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Richard Way (LTAD Expert)

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Cov (left), pg 8, pg 21 (right top), pg 26
All remaining photos courtesy Rick Przybysz
Many elements need to be in place to achieve ongoing success with the national/international broomball programs and to maximize the contribution that the sport of broomball can make to improve the health and well-being of Canadian society.

The Long-Term Athlete Development (LTAD) model has been developed to ensure Canadians have a clear understanding of the eight (8) stages of development and provides the reader with information on the key components of the broomball sport system. These components are seamlessly integrated into the model to help achieve the above objectives.

The timing to collectively build this model could not have been better. Broomball in Canada is thriving. There is a steady growth in broomball through the country. National, provincial, community and club leaders have partnered to build long-term strategic plans and the level of cooperation among these leaders has reached historic highs, with a clear understanding of roles and responsibilities of many involved. The elite and community programs have been rejuvenated with National Coaching Certificate Program (NCCP) Certified Broomball Coaches, and the establishment of a National Youth Coordinator. These two components and a strengthened volunteer base enhances the strong team currently in place to create a culture of excellence for broomball development.

Progressive broomball is a terrific tool to introduce new participants and young children in a systematic way using age/skill appropriate modified teaching systems. At the grassroots level, the strategy of developing Provincial/Territorial partnerships to ensure broomball is meeting and addressing community needs has also proved to be a successful and cutting edge approach to grow the game.

This model is a direct outcome of years of work and collaboration with partners, community leaders and volunteers. Existing and newly formed program along with continuous research were used to develop this framework/model. Special thanks to our Board of Directors, Provincial/Territorial Association partners, LTAD steering committee members, sponsors, donors, volunteers, community champions, supporters, players and all those who contributed to building this very important model – many recognized in the acknowledgment section.

Special thanks are in order to George Brown CBF VP Technical for his superb work as project leader.

Your ongoing support and contribution inspires us as we collectively build a world class system. Delivering well-thought out, effective programs that are adaptable to the diversity within Canadian communities will increase the odds of producing future National champions and ensuring Canadians enjoy the sport of broomball for life. The conditions are ripe to achieve our vision of being among the leading sports and recreational activity nationally and to consistently rank among the world’s top broomball nations.

Yours in Broomball,

Rick Przybysz
President
Canadian Broomball Federation
OVERVIEW

WHAT IS LONG-TERM ATHLETE DEVELOPMENT?

CS4L outlines the LTAD framework for sport development which includes a stage by stage approach for individuals participating in sport for health, fitness and fun as well as for high performance sport.

Canadian Sport for Life

- Is a “Made in Canada” approach to athlete development that acknowledges the importance of individual sport culture as well as the Canadian political and social factors that influence athlete development. It recognizes best practices in elite sport and what normative data and research tells us about long-term athlete development.
- Contributes to and promotes a healthy, physically literate nation whose citizens participate in lifelong physical activity.
- Recognizes the need to involve all Canadians in the LTAD process, including athletes with a disability.
- Is an eight-stage model* based on the physical, technical, mental, emotional and cognitive development of sport participants. The overarching premise of LTAD is the Active for Life stage encouraging lifelong physical activity.
- Provides ten important factors that shape the sport-specific LTAD model for a logical and healthy approach to athlete development.
- Encourages all sport partners to align all sport infrastructure and resources to meet the needs of sport participants across the entire sport continuum.
- Is an inclusive concept that recognizes the importance of athletes, coaches, officials, administrators, sport scientists, clubs, schools and all levels of government.

* This eight stage model is being used by many National Sport Organizations (NSOs).
Some NSOs have more stages and others have reduced the number of stages. The Canadian Broomball Federation has identified a five stage model.

CS4L is a framework that encompasses the participation of a whole population in sport from infants to seniors. CS4L can be divided into three broad areas: Physical Literacy, Active for Life and Excellence. In this idealized model, all children become physically literate, which lays the foundation for later sport excellence or being active for life. This model also shows where athletes pursuing excellence ultimately transition into Active for Life through competitive sport or active recreation.

Physical Literacy is the priority focus at the Active Start stage and continues to be a priority throughout the FUNdamentals and Learning to Train stages, addressing the development of basic movement and sport skill in children, before their growth spurt. CS4L highlights the need for all children to be physically literate.

Active for Life is sport for life: lifelong participation in sport and physical activity from adolescence to seniors, for health, social and enjoyment benefits. That range allows all Canadians to be physically active through competitive sport and recreation participation. Excellence includes the Training to Train, Training to Compete, and Training to Win stages, which is the pathway for athletes to national and international success.

Figure 1 Canadian Sport for Life (Way et al, 2005)

Figure 2 Enjoying Competition for Life (Way & Balyi, 2007)
This document will now focus on how long term athlete development can help develop broomball in Canada. First, the document provides an overview of LTAD and its application in the broomball context. This overview examines some unique characteristics of broomball enthusiasts and how the LTAD ten key factors should be used in overall program development. Then the document outlines a stage-by-stage development model for broomball as well as matrix identifying technical and tactical skills that are needed at various stages.

The third section provides specific details of development including skills, game modifications and other important considerations for each stage. The concluding section outlines the future of the Canadian Broomball Federation and strategic initiatives that will help in the implementation of the LTAD model.

Unique Characteristics of Canadian Broomball Players

Broomball is a unique sport that tends to attract individuals whose main focus for participation is on playing the game for fun and for social reasons. Broomball players have clearly articulated what draws them to and what keeps them in the sport. Although players are competitive in their games, it is not at the expense of losing the fun and social aspect of the experience. In a recent survey of elite and non-elite Canadian Broomball players, both groups provided a ranking of the main reasons why they play the game.

