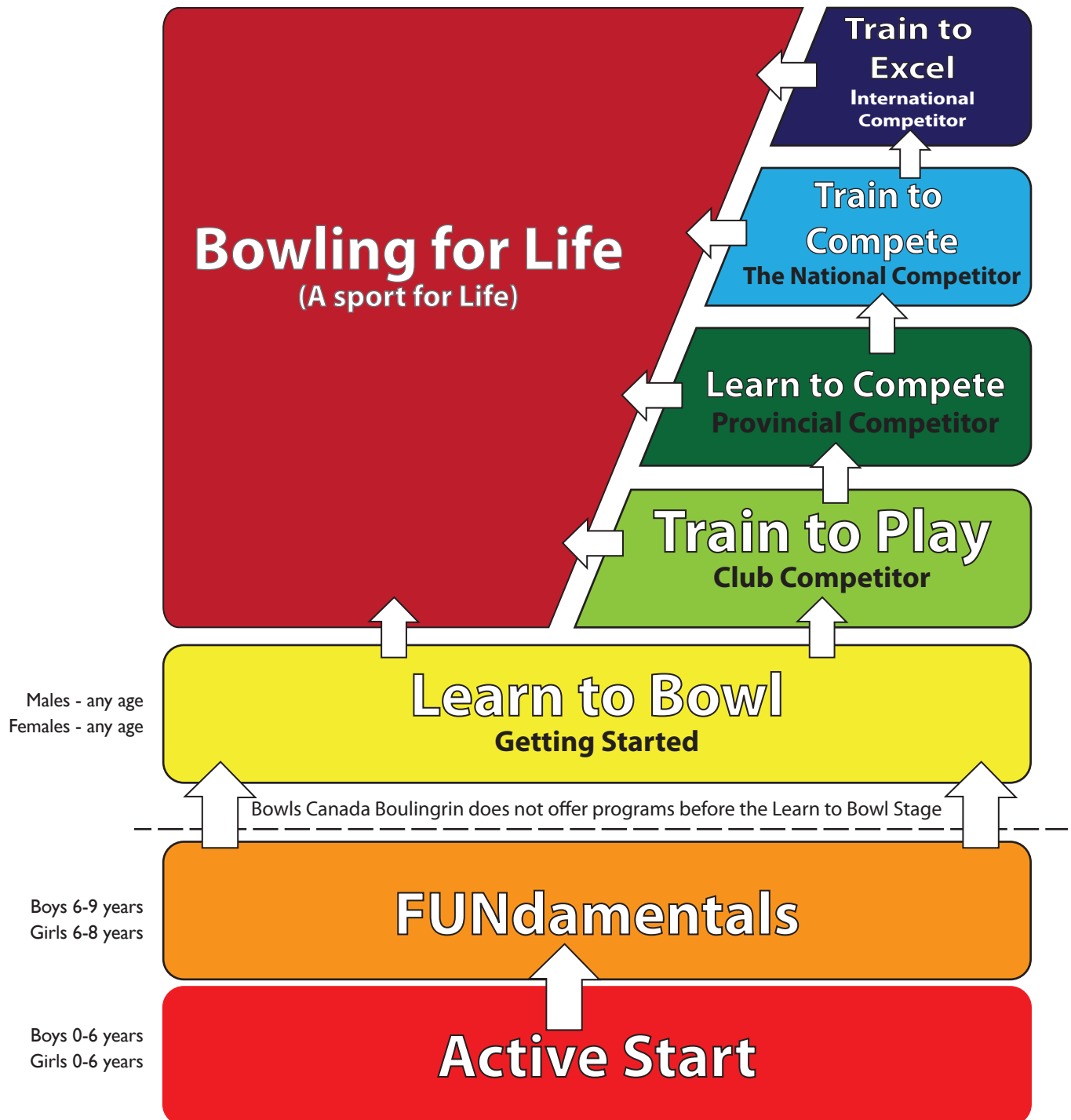
- To create a new generic long-term athlete development (LTAD) model for able bodied athletes
- To create a supplement to the LTAD model that addressed the additional needs of athletes with intellectual or physical disability
- To work with individual National Sport Organizations (NSOs) to adapt the generic model to meet sport specific needs





## The Canadian LTAD Model

The Canadian Long Term Athlete Development framework is a system to develop physical literacy (fundamental movement skills necessary for all sports), physical fitness and competitive ability throughout Canada, using a stage-by-stage approach for individuals participating in sport for health, fitness and fun as well as for high performance.





## Who Else Is Using LTAD?

The Council of Federal, Provincial and Territorial Ministers responsible for Sport have endorsed and established the goal of the implementation of a Long Term Athlete Development program throughout the Canadian sport community. Sport Canada has been working with National Sport Organizations to develop sport-specific programs according to an overall framework established by an expert group of sport scientists.

In Canada, all National sport organizations have started the process of designing and putting into place LTAD programs. There has been a sharing of best practices among resource personnel and National bodies and the overall program is gaining momentum.

Bowls Canada Boulingrin is in the fourth wave of sports to start the LTAD process and is following closely the work of such groups as Volleyball Canada, Athletics Canada, Canada Basketball and Soccer to create the best opportunities for all bowlers.

Various other bowling nations have embarked on developing LTAD systems and we have tried to secure such information to ensure we create the most comprehensive and effective system possible.



## Why Implement LTAD?

There are 10 clear reasons for implementing an LTAD approach:

1. To establish a clear bowler development pathway
2. To identify gaps in the current bowls development pathway
3. To provide solutions
4. To act as change agent to create proper planning, training, competition and recovery programs for developing Canadian bowlers
5. To create a streamlined efficient system
6. To provide a planning tool, based on scientific research, for coaches and administrators
7. To provide awareness, education and action planning for parents and clubs
8. To improve communication within the sport
9. To help athletes win!
10. To facilitate lifelong enjoyment in bowls

Bowls is a great sport and has huge potential for participation and international performance. This LTAD project provided BCB with an opportunity to closely examine our programs to identify inconsistencies with the LTAD key factors and explicitly identify our shortcomings and their related consequences. Most of our shortcomings as a sport can be addressed by developing a comprehensive long term athlete development model. The following shortcomings have plagued the growth and performance of bowls, both in Canada and internationally.





