



LONG-TERM ATHLETE DEVELOPMENT

(LTAD) MODEL
FOR DEAF SPORTS

CANADIAN DEAF SPORTS ASSOCIATION





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FOREWORD

The Long Term Athlete Development (LTAD) model for Deaf Sports will offer a barrier-free environment for d/Deaf¹ athletes. These athletes will become a part of the Canadian sport system, including the talent identification and development stages. The LTAD model will offer a better understanding of Deaf sports and athletes.

The slogan “Deaf Sports for Life” describes the belief that d/Deaf athletes should and will develop, compete, and represent Canada with pride just like their peers, who are involved in the Olympics, Paralympics, and Special Olympics; as well as maintain their healthy lives in Canada.

The Canadian Deaf Sports Association (CDSA) is a not-for-profit multi-sport organization working with Provincial Deaf Sports Associations (PDSA) to develop amateur and high performance d/Deaf athletes for local participation through to international competition. The CDSA LTAD is a foundation multi-sport model that will serve as a cornerstone on which each sport can build, in order to meet the needs of d/Deaf participants. Stakeholders can access sport specific LTAD models on the websites of various National Sport Organizations (NSOs).

¹ Please see glossary and in Deaf Sports, this is also referenced to athletes with 55 dB of hearing loss in the better ear (both deaf and hard of hearing).

The LTAD is one of the key elements in strengthening the Canadian sport system. The LTAD provides a blueprint permitting major sport partners to collaborate, better align and integrate their financial and human resources, and create barrier-free sport environments, including for further developing Deaf Sports.

The implementation of the CDSA LTAD model will provide opportunities for d/Deaf athletes to pursue sport, whether it is for being active for life or to compete. It will allow reflections on the unique nature of Deaf Sports and on the best methods for sport development.

The CDSA supports excellence from athletes competing at the Deaflympics, Pan-American Games for the Deaf, and World Deaf Championships. However, it is also important to encourage the personal growth of each d/Deaf individual athlete. For this reason and to promote the long-term health and success of d/Deaf athletes, the CDSA LTAD model offers a framework for the development of future generations of d/Deaf athletes to successfully lead Canada with both participation rates and on the international competitive stage.

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DEAF SPORTS AND DEAF CULTURE

THE INVISIBLE DISABILITY

While many disabilities are visible, being d/Deaf or hard of hearing is not. A d/Deaf person on his/her own might look like anyone else. The disability is invisible unless the d/Deaf person uses sign language, wears a listening device, or does not react to a noise.

Hearing people often have trouble imagining their lives without auditory input. It is also often difficult to fully grasp how different – and important – communication becomes for d/Deaf people. Furthermore, basic understanding of Deaf culture is necessary to better appreciate the needs of d/Deaf and hard of hearing athletes. We can imagine the d/Deaf community like a bubble that makes its way through the ‘water’ of society. It is not always easy for the bubbles to navigate through the water, and the perspectives look different from inside and outside the bubble. Within that bubble, we discover a whole different, diverse and vibrant world.

Roughly 10 % of d/Deaf infants are born to d/Deaf parents. The other 90% of d/Deaf individuals begin life within a predominantly hearing environment. This means that most d/Deaf individuals learn their communication skills later in life, are dependent on visual access to information, and for these reasons may well ‘miss’ facts or knowledge commonly assumed to be present within the general population.

The reliance of d/Deaf individuals on visual and tactile cues presents both challenges and opportunities. Modern technology increase possibilities for effective communication. Hands on demonstration, “seeing then doing” and learning from peers are common ways that d/Deaf people share and acquire knowledge.

The incidence of d/Deaf and hard of hearing people within society is traditionally based on a 1:10 ratio. Therefore, within the Canadian population, we can extrapolate that there would be about 3.5 million d/Deaf Canadians (Canadian Association of the Deaf, 2012). Therefore, this CDSA LTAD model will impact millions of Canadians, who should fully engage in physical activity and sport for their own well-being no matter what their hearing capacity.