<table>
<thead>
<tr>
<th>Reasons We Play Broomball</th>
<th>Non-Elite Player rating average out of 6</th>
<th>Elite Player rating average out of 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enjoyment</td>
<td>5.5</td>
<td>5.6</td>
</tr>
<tr>
<td>Social</td>
<td>5.21</td>
<td>5.2</td>
</tr>
<tr>
<td>Fitness</td>
<td>5.03</td>
<td>5.2</td>
</tr>
<tr>
<td>Affordable</td>
<td>4.9</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Therefore, it is critical that fun and fitness are included in the overall development program for all LTAD stages ensuring that the social aspect of the sport remains a priority.

Broomball is a sport that can be introduced at any age. It is not unusual for people to start playing as adults, with or without previous sport experience. It is a sport where people with an athletic background can excel playing a highly competitive game. Broomball can be played for fitness, health or fun while being moderately competitive. Participation can continue well into adulthood; in fact, both non-elite and elite players have indicated that they have spent a large majority of their playing time at the Senior level (19 years of age and over) with 65% of the elite players and 56% of the non-elite players being in the sport for more than 15 years. In terms of fitness, both groups averaged out to be slightly overweight with body mass indexes of 26.56 for the non-elite player and 26.06 for the elite player. This may have implications for the overall approach to the fitness component within the various programs.

An interesting question relates to the fact that many players did not start playing broomball until after the age of 19. Where did they come from? According to the data, there is a strong connection with non-elite and elite players to other team sports whereby a large majority have participated in baseball, hockey and soccer at younger ages.

Using the LTAD framework, programs can be developed to ensure that the culture of broomball is maintained but players are receiving the right kind of training based on their developmental stage. As a player enters broomball, he or she may move through the CBF LTAD stages at varying rates depending on training age (how physically fit is the player?), sport age (what complementary sport skills does the player have upon entry) and motivation (does the player want to compete at the highest level or is broomball primarily for social reasons?).

OVERVIEW

While broomball attracts many people for a variety of reasons, it also faces challenges that are potential barriers to participation. These challenges include:

1. Rural and urban participation - There is considerably more broomball activity in rural areas. Based on survey respondents, 58% of the elite players and 71% of non-elite players participate at rural clubs.

2. Competition with other ice sport athletes - There are other ice sports that may draw athletes away from broomball or may indeed drive them to broomball, depending on the player’s experience. These include men’s hockey, women’s hockey and ringette. However, given some of the responses to the survey, this could also be an opportunity to attract new broomball players!

3. Facilities - It is becoming increasingly difficult to get indoor ice time or indoor ice is only available at odd hours when players are not available. It also means that achieving a suitable number of practices to work on skill development can be challenging due to lack of the availability of ice.

(See Appendix 1 - Survey Summary)
10 Key Factors that Influence Optimal Athlete Development

Research shows that there are 10 key factors that influence athlete development. Seven of these factors relate specifically to the development of the individual athlete within the sport. The other 3 factors address systemic issues that are needed to support athlete development within the overall sport system. Re-shaping broomball programs around these factors will ensure that participants can experience both optimal development in their chosen sport and lifelong involvement in physical activity.

**Factor 1 - 10 Year Rule**

Research has concluded that it takes a minimum of 10 years or 10,000 hours of training for a talented athlete to reach elite levels. For the athlete and coach, this translates into slightly more than 3 hours of training or competition daily for 10 years. As previously noted, 65% of the elite broomball players have been playing for more than 15 years. CBF and its coaching programs must develop effective and efficient training programs for players based on a stage-by-stage approach. Within those 10,000 hour, what should be the priority objectives in each of the LTAD stage to ensure optimal player development?

**Factor 2 - Fundamentals**

Fundamental movement skills are very important in a child’s development. The game of broomball is ideal for developing travelling skills (sliding, running, jumping) and object control skills (striking, stopping/trapping, balance movements). Other fundamental skills are also important and must be developed in order to have opportunities to participate in a wide range of sports and lifelong enjoyment of physical activity. These sport skills include running, jumping, throwing, kicking, catching and swimming.

**Factor 3 - Specialization**

Sports can be classified as either early or late specialization. Early specialization sports include artistic and acrobatic sports such as gymnastics, diving and figure skating. These differ from late specialization sports in that highly complex skills are learned before maturation since they cannot be fully mastered if taught after maturation. Broomball is a late specialization sport. Of the elite players who responded to the survey, 65% have been playing broomball for fifteen or more years and 65% were over the age of 30 when they started. Only 17% of the elite players participated in minor broomball leagues, while 51% participated in juvenile and 64% play broomball in senior leagues. This data reinforces that broomball is a late specialization sport that attracts individuals later in their sport careers.

**Factor 4 - Developmental Age**

LTAD requires that developmental age be distinguished from chronological age when designing appropriate training and competition programs in relation to optimal trainability and readiness. In particular, the beginning of the growth spurt and the peak of the growth spurt are very significant in LTAD applications. In many cases, the early maturing child is provided with more and better sport opportunities than their later maturing peers. Therefore, it is critical that coaches/administrators/programmers ensure that all players are given ample opportunity to practice and play with appropriate challenges given the athlete’s developmental age.
THE 10 KEY FACTORS

Factor 5 - Trainability

The term “optimal windows of trainability” refers to a period of time in an individual’s life when a particular training stimulus will cause a bigger adaptation than another training stimulus. For example, accelerated adaptation for strength training hovers around the timing of peak height velocity (PHV) and the timing for the stimuli is different for males and females as shown in Figure 7. There are some broomball players who can take advantage of the optimal windows of trainability – those athletes entering broomball before puberty or during puberty. Coaches working with athletes before and during puberty will need to provide programs to take advantage of accelerated adaptation. (For more information on Trainability, see Appendix 2)

Factor 6 - Physical, Mental, Cognitive and Emotional Development

A major objective of Broomball’s LTAD is a holistic approach to player development. Training and competitive and recovery programs should also consider the mental, cognitive, and emotional development of each player. It is important to recognize that the majority of players are over the age of 19 (according to the survey), therefore programs need to be tailored to the life stage of the participants, whether they are elite or non-elite players. Furthermore, there should include an emphasis on ethics, fair play, and character building throughout the various stages.