SHORTCOMING	CONSEQUENCE
<ul style="list-style-type: none"> <li>No step-by-step programming to lead participants from beginner to international athlete</li> </ul>	<ul style="list-style-type: none"> <li>Fundamental movement skills like bending, squatting, lunging and arm swing are not performed properly by many bowlers</li> <li>Remedial programs are needed by coaches to re-teach technical and fundamental movement skills</li> <li>No systematic development of the next generation of international athletes</li> <li>International performances are inconsistent because of a fragmented approach to athlete and coaching development</li> <li>The training needs of older athletes are not well understood</li> </ul>
<ul style="list-style-type: none"> <li>Lack of awareness of bowls as a sport</li> </ul>	<ul style="list-style-type: none"> <li>Athletes are unaware of the opportunities within bowls</li> </ul>
<ul style="list-style-type: none"> <li>Too few active coaches at all levels hinders basic skill development and advanced strategic and tactical play</li> <li>Too few athletes seek out qualified coaching</li> </ul>	<ul style="list-style-type: none"> <li>Athletes may not reach their potential due to lack of guidance and support from qualified coaches</li> <li>Athletes have poor skill development</li> </ul>
<ul style="list-style-type: none"> <li>Young athletes are not recruited to the sport</li> <li>Too few athletes are recruited to the sport at an early age</li> </ul>	<ul style="list-style-type: none"> <li>Basic bowling movement skills are not learned thus bowls must rely on other sports to teach these movements</li> <li>Critical windows of trainability are missed</li> </ul>
<ul style="list-style-type: none"> <li>Insufficient time spent on skill development</li> </ul>	<ul style="list-style-type: none"> <li>Basic skills are performed poorly and thus cannot be performed when required in competition</li> </ul>
<ul style="list-style-type: none"> <li>Most players enter bowls later in life</li> </ul>	<ul style="list-style-type: none"> <li>Late entry to the sport makes it challenging for bowlers to master the advanced bowling skills</li> </ul>
<ul style="list-style-type: none"> <li>Players view bowls as a five to eight-month season</li> </ul>	<ul style="list-style-type: none"> <li>Over competing leads to a focus on short-term solutions and under training leads to poor skill development, compromising long-term player development</li> </ul>



## Long-Term Athlete Development

- Is an eight-stage model based on the physical, technical, strategic, mental, emotional and cognitive development of sport participants. The priority of LTAD is Sporting Excellence and the Active for Life stage encourages lifelong physical activity.

***This will provide BCB with an opportunity to fully examine a systematic approach to player development using the LTAD key factors to evaluate current athlete development plans and adapt programs to address shortcomings.***

- Contributes to and promotes a healthy, physically literate nation whose citizens participate in lifelong physical activity.

***Currently there is a lack of information in coaching material about exercise and aging populations who are still active or wish to remain in sport. Many of the Bowls Canada Boulingrin members are older and appropriate material must be developed for coaches to use when working with older athletes.***



- Recognizes best practices in elite sport and what normative data and research tells us about long term athlete development.

***BCB is at the stage where we need to incorporate research and standards into our High Performance Development and Selection Plans. Using a stage-by-stage approach, our organization needs to educate developing athletes regarding the standards and skills required to win on the world stage.***

- Recognizes the need to have all Canadians be physically active, including athletes with a disability.

***Bowls is an inclusive sport where people with disabilities are included in all programs. The LTAD process will provide more insights into additional opportunities for athletes with a disability.***

- Is an inclusive concept that recognizes the importance of athletes, coaches, officials, administrators, sport scientists, clubs, schools and all levels of government.

***The BCB Strategic Plan will incorporate many of the LTAD concepts to ensure consistency and inclusion of all of the people and organizations that can make a difference in our sport.***



## Key Factors that Influence Optimal Athlete Development and Ongoing Quality Participation

### 1. Excellence Takes Time

It takes thousands of hours of training for an individual to become an expert in anything. These hours include time spent learning fundamental movement and fundamental sport skills in a variety of sports and other activities. Primarily, this is centred on unique, but consistent, opportunities to practice, train and compete. For bowls, there are a number of ways that an athlete could get in those many hours of deliberate practice.

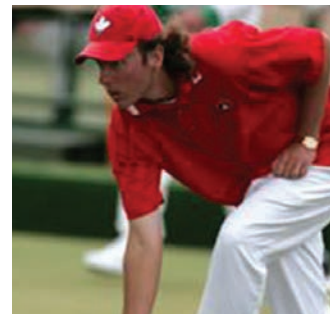
A bowler could enter bowls from a complimentary sport where the technical skills and physical capacities are similar. National team athlete and World Champion, Ryan Bester, is an example of an athlete who joined bowls at the age of 10 after competing in five-pin bowling for a number of years. Another example is Keith Roney, who entered bowls in his 40's and became a world champion. His years in sport included curling which develops skills that are transferable to bowls.

### 2. The Fundamentals

For optimal performance later in life participants need to have developed their fundamental movement and motor skills before the onset of adolescence. This means that bowls relies on children and youth developing physical literacy in physical education classes and participation in a variety of sports and recreational activities. Of particular importance is the development of hand-eye coordination in target type activities such as darts, archery, curling, five and 10-pin bowling, and golf.

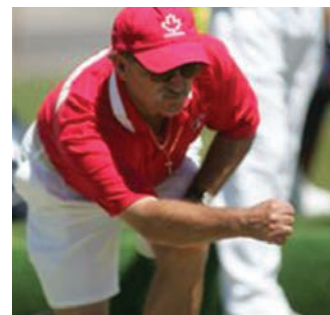
Mastery of the fundamental bowls movements of squat, balance, bend, lunge and arm swing are necessary for elite bowlers. However the reality in bowls is that most athletes/participants take up bowls later in life and as a consequence need to learn, re-learn or improve these fundamental bowling movements. Based on their sporting, fitness or social ambition most of these fundamental bowls movements can be developed at the bowls club, recognizing that modifications can be made to accommodate all participants and their abilities.

Bowls is a social game and can be modified for all abilities and disabilities including persons with a sensory, mobility or intellectual disabilities. People with a disability can participate in bowls to develop their fundamental movement, motor and sport skills.



*I played baseball and five-pin bowling as a child. I stopped playing baseball when I was 12 and kept Five-pin bowling until I was 20. When I was 10, I would play bowls every weekend. When I got to be 13 and older, I played every weekend in the summer and probably 2 days during the week in tournaments.*

*—Ryan Bester*



*I started bowling when I was 31. Both my parents lawn bowled and when my father passed away, my mother did not drive so I would take her to the greens. I was always active in a number of sports so I was not one to just sit and watch so I started bowling and have continued ever since. During high school, sports were a bit more organized and competitions were against other schools. I played baseball, hockey, curling, football, basketball and volleyball. After high school, I continued to compete in hockey, curling, fastball until age 42 when I focused on my competitive lawn bowling.*

*— Keith Roney*



### 3. Specialization

Bowls is a late specialization sport where athletes 18 years of age are as likely as someone who is 50 to be a world champion (individuals with congenital or acquired disabilities can develop the skills to play the game and/or compete internationally). However, the trend in international play is to field teams with younger players than used to be the norm.