DEAF SPORTS AND DEAF CULTURE

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DEAF CULTURE

Deaf people have been coming together as a community throughout history. It is only recently, since the 1960's, that the rest of society has recognized Deaf culture and given signed languages the respect they deserve as equal to any other culture or language (Lane, Hoffmeister & Bahan, 1996).

There are currently an estimated 350 000 culturally deaf Canadians (Canadian Association for the Deaf, 2012). Deaf culture is made up of identity, language, values, traditions and norms. Deaf identity is a source of pride and not seen as an inferior state of being. Sign language is the basis of Deaf culture, and millions of Deaf people are proud of their rich sign languages and histories, which have persisted for centuries. Values include clear communication, social interaction and the preservation of Deaf heritage through such means as education and expression through the arts. As such, traditional stories and Deaf institutions are passed on generationally. Cultural norms are expressed in day to day activities, such as strategies to get one's attention by tapping a person lightly on the shoulder, waving a hand or, for a group of people, flashing a room light off and on a few times.

Deaf Sports has long been a cornerstone of the Deaf community. Deaf Sports offers a welcoming venue for d/Deaf people to come together to both challenge and support each other. The ease of communication creates an opportunity to grow as a community as well as an individual. Because Deaf Sports are organized for and by Deaf people, the pool of skills within the Deaf community flourishes.

It is important to note that not all d/Deaf people are alike. Some may be born Deaf and others lose their hearing later in life. Some affiliate with the Deaf community and some choose to associate with the hearing majority culture. Still others simply do not know Deaf culture exists. It is, therefore, important to get to know the athlete as an individual.

MYTHS

It is possible to develop a level of awareness that is actually based on false or missing information. These misperceptions, often formed in childhood, if not re-evaluated may cause such beliefs to turn into myths. Myths are generally not malicious and can be disputed with facts. Those who hold onto a belief despite strong evidence to the contrary exhibit prejudice.

Some of the myths relating to d/Deaf people include:

- ▶ all hearing loss is the same
- ▶ one can understand 100% of what is said by lip reading
- ▶ hearing aids and cochlear implants make hearing “normal”
- ▶ a hearing person shouting makes getting the message easier for the Deaf person
- ▶ Deaf people cannot speak or use their voice



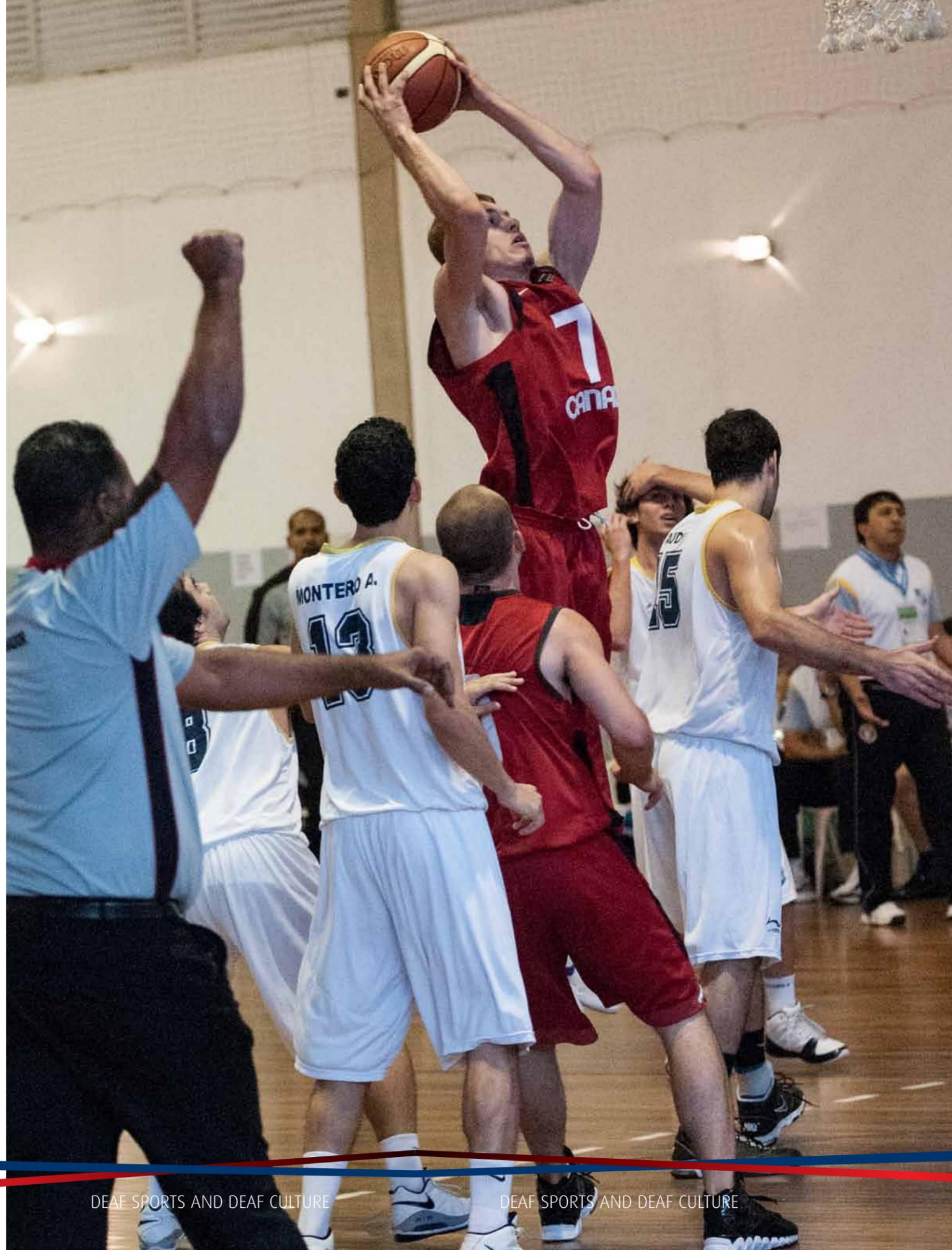
- ▶ sign language is mime and gesture
- ▶ sign language is spoken language but “done in the air”
- ▶ sign language is universal
- ▶ Deaf people can't drive