Factor 7 - Periodization

Periodization is time management applied to training. 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. Using the LTAD stage-by-stage approach, the training emphasis within the periodized plan connects the requirements of sport and the players stage. One of the challenges for broomball coaches is recognizing that many players participate in a variety of sports during the season. According to the survey, 68% of the elite players participate in broomball activities during a week and 57% participate in additional activities that may enhance fitness and skill. Perhaps this could be monitored more closely to ensure that additional activities complement the overall periodization plan for the athlete.

Based on these 7 LTAD Factors, a stage-by-stage approach for the development of the broomball player can be seen in Figure 4 CBF’s Five Stage Approach to Broomball Player Development and in the CBF Skill Matrix on page 18.
CS4L FACTORS RELATING TO SPORT SYSTEM CHANGES

**Factor 9 - System Alignment**

The LTAD concept is a framework for full sport system alignment, meaning getting everyone in the sport system on the same page. Because there are so many people, organizations and levels of government involved in developing and delivering sport programs, LTAD recommends that parents, teachers, schools, coaches, clubs, recreation centres and governments coordinate their efforts. In the same way, the CBF needs to align all aspects of programming including player development programs, competition structures, competition schedules and CBF’s National Coaching Certification Program. This diagram below shows how the NCCP and the CBF coaching programs align with each LTAD stage.

**Figure 3**

Types of Competition by Stage

<table>
<thead>
<tr>
<th>Stage</th>
<th>Types of Competition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Year Beginner Player</td>
<td>Inter-squad, House League games</td>
</tr>
<tr>
<td>2nd &amp; 3rd Year Intermediate Player</td>
<td>House League games, Local tournaments</td>
</tr>
<tr>
<td>4th &amp; 5th Year Advanced Player</td>
<td>House League games, Local tournaments, Rep teams traveling to Regional and Provincial tournaments, Provincials tournaments, National tournaments, International tournaments</td>
</tr>
</tbody>
</table>

NCCP and LTAD Alignment for the Canadian Broomball Federation

- **Fundamentals**
  - Broomball for Fun
  - Broomball for Life

- **Learn to Train**
  - Recreational and Masters Leagues

- **Train to Train**
  - House League games, Local tournaments

- **Train to Compete**
  - Rep teams traveling to Regional and Provincial tournaments

- **Train to Win**
  - Provincial tournaments, National tournaments, International tournaments

Specific: Training Age + 7
CBF’s 5 Stage Approach To Broomball Player Development

The concept of continuous improvement, which permeates LTAD, is drawn from the respected Japanese industrial philosophy known as Kaizen. LTAD responds and reacts to new scientific and sport-specific innovations and observations and is subject to continuous research in all its aspects. The Canadian Broomball Federation can use LTAD as a vehicle for change. Change can reflect new opportunities to work together within our sport and outside of our sport to advance the game of broomball.

**Factor 10 - Continuous Improvement**

The focus is on the broomball player. How can all of these groups work together to improve the experience and success of the broomball player?

This diagram represents the CBF’s approach to long-term player development and is consistent with the principles of LTAD. In the following matrix, the CBF model has been depicted to show the groups involved in this spirited, competitive yet friendly winter sport. It includes the volunteers, athletes, coaches and officials in all five stages of this Sport for Life model.

The matrix on the following page shows the development path for volunteers, coaches and officials. Using this matrix for example, a coach can see what type of workshops are available to best suit the developmental needs of the players that he/she is coaching.

Coaches working in the Fundamental stage can participate in two NCCP workshops that will help develop the beginning broomball players - Fundamental Movement Skills (FMS) Workshop and CBF Broomball for Fun (BF2) Workshop. The BF2 Workshop (Community Sport - Initiation) is six hours and focuses on broomball skills. It is highly recommended for coaches working at the community level. Coaches working in the Learning To Train and Training To Train stage participate in NCCP Broomball to Compete (BTC) workshop (Competition - Introduction). Training To Compete coaches will learn more about players in this stage at the NCCP Broomball to Excel (BTE) workshops (Competition - Development) which will include broomball-specific information. High performances coaches working with athletes in the Training To Win stage may benefit by entering an NCI (National Coaching Institute) program.

People who are involved with broomball are passionate about this great winter sport. Players and coaches want to transfer this passion to new players who will play Broomball for Life. Anyone can learn the game at any age and enjoy this wonderful winter sport. This LTAD model and the matrix show how everyone can be involved.
The Canadian Broomball Federation (CBF) has outlined skills that should be the focus of each stage. These broomball skills should be addressed in a sequential learning continuum that includes introducing, developing, refining, perfecting and maintaining. Each skill has a specified stage that identifies a certain timeframe of its inclusion in the overall training program based on the player’s stage of ability. The following pages provide a matrix of technical and tactical skills. It is important that athletes and coaches review these but keep in mind that an integrated training plan is the best way to ensure technical and tactical skills are carried over into game situations.

Understanding the Terms

Introducing - Broomball players correctly understand the fundamental movements needed to execute the skill or tactic. It is presumed that this skill or tactic will continue to be developed in later stages.

Developing - It is through repeated practice of the correct performance of the skill to ensure basic execution becomes consistent. Application in a variety of appropriate settings with coach feedback will help the player develop the skill.