While some may want to specialize in bowls, it is complimentary to other target sports, such as curling, five or 10-pin bowling. It is a sport that can be enjoyed and played well into the senior years, a true 'SPORT FOR LIFE'.

### 4. Trainability

Bowls attracts participants of all ages, regardless of skill, flexibility, strength, speed or endurance, can always be trained and improved. Older adults in particular benefit from being physically active, and through their activity maintain or improve their quality of life and ability to remain independent. Older participants who wish to improve their bowls play should, like younger participants, consider engaging in off-field workouts targeting improved strength, flexibility and aerobic endurance.

### 5. Physical, Mental, Cognitive, and Emotional Development

A major objective of LTAD is a comprehensive approach to athlete development which includes physical, tactical and technical skills, as well as psychological, social and emotional preparation. Every individual enters bowls with his/her own personal and unique attributes. For example, an athlete may be very technically proficient for what is needed to compete on the international stage. However, psychological abilities may be indicative that the athlete is not ready to compete at that level. Sending an athlete to compete in international competition without good skills in distraction control will have negative impact on the overall performance.

Beyond the physical, technical, and tactical development — including decision-making skills — mental, cognitive, and emotional development should be enhanced. Training, competitive and recovery programs should consider the mental, cognitive and emotional development of each athlete.

Programs must evaluate all components to determine priority areas for development. Programs need to be individualized, identifying strengths and weaknesses within each area. This includes emphasis on ethics, fair play and character building throughout the various stages, an objective that reflects Canadian values. Programming should be designed considering athletes' cognitive ability to address these concepts.



*A significant feature of bowls is that it is particularly well suited to keeping older Canadians active, fit and socially engaged.*

## 6. Periodization

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

Periodization sequences the training components into weeks, days and sessions. Periodization is situation-specific, depending upon priorities and the time available to bring about the required training and competition improvement. In the LTAD context, periodization connects the athlete's present stage to the requirements of that stage.

For domestic play within North America, a yearly training cycle would start in February and conclude in the late summer or early fall. For international players, the yearly training cycle would be adjusted to accommodate key international events and would follow an 11-month training cycle.

### The Club Competitor

The typical club competitor has an 8 month season with the focus on skill development as a means to enjoy the game and to competently participate in club events as a way to enjoy the full range of social and competitive aspect of bowls.

General Preparation	Competition	Transition
February - March	April - September	October - January
• Indoor bowls if available	• Inter-club, local and regional events	• Other fitness activities

### The Provincial Competitor

The provincial competitor is focused on competing regionally and at provincial championships. The training plan targets one key event around which all training is focused. The training period is now extended from eight to 10 months.

General Preparation	Specific Preparation	Pre-Competition	Competition	Transition
January - March	April - May	June	July - August	Sept. - December
• General fitness, Indoor bowls, general skills	• Maintain fitness, bowls strategy, specific bowling skills	• Maintain fitness, practice events, game strategy	• Provincial play downs and championships	• Other fitness activities and fun bowls events

### The International Competitor

International competitors train year round and design their yearly and multi-year training schedule based on key international events. A player on the Canadian High Performance Team would follow a detailed plan focusing on the World Championships and Commonwealth Games. Athlete preparation requires detailed physical, technical, tactical and psychological preparation to ensure podium performances are by design, not by chance.



General Preparation	Specific Preparation	Pre-Competition	Competition Phase 1	Pre-Competition Phase 2	Competition Phase 2	Transition
Dec - March	April - May	June	July	August	September	Sept. - Nov.
<ul style="list-style-type: none"> <li>• General fitness, Indoor bowls, General skills</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain fitness, review bowls strategy, practice specific bowling skills</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain fitness, practice events, plan game strategy</li> </ul>	<ul style="list-style-type: none"> <li>• Provincial play downs and championships</li> <li>• Play inter-national event</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain fitness, practice events, plan game strategy</li> </ul>	<ul style="list-style-type: none"> <li>• Simulate game situations</li> <li>• Play inter-national event</li> </ul>	<ul style="list-style-type: none"> <li>• Other fitness activities</li> </ul>

## 7. Calendar Planning for Competition

Competition at all levels tends to be the focal point for the sport. Everyone enjoys a game and it is well-recognized that competition provides a focal point for the athlete's training. In sport, too much competition can undermine some of the training objectives and hamper the overall development of the athlete. For bowls, the season is often short and athletes are faced with a compacted competition calendar. At each stage of development, there is an optimal ratio of tournaments to practices. The competition structure -(timing in the season and events)- must match the objectives outlined for optimal athlete development. The system of competition makes or breaks athletes!

Optimal competition calendar planning at all stages is critical to athlete development. At certain stages, developing technical skills takes precedence over competition. At later stages, the ability to compete well becomes the focus. In many cases, bowls athletes are focused on winning a game and specific practice for skill development is lower on the priority list. If athletes are constantly playing to win, there is little time to practice technical or tactical skills.

*The challenge is to protect the traditions of the sport but not at the expense of the development of the athlete. Bowls Canada Boulingrin will undertake a competition review to further analyze optimal competition planning and structure.*

## 8. Alignment and Integration

LTAD provides an opportunity for BCB to examine the whole picture to ensure that our programs are consistent with the outlined stage-by-stage objective for the development of the athlete. For example, the BCB National Coaching Certification Program (NCCP) identifies the knowledge, skills and abilities needed by a coach to work with bowls athletes within various contexts. It is critical that the coaching education and development system is consistent with what athletes need depending on their development.

LTAD has a strong impact on the coaching education curriculum. Developmental readiness will replace ad hoc decision making about programming preparation. It will include how to prepare a yearly plan, and how to teach identified skills based on the LTAD model.

## 9. Continuous Improvement

The concept of continuous improvement ensures that Bowls Canada Boulingrin is aggressively pursuing innovations that will enhance the experience and results of all athletes.

- LTAD responds and reacts to new scientific and sport-specific innovations and observations and is subject to continuous research in all its aspects.