Of course, none of these are true.

Fortunately, many d/Deaf individuals regularly counter such myths by leading successful lives and having brilliant careers. We can think of Marlee Matlin, a successful Deaf American actress who has portrayed a variety of roles in many productions. Susan Thomas became an integral part of FBI undercover surveillance teams due to her superior lip reading skills. Deaf athletes can look to d/Deaf sports figures such as Jim Kyte of Canada who played 598 games in the NHL, Major League Baseball outfielder Curtis Pride of the USA, Olympic decathlete Dean Barton-Smith of Australia, and Olympic silver medalist swimmer Terence Parkin of South Africa.

However, myths can also be harmful or limiting. Some people consider those who are d/Deaf as subhuman. It is assumed they live in a “world of silence” and are seriously in need of help to accomplish anything including graduate, have a reading level past grade 4, work, or live alone. Low expectations can provide more limits for an individual than the realities of being d/Deaf.

In Deaf Sports, as in life, adaptation becomes the key. Success comes by surpassing myths and barriers. Some of this happens biologically. Studies have shown that d/Deaf people use their brains differently than those who are not d/Deaf, in order to produce increased visual processing and a heightened somatosensory awareness (touch, temperature, body position) (Karns, Dow & Neville, 2012). Unique retinal development of their retinas helps explain the superior peripheral vision developed by many d/Deaf people (Codina et al, 2011). Also important for sport delivery is the adaptation of approaches and programs so that d/Deaf participants can fully engage and benefit. These adaptations are not so much biological but are instead in the areas of communication, social interaction, and skill acquisition and refinement.



DEAF SPORTS IN THE DEAF COMMUNITY

One of the foundations of the Deaf community is the educational setting referred to as a school for the Deaf. Whether a boarding type school or day program, Deaf youth come together to learn, play and share in their culture. Varsity teams from the various Deaf schools participate in healthy competition.

The 1980's saw a change of philosophy in d/Deaf education. Since that time, d/Deaf students have increasingly been mainstreamed into neighbourhood schools with classmates, who can hear. The d/Deaf student may be the only one or one of a few within their school, and can therefore be difficult to locate. As such, schools for the Deaf continue to be an important source of athlete identification.