Refining - The player is able to combine the skill with other skills and integrate into various aspects of the game. The player begins to place their own “style” into the skills and can link one skill with another in training and under pressure in a game.

Perfecting - The player is becoming comfortable with their own game style and has adapted skills to their own physical and physiological capabilities. Now a player can maintain correct technique and decision making to execute advanced tactics under the pressure and pace of elite Broomball.

Maintaining - The player maintains existing technical, tactical and physical abilities by training and participating in Broomball for life.

Adapted from The Canadian Soccer Association, Wellness to World Cup
## TECHNICAL SKILLS

### Traveling Skills
- **Balance**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Stability (C of Gravity, Basic Stance, Grip)**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Walking**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Running Forward**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Decelerate**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Running Backward**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Lateral movements**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Change direction (Cross-over; pivot)**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining

### Dribbling/Stickhandling
- **Dribbling - Stationary**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Dribbling while running**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Fainting, Faking**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Change Direction**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Protect the ball from opponent**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **1 on 1**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining

### Shooting Skills
- **Wrist Shot**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Slap Shot (if capable)**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Flip Shot**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Half Drive Shot**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Full Drive Shot**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Back Hand Half Drive**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Back Hand Full Drive**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining

### Combined Technical Skills
- **Wrist Pass**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Push Pass (forehand; backhand)**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Passing to player (stationary & moving)**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Receiving pass (broom, foot & hand)**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Flip Pass (short & long)**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Slap Pass**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Passing long distances**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Passing to space**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining

## LTAD Stages

### Number of Years Playing Broomball
- 1st year player
- 2nd and 3rd year player
- Year 4-5 player
- Year 6-7 player
- Year 8-12 player
- Any age

### TECHNICAL SKILLS

<table>
<thead>
<tr>
<th>Skill</th>
<th>Introducing</th>
<th>Developing</th>
<th>Refining</th>
<th>Perfecting</th>
<th>Maintaining</th>
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<tbody>
<tr>
<td>Wrist Pass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Push Pass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passing to player (stationary &amp; moving)</td>
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<td></td>
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<tr>
<td>Receiving pass (broom, foot &amp; hand)</td>
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<tr>
<td>Flip Pass (short &amp; long)</td>
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<td>Slap Pass</td>
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<tr>
<td>Passing long distances</td>
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<tr>
<td>Passing to space</td>
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<td></td>
</tr>
</tbody>
</table>

### Combined Technical Skills
- **Wrist Pass**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Push Pass (forehand; backhand)**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Passing to player (stationary & moving)**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Receiving pass (broom, foot & hand)**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Flip Pass (short & long)**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Slap Pass**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Passing long distances**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
- **Passing to space**
  - Introducing
  - Developing
  - Refining
  - Perfecting
  - Maintaining
### TACTICAL SKILLS

#### Offensive Strategy

<table>
<thead>
<tr>
<th>Dribbling decision:</th>
<th>Introducing</th>
<th>Developing</th>
<th>Refining</th>
<th>Perfecting</th>
<th>Maintaining</th>
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</thead>
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<td>Toward goal</td>
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<tr>
<td>Away from pressure</td>
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<tr>
<td>Fast vs slow</td>
<td>Introducing</td>
<td>Developing</td>
<td>Refining</td>
<td>Perfecting</td>
<td>Maintaining</td>
</tr>
<tr>
<td>* When to put into game situations</td>
<td>Introducing</td>
<td>Developing</td>
<td>Refining</td>
<td>Perfecting</td>
<td>Maintaining</td>
</tr>
</tbody>
</table>

#### Defensive Strategy

| Positioning vs 1 player (behind-side, close-far) | Introducing | Developing | Refining | Perfecting | Maintaining |
| Positioning vs ball and player                | Introducing | Developing | Refining | Perfecting | Maintaining |
| Team defensive systems (zone, man-to-man)     | Introducing | Developing | Refining | Perfecting | Maintaining |
| Apply Pressure (when & where)                 | Introducing | Developing | Refining | Perfecting | Maintaining |
| Body checking (restricted to 16yrs – consideration required for age vs yrs playing) Shoulder & Hip check; Giving & Receiving | Introducing | Developing | Refining | Perfecting | Maintaining |
| Blocking Crosses (filling passing lanes)      | Introducing | Developing | Refining | Perfecting | Maintaining |

#### Physical and Mental Preparation

| Nutrition | Introducing & Developing | Refining | Perfecting | Perfecting | Maintaining |
| Recovery (rest, warm-up, cool down)           | Introducing & Developing | Refining | Perfecting | Perfecting | Maintaining |
| Hydration                                       | Introducing & Developing | Refining | Perfecting | Perfecting | Maintaining |
| Mental Preparation                              | Introducing & Developing | Refining | Perfecting | Perfecting | Maintaining |
| During Practice                                 | Introducing & Developing | Refining | Perfecting | Perfecting | Maintaining |
| During Games                                    | Introducing & Developing | Refining | Perfecting | Perfecting | Maintaining |
| Physical Fitness & Strength Training           | Introducing & Developing | Refining | Perfecting | Perfecting | Maintaining |
**Figure 5**

What Is The Skill Focus For Each Stage?