## Learn to Bowl: the social bowler

The overall aim of this stage is to instil the love of the game. New participants to bowls can learn and enjoy the game in four hours. By focussing on the basic technical skills and developing a reasonable proficiency, the new bowler will achieve enough success to stay in the sport. At this point, he or she is a social bowler enjoying social aspects of practicing and playing a game with peers while being active. After demonstrating the basic skills, the bowler will decide which path to take: Bowls for Life, or Train to Play.

### Technical, Physical, Tactical, Psychological Priorities

- Introduce claw or palm grip
- Learn stance and foot positioning on the mat
- Introduce bias and delivery of bowl and jack
- Learns and practices jack setting, controlling length, and bowling to the centre line
- Introduce and practice the draw shot
- Introduce mat placement
- Learn basic rules, game structure, scoring and etiquette
- Basic tactics are introduced
- Physical preparation is basic stretching and working on general fitness
- Develop a basic understanding of equipment and its selection as well as appropriate attire for performance, comfort and weather
- Basic psychological preparation is encouraged including anxiety control and a positive attitude

### Athletes with a disability

Bowls Canada welcomes people with sensory, mobility or intellectual disabilities. Adaptations are made to the game and to practice to accommodate individual differences ensuring that people can progress at their own pace.

- Example: Blind bowlers work with sighted guides to determine aim and distance

### Competition

- In-club competitions and/or modified games



### Skill Performance Indicators

These benchmarks are based on practice/training drills and the percentages, which may seem high, are accurate – bear in mind that game standards/percentages will be considerably lower.

Skill	Beginning of the Stage	Middle of the Stage	End of the Stage
<b>Controlling the length of the jack</b>	23 metres 50% of the time and in play	23 metres 75% of the time and in play	23 metres 100% of the time and in play
<b>Bowling to the centre line</b>	Within 1 metre of the centre line 50% of the time	Within 90 cm of the centre line 60% of the time	Within 80 cm of the centre line 70% of the time
<b>Controlling the length of the bowl</b>	Within 3 metres of the jack 50% of the time	Within 3 metres of the jack 60% of the time	Within 3 metres of the jack 70% of the time





## Train to Play: the club competitor

The main objective of this stage is to encourage the bowls athlete to improve basic skills and begin to learn and use basic tactics during competition. The bowler should be introduced to some physical requirements needed to improve his or her game. While having an enjoyable social experience, it is critical that the athlete needs to focus on learning the identified skills required to progress to the next stage. In order to achieve the performance objectives of the club competitor, more opportunities for practice must be available.

### Technical, Physical, Tactical, Psychological Priorities

- Understands the specific performance of his or her own bowls under different green conditions.
- Demonstrates point of aim using reference points
- Develops correct and consistent delivery of the jack
- Is able to introduce variations to mat placement
- Performs shots to the standards outlined for the club competitor
- Introduces a variety of game strategies including position shots, building a head, opposition weakness, matching bowls and assessing risks
- Participates effectively in a variety of game formats
- Gains experience playing different positions
- Develops the ability to deliver to targets
- Refines weight adjustment skills
- Knows rules of game, etiquette, different formats and scoring
- Understands the basic speed of the green and effect on delivery
- Positions mat and jack to take advantage of own team's strengths
- Is introduced to reading the head and shot selection
- Learns and demonstrates team communication skills
- Is introduced to psychological preparation including goal setting, cooperation with team, pre-game, in game and routines for focus



## Competition

- Participates in inter-club tournaments
- May participate in provincial competition

## Skill Performance Indicators

These benchmarks are based on practice/training drills and the percentages, which may seem high, are accurate – bear in mind that game standards/percentages will be considerably lower.

Skill	Beginning of the Stage	Middle of the Stage	End of the Stage
<b>Controlling the length of the jack</b>	Within 3 metres of the desired length 50% of the time	Within 2 metres of the desired length 50% of the time	Within 2 metres 70% of the time and in play
<b>Bowling to the centre line</b>	Within 80 cm of the centre line 70% of the time	Within 70 cm of the centre line 70% of the time	Within 60 cm of the centre line 70% of the time
<b>Controlling the length of the bowl</b>	Within 3 metres of the jack 70% of the time	Within 2 metres of the jack 70% of the time	Within 1 metre of the jack 70% of the time





## Learn to Compete: the provincial bowler

In this stage, the bowler has made a decision to participate in more serious competition. Therefore, skills, tactical elements, physical and mental capacities need to be introduced to optimize performance. Participant should be exposed to competition and games to learn how to prepare for competition. Practices should focus on priorities that are built into a yearly plan, and relate to tactics executed in game situations. Players should know and understand BCB's code of ethics.

### Technical, Physical, Tactical, Psychological Priorities

- Places mat strategically
- Refines ability to control the length of the jack
- Competently uses a variety of shots
- Develops solid game plans to gain competitive advantage
- Uses tournament strategies to maximize results
- Demonstrates consistency in performance
- Demonstrates ability to change tactics and remain unpredictable to opponents
- Simulates game-like situations in practice
- Demonstrates the ability to adapt to different game types
- Develops weight adjustment skills
- Has strong understanding of rules, etiquette, local practices and code of ethics
- Demonstrates ability to select the bowl based on speed of green

### Competition

- Provincial and/or national championships are priority events
- Coaches and bowlers should select appropriate competitive opportunities to practice strategies before, during and after competition



### Skill Performance Indicators

These benchmarks are based on practice/training drills and the percentages, which may seem high, are accurate – bear in mind that game standards/percentages will be considerably lower.

Skill	Beginning of the Stage	Middle of the Stage	End of the Stage
<b>Controlling the length of the jack</b>	Within 2 metres of the desired length 70% of the time	Within 1 metre of the desired length 75% of the time	Within 30 cm of the desired length 75% of the time
<b>Bowling to the centre line</b>	Within 60 cm of the centre line 70% of the time	Within 45 cm of the centre line 70% of the time	Within 30 cm of the centre line 70% of the time
<b>Controlling the length of the bowl</b>	Within 1 metre of the desired length 70% of the time	Within 50 cm of the desired length 70% of the time	Within 25 cm of the desired length 70% of the time
<b>Strike the target* with heavier weight</b>	10%	40%	70%

\*Target – the target may be the jack, a bowl or a cluster of bowls







## Train to Compete: the national competitor

After moving from the Learn to Compete stage, this athlete is a consistent competitor and can “make the shot” under pressure most of the time. The athlete follows an individualized training, competition and recovery plan in order to progress toward competing at the international level. This athlete continually performs well at provincial championships and consistently places in the top three at national championships. Training involves practicing the advanced technical and tactical aspects of the game.