There are considerations when thinking about both Deaf Sports and sports in general for people who are d/Deaf. Whether d/Deaf Sports can occur in both segregated or mainstream contexts, there needs to be attention given to awareness, skill acquisition, skill development, competitive opportunities, retention, athletic identity and sense of belonging.

The CDSA has a role to play in, and depends on, both mainstream and segregated d/Deaf sport development. The LTAD provides a blueprint for CDSA's work – together with other stakeholders – to advance d/Deaf sport so that being d/Deaf will no longer be a barrier to physical activity or sport achievement.

In this section we have introduced an overview of Deaf culture and sports in our community. In the next section we will address the specific needs of athletes coupled with strengths and challenges of Deaf Sports in Canada.



THE DEAF ATHLETE

PER LUDOS AEQUALITAS

The International Committee of Sports for the Deaf (ICSD) adopted the PER LUDOS AEQUALITAS (Equality through sport) motto in 2008 as a part of their visionary changes to increase the competition pinnacle and to raise the profile of the Deaflympics. This was a part of an ICSD report presented to the International Olympic Committee (IOC) to show the relationship to the Olympics and the Paralympics.

The CDSA is an active member of the ICSD and is able to send athletes to all ICSD sanctioned events, both regional and international. For meaningful participation at ICSD sanctioned events, the CDSA must ensure d/Deaf athletes have the tools to train and compete in their desired sport disciplines. This is where the CDSA LTAD framework comes in and this is where the coaches ensure their d/Deaf athletes are ready for the competitive challenges at ICSD sanctioned events.

COMMUNICATION IS THE KEY

How a d/Deaf athlete adapts in a sport environment depends on their background and support system. The means of communication in the Deaf community are very diverse. There are oral (lip reading) individuals, some of whom are hard of hearing and others who are d/Deaf. And conversely, there are d/Deaf and hard of hearing individuals who use American Sign Language (ASL) or Langue des signes québécoise (LSQ)². An individual may or may not use hearing aids, have a cochlear implant or other listening devices. Whichever the language and means of communication used, it is important their needs are met. To not do so risks social impact on the athlete(s), psychological effects of disappointment and mistrust, and physical danger due to misunderstandings.

² ASL and LSQ are the dominant sign languages used in Canada.

In an all-d/Deaf sporting situation, communication will come more easily among those involved. The d/Deaf-friendly environment will allow for information to be received visually. There may also be some contact with non-signers such as hearing referees and officials.

Deaf athletes, when among those who can hear, manage to understand instructions from their coaches, fellow players and officials through a variety of ways. Direct communication with the speaker is always preferred. Sign language can be used by the coach or qualified interpreter. Lip-reading, writing or gestures are additional options. Information written on a handheld board can be effective. In a team or group situation, one person should speak at a time. In either solo or team sports, maintaining sight lines for visibility and developing communication “short cuts” are important.

There are other ways to make the athlete feel included, for example, by building in time for clear communication and feedback in team meetings before and after training and/or competitions. Those meetings are invaluable. It also could be useful to involve parents in pre-game communication. In addition, coaches who sign offer a huge advantage for d/Deaf athletes who use sign language. Patience may be required if communication takes longer, but in the end will be rewarding.

THE INTERPRETERS’ ROLE

Interpreters can be an important component to ensuring clear and constructive communication between the d/Deaf athlete and others. The interpreter must be able to adapt to the athlete’s environment. For example, a skating interpreter with advanced knowledge of hockey technical terms would be very useful during training camps and competitions.

When arranging for interpreting services, it is important to match the service provided with the language and modality (signing or oral/lip reading) preference of the d/Deaf athlete(s). The interpreter must have sufficient skills to accurately and effectively interpret. This requires sport vocabulary, cultural, and contextual knowledge.

The interpreter should be given enough information to be able to prepare for the content of the event or session. The interpreter will typically be in the Deaf athlete’s sight line and is often next to the coach so that the athlete can also get cues directly from the signals of their coach.