<table>
<thead>
<tr>
<th>CBF LTAD STAGES</th>
<th>CBF LTAD STAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LEARNING TO TRAIN</strong></td>
<td><strong>1st Year Beginner Player</strong></td>
</tr>
<tr>
<td>2nd &amp; 3rd Year Intermediate Player</td>
<td>Introduce basic Broomball skills</td>
</tr>
<tr>
<td>Reinforce basic rules</td>
<td>Introduce basic Broomball skills</td>
</tr>
<tr>
<td>Introduce more complex Broomball skills</td>
<td>Develop complex Broomball skills</td>
</tr>
<tr>
<td>Modify game to maximize ball contact</td>
<td>Develop ability to combine complex skills and tactics</td>
</tr>
<tr>
<td>Introduce ancillary capabilities</td>
<td>Introduce ancillary capabilities</td>
</tr>
</tbody>
</table>

**TRAINING TO TRAIN**

4th & 5th Year Advanced Player
- Develop & refine basic Broomball skills
- Develop complex Broomball skills
- Develop ability to combine complex skills and tactics
- Introduce ancillary capabilities

**TRAINING TO COMPETE & TRAINING TO WIN**

Elite Player 6 or more years
- Refining & perfecting all aspects of the game

**FUNdamentals**

1st Year Beginner Player
- Introduce basic Broomball skills
- Introduce basic rules
- Modify games to ensure maximum ball contact

**Early Entry (before 10)** | **Late Entry (11-14)** | **Late Entry (after 17)**
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skill</strong></td>
<td>Skill instruction to take place in the 1st third of practice. Focus on drills to teach: stance &amp; position, movement on ice, basic ball handling skills (dribbling, passing, carrying, shooting). Combined skill: dribbling &amp; passing, dribbling &amp; shooting.</td>
<td></td>
</tr>
<tr>
<td><strong>Physical Development</strong></td>
<td>Speed window 1</td>
<td>Agility (quick feet &amp; hands)</td>
</tr>
<tr>
<td></td>
<td>Agility &amp; balance</td>
<td>Strength &amp; stamina</td>
</tr>
<tr>
<td></td>
<td>Lateral movement</td>
<td>Lateral movements</td>
</tr>
<tr>
<td><strong>Tactical Development</strong></td>
<td>Defensive versus Offensive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Basic positions (playing positions)</td>
<td></td>
</tr>
<tr>
<td><strong>Lifestyle</strong></td>
<td>Healthy eating nutrition for competition/tournament play.</td>
<td></td>
</tr>
<tr>
<td><strong>Game Modifications &amp; Structure</strong></td>
<td>Play on 1/2 ice &amp; play 3 on 3; &quot;lots of time touching the ball&quot;; 1/3 skill, 1/3 physical training with skill, 1/3 uninterrupted</td>
<td>Play on 1/2 ice &amp; Play 4 on 4</td>
</tr>
<tr>
<td><strong>Equipment Modifications</strong></td>
<td>Adapt stick to the height of the individual player for their comfort. Net size should be relative to the size of the player. Consider using hockey nets, pylons.</td>
<td></td>
</tr>
<tr>
<td><strong>Rule Modifications</strong></td>
<td>Modify length of the game to 2 X 12 minutes (stop time)</td>
<td>Modify length of the game to 2 X 15 (stop time)</td>
</tr>
<tr>
<td><strong>Modify the buzzer for line changes give time to change players in a controllable fashion ensuring players can focus on executing skills well and not worrying about the next line change. Safety modifications should be made based on age, size and skill. For example, no body contact and no sticks carried above the waist.</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Broomball Canada
Long-Term Athlete Development
Learning to Train
2nd & 3rd Year Intermediate Player

The player has demonstrated competence in performing the basic skills and is now ready to progress to more complex skills including the introduction to basic tactics. As the player improves his/her fitness level, there is an increased ability to perform more complex skills in game situations.

Objectives: To acquire the ability to combine technical skills within a basic tactical framework.

<table>
<thead>
<tr>
<th>Early Stage</th>
<th>Late Stage</th>
<th>Later Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skill Development</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passing: Slap, long distance, passing to space (precision)</td>
<td>Shooting: half drive, full drive, back hand, back hand half drive, back hand full drive. Combined technical skills: dribbling &amp; passing, dribbling &amp; shooting. All skills with increased speed and difficulty.</td>
<td></td>
</tr>
<tr>
<td><strong>Physical Development</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skill &amp; Speed: Daily physical activity 60 minutes</td>
<td>Agility: Away from the rink: strength and stamina</td>
<td>General Fitness for lifelong health and to play broomball</td>
</tr>
<tr>
<td><strong>Tactical Development</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic defensive strategies &amp; positioning. Basic offensive strategies &amp; positioning.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lifestyle</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy eating nutrition for competition/tournament play.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Game Modifications &amp; Structure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No position specialization</td>
<td>Players begin to specialize for specific positions. Ratio of 3 practices to one game should be incorporated.</td>
<td></td>
</tr>
<tr>
<td><strong>Equipment Modifications</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adapt stick to the height of the individual player for their comfort. Net size should be relative to the size of the player. Consider using hockey nets.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rule Modifications</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modify the length of the game based on player fitness and ability.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Training to Train
4th & 5th Year Advanced Player

4 to 5 years experience

Having the ability to perform broomball skills under a variety of conditions, the advanced player emphasizes advanced tactics, increasing the precision and speed of skill execution. While the emphasis is still on fun and enjoying this team sport, the player has mastered broomball skills and tactics. This player continues to improve in their physical development to play the game more effectively (reinforce, stages of skill development).

Objectives: To develop and refine broomball tactics with an introduction of physical and mental preparation to play the game effectively.