### Technical, Physical, Tactical, Psychological Priorities

- Improve advanced draw shots
- Perfecting the ability to assess your opponent and prepare an appropriate game plan
- Optimizes/perfects ability to read the head and execute the right tactical shot
- Demonstrates strong skills in reading the green
- Demonstrates good team communication skills
- Demonstrates a full understanding of laws and etiquette
- Continues to advance psychological preparation in anxiety control, focusing and refocusing
- Ensures physical capacities necessary for practice and effective tournament play are optimized including stretching, endurance and other recovery techniques

### Competition

- Priority competitions include national championships and select international events
- Participation in international events is important to introduce the developing athletes to the pressures of international travel and competition

### Skill Performance Indicators

These benchmarks are based on practice/training drills and the percentages, which may seem high, are accurate – bear in mind that game standards/percentages will be considerably lower.

Skill	Beginning of the Stage	Middle of the Stage	End of the Stage
Controlling the length of the jack	Within 30 cm of the desired length 75% of the time	Within 30 cm of the desired length 85% of the time	Within 30 cm of the desired length 90% of the time
Bowling to the centre line	Within 30 cm of the centre line 70% of the time	Within 15 cm of the centre line 70% of the time	Within 15 cm of the centre line 80% of the time
Controlling the length of the bowl	Within 25 cm of the desired length 70% of the time	Within 15 cm of the desired length 70% of the time	Within 15 cm of the desired length 80% of the time
Strike the target with heavier weight	70%	75%	80%







## Train to Excel: the international podium performer

The international bowls competitor prepares to maximize all skills and capacities to peak for podium performance at predetermined international events. This athlete is committed to producing consistent performances on demand. The athlete can read the green, adapt to other challenging conditions and make the shot.

Competition preparation at this level requires more attention to detail than in the previous stage. Multi-sport games like the Commonwealth Games are considerably more complex with additional pressures that are absent from other international competitions. In multi-sport games, there is additional media attention that may intensify the pressures on the athlete. Therefore, athlete preparation requires detailed physical and psychological preparation.

Preparation includes physical and psychological training to ensure readiness for a high stress and intense tournament environment. It also considers the effects of intercontinental travel, travel delays, food differences, hydration, inoculations and emergency sickness.

Competition routines and, mental preparation must be practiced in advance of the priority tournament to be able to produce the ideal performance state.

The athlete and all support personnel must be engaged in creating a training, competition and recovery program that addresses the performance gaps. An integrated support team should be identified to ensure that a high level of expertise is used to optimize all aspects of preparation.

This stage is integrated with our High Performance Team Program and is overseen by Bowls Canada Boulingrin's High Performance Committee.



### Technical, Physical, Tactical, Psychological Priorities

- All technical skills have been mastered
- The focus is now on accuracy and consistency on demand
- Optimizes and perfects the application of strategies and tactics in a game situation
- Knows rules and etiquette used in international tournaments
- Exploits tactics to own advantage
- Continues to improve physical fitness for game/tournament fitness
- Follows an annual training plan that includes peaking for identified major events in the international calendar
- Demonstrates responsible and pro-active behaviour for travel and competition
- Uses video to analyze and record technical skill and game strategy
- Perfects mental training and maximizes distraction control in national and international tournaments
- Players debrief all practices and games to ensure lessons are learned and effective measures taken
- Players track skill performance regularly

### Competition

- Priority events include the Commonwealth Games, World Championships, Asia Pacific Championships, Atlantic Championships and for AWAD events such as Blind Bowls World Championships and Deaf World Bowls Championships.
- Opportunities for appropriate international tournaments with teams from other countries which include bilateral test matches.

### Skill Performance Indicators

These benchmarks are based on practice/training drills and the percentages, which may seem high, are accurate – bear in mind that game standards/percentages will be considerably lower.

Skill	Beginning of the Stage	Middle of the Stage	End of the Stage
Controlling the length of the jack	Within 30 cm of the desired length 90% of the time	Within 20 cm of the desired length 90% of the time	Within 15 cm of the desired length 90% of the time
Bowling to the centre line	Within 15 cm of the centre line 80% of the time	Within 10 cm of the centre line 80% of the time	Within 10 cm of the centre line 90% of the time
Controlling the length of the bowl	Within 15 cm of the desired length 80% of the time	Within 15 cm of the desired length 85% of the time	Within 15 cm of the desired length 90% of the time
Strike the target with heavier weight	80%	85%	90%



## Bowling for Life: a sport for life

After learning the basic bowls skills in the “Learn to Bowl Stage,” the participant can choose to pursue bowling as a highly recreational and social activity or can continue to progress to higher level tournaments and leagues. This long-term approach to bowler development promotes personal success in bowls to ensure bowlers remain happy and enthusiastic about the game. The Bowls for Life stage is open to all ages inclusive of all abilities and disabilities. Youth or adults can participate in this less competitive context, participating in local or regional intra- or inter-club play at a less intense level. The main objectives are lifelong wellness, social interaction and fitness by participating in bowls in a fun and social environment.

There are many life stresses that may interfere with the bowler’s ability to get to the club regularly. Therefore programs should be adaptable to accommodate individual bowlers. Modifications of the game such as carpet bowling, short mat bowling and indoor bowling provide opportunities to participate throughout the year.

Age appropriate physical training in the Bowls for Life stage is critical as older bowlers are looking for fun opportunities for overall wellness. This should include flexibility, adaptable strength training, and exercises for balance and coordination.

### **Technical, Physical, Tactical, Psychological Priorities**

Various skills within these areas will depend on the bowls athlete and the stage that athlete entered the Bowls for Life stage. Within this stage, the participant may become motivated to learn more skills, understand and play the game better. For the most part, the priorities will be driven by the motivation of the participant.

### **Competition**

The type of competition will depend on the priorities and motivation of the bowls athlete. For many, this is social interaction while being active. Tournaments and games could include interclub bowls, vacation bowling, inter-club socials and mechanisms to allow for people with disabilities to bowl.

**Marg Trono, Oak Bay Lawn Bowling Club, Vancouver Island, BC**

Lawn bowling is a gentle polite sport yet it's as competitive as one wants to make it. As with any sport, players begin for a variety of reasons. At the request of a friend, I joined when I was in my sixties. I was new to Victoria and felt that it was a good opportunity to meet new friends, enjoy the fresh air and get some exercise. Now that I'm in my late seventies I'm still enjoying the sport and lawn bowl about three times a week once the season begins. Our club is active from May to September, rain or shine. Some of our members compete provincially and nationally, but for the rest of the club's members, we keep our lawn bowling "just for fun". On holiday weekends we have special bowling activities, which are a bit more competitive, and club dinners. With lawn bowling there are no strict time obligations. You can bowl every day of the week or whenever you can. There's a level of commitment for everybody. It's also very inexpensive to join a lawn bowling club and for very little money you can exercise and socialize with

people. While I enjoy the sport of lawn bowling as it keeps me physically fit, the real reason I keep going after all these years is the people I meet there. There's always something going on and a strong feeling of community at our lawn bowling club in Victoria.