Interpreters in Canada are trained in specialized programs to become professionals. The Association of Visual Language Interpreters of Canada (AVLIC) and their provincial chapters have ethical standards that require the following:

- ▶ Professional accountability and competence
- ▶ Maintain confidentiality and respect the privacy of consumers
- ▶ Remain faithful to the message
- ▶ Respect the form of communication and languages involved
- ▶ Remain neutral, impartial and objective in their work
- ▶ Accurately represent their credentials and abilities

Rather than confuse roles, it is recommended that parents do not interpret for their d/Deaf child. Because the parent is active in their child’s athletic development, they could become biased or emotional in a sensitive situation. For example, a parent interpreting information from a coach that is not in their child’s favour could misrepresent the content or become upset with the coach. An interpreter will convey the same message impartially following the coach’s words and tone. That way the parents are available to provide any needed support to their child.



STRENGTHS AND CHALLENGES FACING THE DEAF ATHLETE IN CANADA

It is important to do an analysis of the reality of d/Deaf sport and our strengths and challenges for each of its 9 foundational pillars upon which the CDSA LTAD is built.

ATHLETES

STRENGTHS:

- ▶ Athletes have achieved podium performances at the past Deaflympics and/or Pan American Games for the Deaf.
- ▶ Athletes are actively attending World Deaf Championships.
- ▶ Most athletes understand how pressure and training affect performance.
- ▶ Athletes socialize with their peers and build self-esteem and Deaf identity during Deaf Sport events.
- ▶ Athletes enjoy both individual and team sports.

CHALLENGES:

- ▶ Increasing the number of athletes at the Training to Win and Training to Compete stages.
- ▶ Gaining recognition in the AAP Canadian Carding System for d/Deaf athletes.
- ▶ Developing a logical athlete development pathway to address issues in talent identification, skills development, proper conditioning and fitness, natural and elite performance, and communication.
- ▶ Increasing promotion of Deaf Sports in Canada including in the school system to reach d/Deaf students both in Deaf schools and mainstreamed schools.

COACHES

STRENGTHS:

- ▶ Coaches support athletes, who strive to reach their best and accomplish their goals.
- ▶ CDSA has a pool of excellent individuals who have the ability to lead in coaching.
- ▶ The expectations of a coaching requirement for Deaf Sports are linked to the National Coaching Certification Program (NCCP) standard as governed by the Coaching Association of Canada across all levels of the Canadian sport system.

CHALLENGES:

- ▶ Creating tools to support d/Deaf and hearing coaches who work with d/Deaf athletes such as a NCCP specialized module for Deaf Sports.
- ▶ Recruiting and (NCCP) training of d/Deaf and hearing coaches.
- ▶ Sharing a clear d/Deaf athlete development pathway with d/Deaf and hearing coaches.
- ▶ Establishing guidance for coaches on communication tools to work with d/Deaf athletes.



THE DEAF ATHLETE

THE DEAF ATHLETE

PARTNERSHIPS

STRENGTHS:

- ▶ When approached, NSOs are generally willing and able to provide technical support to their d/Deaf athletes.
- ▶ NSOs have knowledge and resources that do not need to be duplicated by the CDSA while providing services to the d/Deaf athletes.

CHALLENGES:

- ▶ Creating promotion strategies to profile the d/Deaf athletes and bring awareness of d/Deaf athletes to the attention of NSOs.
- ▶ Formulating a partnership strategy to increase the cooperation between the CDSA and NSOs, develop a good database of d/Deaf athletes in each NSO and in CDSA
- ▶ Developing modified technical programs for the d/Deaf athletes/teams
- ▶ Developing a clear structure of communication between NSOs and CDSA.

PARENTS

STRENGTHS:

- ▶ Parents are key figures in encouraging and supporting their children's involvement in sports.
- ▶ Parents, who are very passionate about their children's sport involvement, are generally involved in various roles on committees or in sport events.
- ▶ They share their knowledge of their children's communication needs when it comes to training and/or competitions.