<table>
<thead>
<tr>
<th>Early Stage</th>
<th>Late Stage</th>
<th>Later Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skill Development</strong></td>
<td>Refining skills from previous stage. Skills emphasized in game situations. Precision and speed increased in execution of skills.</td>
<td></td>
</tr>
<tr>
<td><strong>Physical Development</strong></td>
<td>Stamina &amp; Speed Window II</td>
<td>Strength and anaerobic tactic work</td>
</tr>
<tr>
<td><strong>Tactical Development</strong></td>
<td>Introduce tactics relating to power plays, overtime penalty killing and reading the game.</td>
<td></td>
</tr>
<tr>
<td><strong>Lifestyle</strong></td>
<td>Introduce recovery and regeneration strategies for tournament play.</td>
<td></td>
</tr>
<tr>
<td><strong>Game Modifications &amp; Structure</strong></td>
<td>Position specialization is recommended.</td>
<td>No game modification is necessary.</td>
</tr>
<tr>
<td><strong>Equipment Modifications</strong></td>
<td>Adapt stick to the height of the individual player for their comfort.</td>
<td></td>
</tr>
<tr>
<td><strong>Rule Modifications</strong></td>
<td>No rule modifications necessary.</td>
<td></td>
</tr>
</tbody>
</table>
### CBF LTAD STAGES

**Training to Compete & Training to Win**

**Elite Player**

6 years of experience or more

As the player advances from the Training to Compete to the Training to Win, there is a high level of skill mastery that includes incorporating advanced skills into complex tactics in a variety of game situations. This elite player follows a structured training plan to maximize physical readiness to play the game. In this stage, the player aggressively participates in fitness activities that directly impact the quality of their game.

**Objective:** To refine and perfect skills, tactics and fitness to play broomball.

<table>
<thead>
<tr>
<th>Skill Development</th>
<th>Continue to improve skills for game improvement and enjoyment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Development</td>
<td>Fitness to play the game is based on a progressive approach to individual athlete’s physical fitness. Players participate in broomball at least once a week but continue to work on fitness 2-3 additional times per week outside of the broomball league.</td>
</tr>
<tr>
<td>Tactical Development</td>
<td>Based on player’s ability and understanding of the game.</td>
</tr>
<tr>
<td>Lifestyle</td>
<td>Recovery and rehabilitation to be able to function in regular life. Prevention of sore muscles and injuries.</td>
</tr>
<tr>
<td>Game Modifications &amp; Structure</td>
<td>Players can specialize for a specific position. Games could be 3-on-3 and standard game format.</td>
</tr>
<tr>
<td>Equipment Modifications</td>
<td>Adapt the height of the stick to suit the comfort of the player. Those who enter from the FUNdamentals or Learn to Train stage may require more modifications.</td>
</tr>
<tr>
<td>Rule Modifications</td>
<td>Rule modifications can be made to suit the skill and fitness level of the players, noting that there may be significant difference between players entering from the FUNdamentals or Learning to Train stages compared to those entering from the Training to Train, Training to Compete or Training to Win stage.</td>
</tr>
</tbody>
</table>

### BROOMBALL FOR LIFE

**BB4L**

Playing for Fun, Fitness and Health

Once a player has learned the basic skills of broomball, he/she can select their participation level. Players can enter BB4L after the FUNdamentals stage or any later stage (after age 17). However, in the BB4L “early” stage (before age 10), there will still be considerable emphasis on improving skills to play the game. In the BB4L “late” stage (ages 11-15), players will take a more relaxed approach to playing the game, placing more emphasis on playing with broomball players with varying skill and fitness levels, where social activities and the pursuit of fun and fitness are the priority.

**Objective:** To enjoy being active by playing broomball.

**Can Enter From BB4L**

<table>
<thead>
<tr>
<th>Skill Development</th>
<th>Continues to improve skills for game improvement and enjoyment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Development</td>
<td>Fitness to play the game is based on a progressive approach to individual athlete’s physical fitness. Players participate in broomball at least once a week but continue to work on fitness 2-3 additional times per week outside of the broomball league.</td>
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<td>Rule Modifications</td>
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</tr>
</tbody>
</table>
CS4L and CBF - ACTION

This document is the first step to developing a LTAD model for broomball. It provides an overview on the ten factors and how these apply to broomball. It identifies the key objectives for the game and the players within each stage.

The direction toward a long-term player development model will require changes to how we do things now - how we coach, when we learn skills, how we train and how we compete. Some changes can be made quickly and other changes may require more time. Our system is interdependent and the national organization cannot push this concept alone. Together, we need to communicate, educate and get feedback from players, coaches, referees, club and provincial representatives.

Toward Input and Implementation - Strategic Initiatives (CBF AGM 2008)

From the 2008 CBF Annual General Meeting, Provincial/Territorial representatives participated in an LTAD workshop. Five key areas were identified and specific initiatives were identified to align with the CBF LTAD concepts.

1) Leadership
• Create volunteer recognition opportunities
• Identify key people in communities for leadership positions
• Recognize that people can do administrative tasks without being broomball people
• Plan for succession
• Develop strategies to retain leaders

2) Facilities
• Increase accessibility to facilities
• Explore other options such as outside ice
• Using half ice means twice as many players
• Subsidize facility costs

3) Competition
• Host more local level tournaments for non-elite competition opportunities

4) Coach and Referee Development
• Advance and further develop recruitment and retention programs
• Create special recruitment initiatives
• Encourage information sharing between provinces and territories such as drills
• Create online coaching programs to reach remote areas
• Initiate more mentoring opportunities
• Recruit non-playing officials
• Ensure availability of facilitators for workshops
• Promote new coaching programs that focus on stages

5) Athlete Development (Participation & Excellence)
• Increase number of and availability of loaner kits
• Encourage appropriate coaching based on LTAD stages
• Provide comfortable environments to compete
• Modify game and equipment to promote skill development and fitness (half ice, hockey nets)
• Provide instruction in practice, then games
• Provide opportunities to participate at an enjoyable competitive level
• Encourage internal motivation for player improvement
Adaptation refers to a response to a stimulus or a series of stimuli that induces functional and/or morphological changes in the organism. Naturally, the level or degree of adaptation is dependent upon the genetic endowment of an individual. However, the general trends or patterns of adaptation are identified by physiological research, and guidelines are clearly delineated of the various adaptation processes, such as adaptation to muscular endurance or maximum strength.