**Alice Duncalf, President, Pacific Indoor Bowls Club, Vancouver, BC**

When I was in my late 20s, my late husband, David, introduced me to lawn bowls. Being a very competitive person, I was intrigued by this sport. At the time, I was a 5-pin bowler (I had been all through school) but I could see there was a lot more to this sport as I watched David play one whole summer before I actually picked up a bowl. I attribute a lot of my success to the following:

- My age when I started bowls
- My competitive spirit
- Good hand eye co-ordination
- Good memory
- Having a life partner who loved the sport as much as I did
- Luck – being in the right place at the right time, i.e. 1981 – silver medal (singles) at the Canadian

championships – being noticed by the selection committee of the day and asked to submit my resume and then at the first selection camp, being named to play for Canada at the 1982 Commonwealth Games in Brisbane. That was the first year women were permitted to play lawn bowls in the Commonwealth Games. I never looked back.

I was a member of the National Team for the next 15 years and was fortunate to be able to compete in many international events. It was a wonderful, arduous, stressful, but totally joyous part of my life.

I no longer play bowls internationally, but still enjoy the game at the national and local levels. And it's not just bowls – it's the friends I've made over the years that keeps me going, especially when I lost David in '03. And since '05, when our brand new indoor facility opened in Vancouver, I find I'm devoting more of my time and energy to ensuring it becomes the success it should be.

So in a nutshell, I can say that for me, bowls has been and will continue to be a sport for life.







## Recommendations for Implementation of Canadian Sport for Life and Long Term Athlete Development for Bowls Canada Boulingrin

1. Bowls Canada Boulingrin will need to take a strong leadership role to communicate with and educate its membership about the Canadian Sport for Life philosophy and LTAD model.
2. BCB and provincial associations need strategic plans to address the development and implementation of programs that tackle the shortcomings and stage-by-stage objectives. This will require communication, cooperation and collaboration among the members.
3. A coherent athlete development pathway that leads to strong, consistent international performances will need to be developed and implemented whereby stage-by-stage performance indicators become a strong part of the focus at all stages.
4. More emphasis must be placed on coaching, particularly addressing the technical and tactical aspects of the game.





5. Many of the athletes in bowls are older adults. Developmentally appropriate training programs for these athletes must be developed. This should include the maintenance of capacities such as strength, flexibility, balance, and coordination.
6. BCB should continue to promote and improve program opportunities for athletes with a disability.
7. BCB must review the competition calendar to ensure athletes have opportunities for developmentally appropriate tournaments both for enjoyment as well as to prepare for high level competition on the international stage.





## Bowls Canada Bowling | Athlete Development Matrix

The Athlete Development Matrix is the basis for BCB's new athlete development model. It provides specific guidance on how to develop each performance factor at every stage of development. It also includes specific benchmarks and standards to aim for each of those performance factors at every stage of development. These benchmarks are based on practice/training drills and the percentages, which may seem high, are accurate — bear in mind that game standards/percentages will be considerably lower.

The Matrix will change the mind set for coaches and they should now plan practices with LTAD in mind. There will be consistency in implementation as we move forward, and the implementation expectations will be the same across the country.

## Technical Skills Matrix

















TECHNICAL SKILLS MATRIX						
STAGE	►	LEARN TO BOWL	TRAIN TO PLAY	LEARN TO COMPETE	TRAIN TO COMPETE	TRAIN TO EXCEL
Grip (claw, palm)		Preferred grip is claw; adapt to palm grip if claw is not feasible				
Stance (Basic Position on Mat)		One foot must be completely on the mat				
Bias		Learn to identify bias & which direction bowl will turn				
Line of Aim		Point of Aim given by Coach or Skip				
Delivery Technique - Bowl & Jack		Point of Aim; Mechanics of Movement; Pendulum Swing				
Mat Placement		Front of mat minimum of 2 Meters from Ditch and Centred				
Jack - setting		Hand Signals for centering				
Controlling Length of Bowl		Within 3 meters of jack 70% of the time				
Controlling Length of the Jack						
Bowling to Centre Line		Within 80 cm of centre line 70% of the time				

# Technical Skills Matrix

TECHNICAL SKILLS MATRIX							
STAGE	►	LEARN TO BOWL	TRAIN TO PLAY	LEARN TO COMPETE	TRAIN TO COMPETE	TRAIN TO EXCEL	BOWLS FOR LIFE
Shots		Draw	Refine Draw Shots	Draw, Wick, Yard-on, Wrestling, Raise, Running, Trail, Drive, Cantering the Bowl	Improve Skills with Advanced Draw Shots (boundary jack, drawing to ditch, block, wick, combinations, etc.)	Perfect Shots for Consistency & Accuracy	Improve Skills with Advanced Draw Shots (boundary jack, drawing to ditch, block, wick, combinations, etc.)
Learn Appropriate Strategies			Position, Building the Head, Opposition Weaknesses, Matching Bowls, Taking chances, Scenarios, Variety of Game Formats	Game Plan, Scouting	Refine	Optimize	Position: Building the Head, Opposition Weaknesses, Matching Bowls, Taking chances, Scenarios, Variety of Game Formats
Learn Strategy Gathering			Watch experienced players and try to guess next shot; ask players about their strategy, expand knowledge of bowling				Watch experienced players and try to guess next shot; ask players about their strategy, expand knowledge of bowling
Tournament Strategies				Percentage shots, Winning the Toss, Watch Opponent's Bowls, Find a side and stick to it. Exploit opposition weaknesses, be consistent but not predictable, Track or Scout opponents			Percentage shots, Winning the Toss, Watch Opponent's Bowls, Find a side and stick to it, Exploit opposition weaknesses, be consistent but not predictable, Track or Scout opponents
Playing Different Positions			Learning to adapt to changes inherent in playing different positions on a team				Learning to adapt to changes inherent in playing different positions on a team
Practice Game-Like Situations				Conditional singles, phantom 4's, freeze the head, weight adjustment, piggy-in-the-middle, mental practices			
Target Drills			Practice delivering to targets				Practice delivering to targets
Learn Different Game Types				Adapt to different Game Types, i.e. Sets play, 2-bowl triples, 3-bowl pairs, etc.; short mat or carpet bowls			Adapt to different Game Types, i.e. Sets play, 2-bowl triples, 3-bowl pairs, etc.' short mat or carpet bowls
Weight Adjustment		Introduce weight adjustment for shot making	Refine weight adjustment skills	Perfect weight adjustment skills			Maintain weight adjustment skills