CHALLENGES:

- ▶ Increasing the level and frequency of open communication and collaboration between the CDSA and parents including a possible webpage dedicated for parents on the CDSA website
- ▶ Formulating an outreach strategy to inform and educate parents about supporting d/Deaf athletes, LTAD and its implementation
- ▶ Establishing support and tools for parents to facilitate communications needs for sport participation



LEADERSHIP

STRENGTHS:

- ▶ CDSA has a well-established national office in Montreal.
- ▶ Provincial Deaf Sport Association (PDSA) offices are also set up in British Columbia, Alberta and Quebec.
- ▶ Over the years, numerous d/Deaf volunteers have been involved in sport events.
- ▶ Deaf sport events are organized locally, provincially, nationally and internationally.

CHALLENGES:

- ▶ Developing and maintaining administrative capacity as well as volunteer capacity (both hearing and d/Deaf) for the PDSAs particularly in:
 - Saskatchewan, Manitoba, Ontario, Newfoundland and Labrador, and Nova Scotia
 - unrepresented provinces and territories: Prince Edward Island, New Brunswick, Northwest Territories, Yukon, and Nunavut.
- ▶ Developing leadership workshops for PDSAs to develop current Board members and recruit new Board members.
- ▶ Preparing tools for the PDSAs to:
 - partner with PSOs, local organizations, and schools.
 - create events to keep up with participation levels of d/Deaf athletes
 - create workshops for d/Deaf athletes to learn how to plan their training program with coaches to prepare for national events or talent ID camps, instead of going through the “Peaking by Friday” routine.

COMPETITION

STRENGTHS:

- ▶ Sport Canada supports Canadian teams to attend the Deaflympics and Pan-American Games for the Deaf.
- ▶ Deaflympics provide a focal point for competition for a range of d/Deaf athletes.
- ▶ Currently, d/Deaf athletes are attending World Deaf Championships.
- ▶ Canada Deaf Games and other national Deaf sporting events have been hosted with success.
- ▶ Sport events and competitions are available for recreational participants.

CHALLENGES:

- ▶ Establishing individual capacity to financially support sport involvement.
- ▶ Creating workshops and tools for athletes to learn how to develop:
 - Marketing tools and approach
 - Fundraising goal
 - Management tool to balance the training and sport careers with life and work/school.
- ▶ Addressing a clear athlete development pathway that identifies training issues to ensure athletes are not underdeveloped and do not have unrefined skills.
- ▶ Acquiring a long-term strategy to ensure the goals are established in short, medium and long-term periods to ensure a talent identification system becomes well established and athletes have a clear plan to manage their sport careers.

OFFICIALS

STRENGTHS:

- ▶ Certified d/Deaf officials are available for sports at provincial and national events
- ▶ Hearing officials are willing to learn how to communicate with d/Deaf athletes and their d/Deaf counterparts.

CHALLENGES:

- ▶ Formulating a strategy for recruiting and developing d/Deaf officials for Canadian representation at Deaflympics, Pan American Games for the Deaf, and World Deaf Championships.
- ▶ Providing awareness workshop and strategy, delivered in partnership with NSOs, to enable officiating at Deaf sports events at all levels
- ▶ Establishing a protocol in place to deal with d/Deaf athletes in hearing competitions.

FACILITIES & EQUIPMENT

STRENGTHS:

- ▶ CDSA and PDSAs have the ability to rent facilities or/and borrow equipment from other sport organizations or sport centres.
- ▶ Flashing strobe equipment is available for a variety of sports.

CHALLENGES:

- ▶ Ensuring widespread availability of equipment to facilitate Deaf Sports, including at sport specific competitions. Opportunities for collaboration with NSOs.
- ▶ Increasing access to facilities for training and competition purposes.
- ▶ Increasing opportunities for collaboration with NSOs and sport centres.

COMMUNICATION

STRENGTHS:

- ▶ Athletes who are d/Deaf know how to choose different modes of communication and support each other.
- ▶ Coaches with sign language skills are able to meet d/Deaf athletes’ needs in a wide spectrum.
- ▶ CDSA supports coaches with tools to learn about the communication needs of d/Deaf athletes and apply their new knowledge to their coaching skills.
- ▶ Interpreters are recruited to support hearing coaches, officials, and staff at Deaflympics and Pan American Games for the Deaf.