Adolescence is a difficult period to define in terms of the time of its onset and termination. During this period, most bodily systems become adult both structurally and functionally. Structurally, adolescence begins with an acceleration in the rate of growth in stature, which marks the onset of the adolescent growth spurt. The rate of statural growth reaches a peak, begins a slower or decelerative phase and finally terminates with the attainment of adult stature. Functionally, adolescence is usually viewed in terms of sexual maturation, which begins with changes in the neuroendocrine system prior to overt physical changes and terminates with the attainment of mature reproductive function.

Ancillary Capacities refer to the knowledge and experience base of an athlete and includes warm-up and cool-down procedures, stretching, nutrition, hydration, rest, recovery, restoration, regeneration, mental preparation, and taper and peak. The more knowledgeable athletes are about these training and performance factors, the more they can enhance their training and performance levels. When athletes reach their genetic potential and physiologically cannot improve anymore, performance can be improved by using the ancillary capacities to full advantage.

Childhood ordinarily spans the end of infancy — the first birthday — to the start of adolescence and is characterized by relatively steady progress in growth and maturation and rapid progress in neuromuscular or motor development. It is often divided into early childhood, which includes preschool children aged 1 to 5 years, and late childhood, which includes elementary school-age children, aged 6 through to the onset of adolescence.

Chronological age refers to “the number of years and days elapsed since birth.” Growth, development, and maturation operate in a time framework; that is, the child’s chronological age. Children of the same chronological age can differ by several years in their level of biological maturation. The integrated nature of growth and maturation is achieved by the interaction of genes, hormones, nutrients, and the physical and psychosocial environments in which the individual lives. This complex interaction regulates the child’s growth, neuromuscular maturation, sexual maturation and general physical metamorphosis during the first 2 decades of life.

Critical periods of development refers to a point in the development of a specific behaviour when experience or training has an optimal effect on development. The same experience, introduced at an earlier or later time, may delay later skill acquisition.

Development refers to “the interrelationship between growth and maturation in relation to the passage of time. The concept of development also includes the social, emotional, intellectual and motor realms of the child.”

Developmental age refers to an individual’s stage of development, based on physical, emotional, social and cognitive criteria.

Fundamental movement (motor) skills refers to the set of foundation skills that form the basis for all sport and physical activity.

Fundamental sport skills refers to the set of sport skills that form the basis for all sports.

Growth* and maturation are often used together and sometimes synonymously. However, each refers to specific biological activities. Growth refers to “observable, step-by-step, measurable changes in body size such as height, weight and percentage of body fat.” Maturation refers to “qualitative system changes, both structural and functional in nature, in the organism’s progress toward maturity; for example, the change of cartilage to bone in the skeleton.”

Peak height velocity (PHV) is the maximum rate of growth in stature during growth spurt. The age of maximum velocity of growth is called the age at PHV.

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

Puberty refers to the point at which an individual is sexually mature and able to reproduce.

Readiness refers to the child’s level of growth, maturity and development that enables him/her to perform tasks and meet demands through training and competition. Readiness and critical periods of trainability during growth and development of young athletes are also referred to as the correct time for the programming of certain stimuli to achieve optimum adaptation with regard to motor skills, muscular and/or aerobic power.

Skeletal age refers to the maturity of the skeleton determined by the degree of ossification of the bone structure. It is a measure of age that takes into consideration how far given bones have progressed toward maturity, not in size, but with respect to shape and position to one another.

Trainability refers to the genetic endowment of athletes as they respond individually to specific stimuli and adapt to it accordingly. Malina and Bouchard (1991) defined trainability as “the responsiveness of developing individuals at different stages of growth and maturation.”

Training refers to the systematic and integrated actions aimed at influencing the development of performance in a goal-oriented way. The various processes and methods of periodically administering controlled stress on the organism to a series of principles, and organized into a coherent plan, in order to induce general and specific adaptations to various systems, organs and/or tissues, and improve performance capacity.” (Marion, 2000)


This information will require further study and consideration. At this time, main observations have been incorporated into the document.

**Elite Player Survey (60 total respondents)**

In terms of the background of respondents, 55% were male and 45% were female, of which 65% were older than 30 years of age. 22% were born in March, 20% in October and 12% in August, while most respondents were from the province of Ontario, corresponding to the distribution of the survey. The average height was 5’4” for females and 6’ for males, while the average weight was between 61-65 kg for females and between 86-90 kg for males. Overall, the average BMI was 26.07.

65% of respondents have been playing broomball for the past 15+ years. Sixty-five per cent of this group started playing in a rural club (2/3 of these people were from Ontario) and 35% started playing in an urban club.

Enjoyment, fitness and the social aspect were ranked the highest in terms of what attracted respondents to the sport of broomball. The top three sports respondents played prior to broomball were hockey (27%), baseball (17%) and soccer (13%).

In terms of training and tournaments, 68% train on-ice 1-2 times per week, 57% train off-ice 1-2 times per week, 61% play 1-2 games per week, 44% play in two leagues per year, 98% participate in Provincial tournaments, 94% in National tournaments, 64% in International tournaments, and 27% in Interprovincial tournaments.

96% of respondents felt the sport of broomball was affordable, while the 4% that did not were from the province of Quebec, which may be associated with the high cost of travel provincially and nationally. When asked what has kept them in the sport over the years, the top three reasons given were participation in high levels of competition, enjoyment and team play. When asked why people may not join broomball, or why they drop out, the top two reasons cited were lack of awareness/visibility and other family commitments.