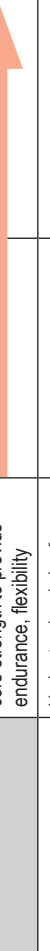




## Knowledge, Rules & Ethics

KNOWLEDGE, RULES & ETHICS						
STAGE	LEARN TO BOWL	TRAIN TO PLAY	LEARN TO COMPETE	TRAIN TO COMPETE	TRAIN TO EXCEL	BOWLS FOR LIFE
Laws of the Game	Basic Rules such as Mat Possession, Touchers, Live/Dead Bowls & Jacks	Basic Understanding of the Laws of the Game	Proper Application of Laws		Knowledge of Conditions of Play of Event	Basic Understanding of the Laws of the Game
Basic Game Etiquette	Where to stand; don't talk while others are playing; safe placement of unplayed bowls	Understanding of Game Etiquette	Understand Local Practices	Communication with Opponent	Knowledge of Local Customs	Full Understanding of Game Etiquette
Hand Signals		For Bowls, For Score		Team Signals		For Bowls, for Score
Measuring		How, Who, When				How, Who, When
Structure of Game	Competition, number of bowls per player, begin play, order of play, end of play, duties of players, shot scored, tie shot & Different Game Types	Basic Understanding of various formats of play	Understand Tactics and skills for end and sets play			Competition, number of bowls per player, begin play, order of play, end of play, duties of players, shot scored, tie shot & Different Game Types
Code of Ethics	Basic understanding of Code of Ethics, i.e. sportsmanship; recognizing & respecting Laws of the Game		Solid understanding of Code of Ethics	Full understanding of Laws and Ethics		Solid understanding of Code of Ethics
Scoring	How to understand scoring	How to do the scoring and who does the scoring				How to do the scoring and who does the scoring
Speed of Green		Basic Concept of Speed of Green and how it affects your delivery	Knowledge of how speed of green affects bowl selection	Knowledge of how to determine speed of green	Before playing acquire knowledge of green speed and select appropriate bowls	Basic Concept of Speed of Green and how it affects your delivery
Conditions of Play		Understand rules of local tournaments	Understand rules for all competitions (Event Regulations)			Understand rules of local tournaments
Dress Code	Casual clothing	Know dress code for all tournaments & competitions	Team Dress Code	Team Uniform		Know dress code for all tournaments & competitions
Doping Control			Introduction to Doping Control Regulations & Therapeutic Use Exemptions	Knowledge of Doping Control Regulations & Therapeutic Use Exemptions		

STRATEGY & TACTICS							
STAGE	►	LEARN TO BOWL	TRAIN TO PLAY	LEARN TO COMPETE	TRAIN TO COMPETE	TRAIN TO EXCEL	BOWLS FOR LIFE
Closest to Jack		Goal is to end up closest to jack					
Mat Placement			Position mat to play to your team's strength or the opponent's weakness				Position mat to play to your team's strength or the opponent's weakness
Jack Length			Position jack to play to your team's strength or the opponent's weakness				Position jack to play to your team's strength or the opponent's weakness
Reading the Head and Choice of Shots			Learn how to read the head; Introduce tactical shot making	Refine	Optimize	Maximize	Know how to read the head; Understand tactical shot making
Game Strategy				Have a general Game Plan; Adjust to your strengths and opponents' weaknesses; Have an end by end strategy			Have a general Game Plan; Adjust to your strengths and opponents' weaknesses; Have an end by end strategy
Competitive Scoring Objectives				Win the point, win the end, win the game. Know when to lose the end (cut the opponent's score down)			Win the point, win the end, win the game. Know when to lose the end (cut the opponent's score down)
Basic Playing Strategies				Get second shot in the head; match a cluster of opponent's bowls; refrain from over-building a head; back bowls are better early in an end.			Get second shot in the head; match a cluster of opponent's bowls; refrain from over-building a head; back bowls are better early in an end.
Placement of Mat & Jack				Know when to change mat placement or jack length in order to play to a strength or attack a weakness			Know when to change mat placement or jack length in order to play to a strength or attack a weakness
Game Plan (Planning for Winning)					Implement different strategies for team and singles play, or for game variations, i.e. sets play, 2 bowl triples or 3 bowl pairs		Implement different strategies for team and singles play, or for game variations, i.e. sets play, 2 bowl triples or 3 bowl pairs
Assess Competition					Track your opponent's play and select game strategies accordingly		Track your opponent's play and select game strategies accordingly



## Physical Preparation

PHYSICAL PREPARATION						
STAGE	►	LEARN TO BOWL	TRAIN TO PLAY	LEARN TO COMPETE	TRAIN TO COMPETE	TRAIN TO EXCEL
Game Preparation		General fitness level; basic stretching; injuries; emergency situations; warm-ups & cool downs (pre & post-game stretching)				
Exercises		Mobility & flexibility exercises; tubing exercises				
Prevention & Care of Injuries		Basic understanding of how to prevent injuries & how to care for them should they happen				
Physical Fitness				Develop and maintain core strength to provide endurance, flexibility		Maintain core strength to provide endurance, flexibility
Nutrition & Hydration		Basic understanding of nutritional & hydration needs		Understand and plan for nutritional & hydration needs: pre, during & post game		Understand and plan for nutritional & hydration needs: pre, during & post game
Body Weight Management		Basic Understanding		Understand how weight management provides more endurance		Understand how weight management provides more endurance

ANCILLARY							
STAGE	►	LEARN TO BOWL	TRAIN TO PLAY	LEARN TO COMPETE	TRAIN TO COMPETE	TRAIN TO EXCEL	BOWLS FOR LIFE
Effective Communication			Learn effective team communication skills	Refine team communication skills		<div></div>	Practice effective team communication skills
Game situation drills				Do case studies on various game situations and scenarios, and practice drills to refine appropriate skills		<div></div>	
Media Expectations					Learn how to deal with media	<div></div>	
Travel emergencies					Make back-up plans for travel emergencies	<div></div>	
Visas, Passports					Have all necessary documentation available for travel to competition site	<div></div>	
Immunization					Have all the necessary immunization shots completed at appropriate times	<div></div>	
Video set up				Use video equipment to improve technical skills & game strategy		<div></div>	
Environmental issues			Deal with weather conditions, i.e. Heat/humidity; Rain/Thunderstorms		Deal with pollution	<div></div>	Deal with weather conditions, i.e. Heat/humidity; Rain/Thunderstorms