CHALLENGES:

- ▶ Establishing a clear national plan to enhance the accessibility of interpreting services for all d/Deaf athletes based on their needs, with consideration of finances and process.
- ▶ Addressing a much needed well planned training program and events (including knowledge of interpreting services, finance, structure, and process) to resolve the issues for the lack of interpreters and/or knowledge on how to arrange for interpretation services.
- ▶ Creating workshops for d/Deaf athletes at later stages (Train to Compete and Train to Win) and coaches to learn effective approaches to officials regarding communication protocols at sport competitions

In this section we have analyzed the strength and challenges of Deaf Sports in Canada. In the following section we will explain the CDSA and the Deaf Sport movement.



THE CDSA AND THE DEAF SPORT MOVEMENT



CDSA applied to Sport Canada for funding to develop a Long-Term Athlete Development model to address the contextual reality and culture of d/Deaf athletes. This model involves two streams – the participation stream and the pursuit of excellence stream – taking into account the unique needs of d/Deaf athletes, and Deaf Culture.

In addition to being the only national organization providing sport programs specifically for d/Deaf individuals, the CDSA is in the position to show leadership and provide key support in ensuring d/Deaf athletes reach their personal physical activity and sport goals. The CDSA needs a LTAD model to offer greater quality opportunities to athletes, who want to compete at the elite level as well as to participants, who want to lead active and healthy lifestyles.

The LTAD model provides a framework for the CDSA and its programs to better support both athletes and participants. It will also support the CDSA's aim to be recognized by governments, its partners and other sport organizations involved in amateur sports.

The first LTAD model in the history of Canadian Deaf Sports will help the CDSA to realize its long-term vision to:

1. Provide all athletes with choices in their opportunity to train, compete, and reach their full athletic and social potential.
2. Be accessible and open to all athletes, Deaf with a hearing loss of at least 55 dB in the best ear (medium frequency of three tones in 500, 1000, and 2000 hertz, ISO 1969 Standard).
3. Be a change agent for social inclusion – advocating for and providing all athletes with opportunities for integration through sport.
4. Be recognized as an integral and valued part of the sport delivery system by working in partnership with sport organizations including NSOs.
5. Promote awareness of CDSA and increase outreach to all d/Deaf athletes.
6. Build partnership with NSOs delivering programs to d/Deaf athletes.
7. Have d/Deaf athletes recognized and included in Canada's elite development and assistance programs.

Now that we have explained briefly the Deaf Sport movement, it becomes important to determine where we would like to go as we move forward. Where will Deaf Sport be in the year 2020?



DEAF SPORT GOALS FOR 2020



In 2012 the Deaf Sport community came together to identify a vision for transforming Deaf Sport. These are expressed as goals to be realized by 2020.

ATHLETES

- ▶ A national database of d/Deaf athletes is established.
- ▶ A database of school programs available for d/Deaf athlete development is in place.
- ▶ Increased numbers of athletes
- ▶ Increased training hours and ability to train for teams
- ▶ NSO/PSO recognize d/Deaf athletes and their achievements
- ▶ A carding system is established for the Deaf athletes.

COACHES

- ▶ Resources are available through the CDSA to assist coaches working with d/Deaf athletes in the mainstream setting.
- ▶ d/Deaf coaches assist d/Deaf athletes in achieving optimal athletic potential
- ▶ Deaf Sports are recognized as a mean for skills development
- ▶ All coaches and instructors have access to quality education and professional development opportunities
- ▶ Increased number of certified coaches and instructors
- ▶ Coaching qualifications across all disciplines are comparable at each level, using NCCP standards and guidelines as a benchmark
- ▶ Coaches and instructors embrace CDSA LTAD principles and report better work satisfaction, experiences, recognition and rewards for their contribution
- ▶ A strong coaching mentorship and apprenticeship program is created
- ▶ Coaches and instructors who develop talent are recognized
- ▶ Top coaches are promoted so that they become known nationally and internationally

PARTNERSHIPS

- ▶ NSOs are able to collect information on d/Deaf athletes in annual membership questionnaires for information sharing with the CDSA.
- ▶ Deaf Sports will be recognized as a part of NSO strategic planning and programming.
- ▶ All NSOs will have established protocols to ensure barrier free competitions for d/Deaf competitors (i.e. starting protocols, arm signals, starter lights, strobe lights, etc.)
- ▶ NSOs will work with CDSA to assist recruiting d/Deaf athletes into their respective sports (cooperation in the development of training camps, talent ID camps, etc.)
- ▶ NSOs will include links of the CDSA and resource tools on their websites.