**Non-Elite Player Survey (38 total respondents)**

In terms of the background of respondents, 57% were male and 43% were female, of which 60% were older than 30 years of age. The distribution of the months respondents were born were quite equal, with 14% being born in June, and 10% being born in February, April, July, August and September. The majority of respondents were from the provinces of Ontario (30%) and Newfoundland and Labrador (30%). The average height was 5’4” for females and 6’ for males, while the average weight was between 61-65 kg for females and 86-90 kg for males. Overall, the average BMI was 26.56.

56% of respondents have been playing broomball for the past 15+ years, while 29% started playing in an urban club and 71% started playing in a rural club (of which 36% are from Newfoundland and Labrador and 32% from Ontario).

Enjoyment, the social aspect and fitness were ranked the highest in terms of what attracted respondents to the sport of broomball. The top three sports respondents played prior to Broomball were baseball (26%), hockey (22%) and soccer (9%). Other fitness activities that the respondents cited taking part in were walking (28%), running/jogging (13%), hockey (8%) and weightlifting (7%). The activities take place, on average, 3 times a week for just over an hour each time. Further, 89% of respondents train for Broomball 1-2 times per week.

In terms of coaching, 41% currently coach broomball, 66% have coached in the past, and 69% plan to coach in the future.

**Figure 6 Players by Birth Month**

62% of elite players were born in the second half of the year. This may be a reflection of exclusion from other sports. Broomball has provided a valued opportunity.

53% of non-elite players were born in the second half of the year.
The LTAD identifies “10 S’s” that need to be factored into well-designed training and competition based on the developmental age of the athlete.

**STAMINA**
The window of optimal trainability occurs at the onset of the growth spurt. Aerobic capacity training is recommended before children reach PHV. Aerobic power should be introduced progressively after the growth rate decelerates.

With the window for optimal training being at the onset of one’s growth spurt, it would be ideal to train the aerobic system before children reach their peak height. It is important to remember that training aerobic capacity does not have to be done solely on the ice. Stamina and endurance can be trained in the gym or outside in the form of running drills and movement exercises. Team building activities are another great opportunity for young broomball players to develop a strong aerobic base as well as also build great camaraderie amongst teammates.

**STRENGTH**
The window of trainability for girls is immediately after PHV or at the onset of menarche (first menstruation). For boys, it is 12 to 18 months after PHV. Strength is an important part of any sport if one wants to succeed, and this is especially true from broomball. The significance of having a strong ‘core’ cannot be emphasized enough in our sport as superior balance and stability on the ice directly relates to excellent core strength and in turn produces athletes that will be successful.

**SPEED**
Coaches, working with young broomball players as early as 7 to 9 years with boys and 6 to 8 years old with girls, consider yourself fortunate. This is when the first optimal window for training speed occurs.’ In Figure 7, the optimal speed windows are indicated for boys and girls. The second window of opportunity is between 13 and 16 for boys and 11 and 13 for girls. This second window of opportunity is more than likely when younger broomball players will actually begin the sport, so it is important to ensure that training has specific components of speed training in it. These are ideal times to train ‘speed’.

**SKILL**
The optimal window for training skill for boys is during the “Learning to Train” stage when boys are approximately 9 years old and girls are 8 years old. This skill window is approximately 3 years and continues until the athletes begin their growth spurt, indicating that they are hitting puberty. This means the earlier you can work with young athletes teaching the fundamental movement, motor and sport skills, the better chance they’ll have of being successful. Broomball requires agility, balance and coordination. Solid mastery of these fundamental sport skills are the foundation for success in broomball. Players are more likely to remain in the sport because they have a high degree of skill performance success, translating in their ability to play the game.

**SUPPLENENESS (flexibility)**
The window of optimal trainability for suppleness in both boys and girls occurs at 6 and 10 years of age. Special attention should be paid to flexibility during PHV. Flexibility is one component that must be trained at all times, but the optimal time occurs under the age of 10. It is also important to ensure that flexibility training is built into the broomball player’s training regimen as they are going through their growth spurt to ensure that primary flexibility functions are not diminished.

**Additional S’s**

**Sustenance** - includes nutrition, hydration, rest, sleep and regeneration - all of which need to be applied differently to training and lifestyle plans depending on the LTAD stage. Improperly addressing sustenance can lead to burnout.

**(p)Sychology** - the player’s ability to maintain high levels of concentration while remaining relaxed and confident is a skill that is needed in sport and enhances everyday life. Mental training is critical at all stages since dealing with success and failure impacts the player’s enjoyment and continuation in broomball and physical activity.

**Schooling** - Competition and training schedules need to account for school demands on players such as exams, academic loads, other school social activities. A good program will help balance the demands of school and sport.

**S stature/Structure** - this links to stages of growth and the windows of optimal trainability as described in Factor 5 on page 11. By tracking stature measurements and developmental age, a coach can address the 5 S’s in the overall sport program.

**Socio-Cultural** - Sport provides an opportunity for athletes to broaden their understanding of their world by learning about different cultures, geography, cuisine, architecture. Travelling to participate in tournaments is a chance to do this. Players should take advantage of this by touring more than the hotel and the competition site.
Figure 7 Optimal Windows of Trainability (Balyi & Way, 2005)
The diagram shows when the 5 S's should be emphasized based on peak height velocity or the onset of puberty.

The diagram shows when the 5 S's should be emphasized based on peak height velocity or the onset of puberty.
Member Associations

British Columbia Broomball Society
Alberta Broomball Association
Saskatchewan Broomball Association
Manitoba Amateur Broomball Association
Federation of Broomball Associations of Ontario
Fédération Québécoise de Ballon sur Glace
New Brunswick Broomball Association
Nova Scotia Broomball Association
Broomball Newfoundland & Labrador
Yukon Broomball Association
North West Territories Broomball Association