EQUIPMENT FACILITY						
STAGE	LEARN TO BOWL	TRAIN TO PLAY	LEARN TO COMPETE	TRAIN TO COMPETE	TRAIN TO EXCEL	BOWLS FOR LIFE
Selecting Bowls	Determine correct size of bowls to use	Introduce concept of selecting bowls to match turf conditions	Ensure your bowls are accurate for playing conditions, i.e. Turf, weather			Ensure your bowls are accurate for playing conditions, i.e. Turf, weather
Measuring equipment		Measure(s), small callipers, wedges				Measure(s), small callipers, wedges
Flat soled shoes	Flat soled shoe in accordance with Laws of the Game					Flat soled shoe in accordance with Laws of the Game
Towel or chamol's	Have towel and/or chamol's to clean and/or dry bowls					Have towel and/or chamol's to clean and/or dry bowls
Club Equipment	Mats, rakes/pushers					Mats, rakes/pushers
Clothing	Comfortable, casual attire	Environmental attire, i.e. rain gear, warm/cool attire	Uniformity in team apparel			Uniformity in team apparel
Equipment Checklist			Make a check list for all equipment, and ensure that it is all readily available			Make a check list for all equipment, and ensure that it is all readily available
Sun Exposure	Sun glasses, sun screen, hat					Sun glasses, sun screen, hat
First Aid	Insect repellent, "after-bite", bandaids					Insect repellent, "after-bite", bandaids

## Competition

STAGE	COMPETITION					
	►	LEARN TO BOWL	TRAIN TO PLAY	LEARN TO COMPETE	TRAIN TO COMPETE	TRAIN TO EXCEL
Modified Games & In-club Tournaments		Variety of fun games to practice skills. i.e. Follow the jack, cutthroat, yardstick, 4/3/2/1				
Competitive Bowling		Club Tournaments & Novice Competitions	Inter-Club Tournaments	Participate in District, Regional, Provincial or National Championships	National to International Play, e.g. Select International Competitions	International Competitions with the expectation of winning
						Variety of fun games to practice skills. i.e. Follow the jack, cutthroat, yardstick, 4/3/2/1  Social interaction; Vacation bowling; mechanism to allow for disabled bowls; Inter-club socials; Game Adjustments (Australian Pairs, Points Games, Mixed Triples)



SPORT PSYCHOLOGY							
STAGE	►	LEARN TO BOWL	TRAIN TO PLAY	LEARN TO COMPETE	TRAIN TO COMPETE	TRAIN TO EXCEL	BOWLS FOR LIFE
Goal Setting		Set goal of mastering basic knowledge & techniques	Master more knowledge & refine techniques	Initiate year-round training & an action plan			Master more knowledge & refine techniques
Anxiety Control		Deal with and overcome anxiety of starting a new sport		Dealing with anxiety of competition	Determine individual anxiety control methods		Dealing with anxiety of competition
Encouragement		Emphasize that game is positive & fun; winning not important; skill development is the goal					Emphasize that game is positive & fun; winning not important; skill development is the goal
Visualization		Introduce visualization of the perfect delivery and where the bowl should end up	Continue to develop visualization skills			Visualize success at major tournaments	Continue to develop visualization skills
Positive Attitude		Everything will not go correctly at beginning	Learn how to handle defeat and victory	Maintain a fresh outlook towards the game & competition			Maintain a fresh outlook towards the game & competition
Focus		Refocus on fundamentals after a bad shot		Refine all aspects of focus & concentration	Maintain focus & Re-focusing		Refine all aspects of focus & concentration
Routine			Establish a pre-game & in-game routine; consistent pattern results in consistent shots				Establish a pre-game & in-game routine; consistent pattern results in consistent shots
Team Dynamics			Learn to work well & co-operate with team members	Develop skills to correct issues that affect team dynamics			Develop skills to correct issues that affect team dynamics
Gamesmanship				Learn how to deal with gamesmanship from the opposition			Deal with gamesmanship from the opposition
Analysis				Analyze Performance in Games & in Practice Sessions	Extend analysis beyond individual level to team level		Analyze Performance in Games & in Practice Sessions
Game Preparation				Introduce concept of team meetings	Develop team meetings to include coaches, team managers, team psychologists		
Seasonal Training Program				Plan practices & tournaments to peak for major events in calendar			
Personal Conflicts				Learn how to deal with "life conflicts", i.e. Time conflicts with job, education, families. Also financial management			Deal with "life conflicts", i.e. Time conflicts with job, education, families. Also financial management
Dealing with the Unexpected				Maintain a positive attitude when something unexpected happens, i.e. game stoppages/delays			Maintain a positive attitude when something unexpected happens, i.e. game stoppages/delays
Psychological Development						Full understanding of all aspects of mental training & develop strategies for mental preparedness	

## Rest & Recovery

REST & RECOVERY						
STAGE	►	LEARN TO BOWL	TRAIN TO PLAY	LEARN TO COMPETE	TRAIN TO COMPETE	BOWLS FOR LIFE
Stretching exercises		Do stretching exercises post-game				Do stretching exercises post-game
Multi-game & Multi-Day Tournaments				Plan for rest & recovery time between games & game days		Plan for rest & recovery time between games & game days
Travel				Plan for travel time and rest before games		Plan for travel time and rest before games
Diet & Fitness				Observe good dietary habits while in tournaments /competitions to maintain strength/endurance	Add mineral & vitamin supplements if travel diet is inadequate	Observe good dietary habits while in tournaments /competitions to maintain strength/endurance, and observe caution with local foods and water

## Disabilities

DISABILITIES						
STAGE	►	LEARN TO BOWL	TRAIN TO PLAY	LEARN TO COMPETE	TRAIN TO COMPETE	BOWLS FOR LIFE
Equipment		Assistive Devices, i.e. Bowls Arm, Bowls Lifter, Ramps for Wheel-chairs, String/Distance Markers for Blind Bowlers				Assistive Devices, i.e. Bowls Arm, Bowls Lifter, Ramps for Wheel-chairs, String/Distance Markers for Blind Bowlers
Delivery Technique		Adapt to individual needs				Adapt to individual needs

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**BOWLS CANADA BOULINGRIN**