PARENTS

- ▶ A targeted CDSA LTAD information package is developed
- ▶ Increased awareness regarding the importance of parents
- ▶ Better support and communication from PDSOs and CDSA

LEADERSHIP

- ▶ An educational program that supports volunteers in becoming administrators is developed
- ▶ PDSOs are involved in designing a strategic CDSA LTAD implementation plan
- ▶ Targeted markets grow
- ▶ A communication and strategic plan with all key partners involved in Deaf Sports is operational
- ▶ Federal and Provincial governments are lobbied for tax incentives for parents, who incur costs associated with their child's involvement in sports
- ▶ Provincial Deaf Sports Associations and PSOs integrate performance enhancement teams at Training to Compete and Training to Win stages
- ▶ Federal and provincial governments are lobbied to include d/Deaf Athletes in the Canadian sport funding model:
- ▶ Elite athlete financial assistance programs be established
- ▶ Existing NSO/PSO elite athlete development models
- ▶ Financially support the implementation of performance enhancement teams
- ▶ The CDSA and PDSOs provide opportunities for ongoing coach/instructor and official education about CDSA LTAD principles
- ▶ Support is provided to provincial executive directors in the development of a rationale to obtain provincial funding for CDSA LTAD
- ▶ A strong technical leader is identified in each province and territory for involvement with the CDSA LTAD implementation and future initiatives

COMPETITION

- ▶ The CDSA works with the NSO/PSO to develop competition opportunities for d/Deaf athletes in hearing competition events.
- ▶ The CDSA conducts a competition review and sets up a structure and calendar supporting development at every stage.
- ▶ The competition calendar reflects a blend of preparatory and performance- orientated competition for each stage
- ▶ A competition structure that supports a natural progression from regional, inter-provincial and national championships to international championships is developed

OFFICIALS

- ▶ d/Deaf or hearing officials who can use American Sign Language (ASL) or/and Langue des signes québécoise (LSQ) at Deaf Sports events
- ▶ NSOs provide support by recruiting and/or assigning officials at sporting events.

FACILITIES & EQUIPMENT

- ▶ An approved national accreditation system recognizing facilities is established
- ▶ All-season facilities are increased and upgraded
- ▶ A database of nationally accredited facilities is created
- ▶ Access to equipment and devices for d/Deaf athletes is increased

COMMUNICATION

- ▶ NSOs understand and provide communication access for d/Deaf athletes in any sport
- ▶ Strong teamwork with communication between the NSOs, PSOs, PDSOs and CDSA
- ▶ Recognition of d/Deaf athletes' successes in the media and on NSO/PSO websites.
- ▶ Funding for interpreters/notetaking computers for Deaf Sports
- ▶ Development of sports interpretation skills among sign language and oral interpreters

In order to link today's strengths and challenges to the goals of 2020, Deaf Sports in Canada needs a LTAD pathway. In order to design a LTAD pathway, we should beforehand define what is LTAD and why we need a LTAD model.





WHAT IS LTAD?

LTAD is a Canadian model of Long-Term Athlete Development comprised of seven stages. LTAD is based on the physical, mental, emotional and cognitive development of children and adolescents. Each stage reflects a different point in the athlete's development:

- ▶ Integrates training, competition and recovery programming with relation to biological development and maturation;
- ▶ Offers equal opportunity for recreation and competition;
- ▶ Is athlete centered, coach driven and officials, parents, administration, sport science, sport medicine and sponsor supported.

This LTAD is not:

- ▶ **a technical sport document.** This document is not intended for the review of technical aspects of individual sports. The overall plans to train and teach specific sport skills are outlined in the LTAD models developed by each NSO. Through the outreach to NSOs, CDSA hopes to ensure these models are inclusive of d/Deaf athletes.
- ▶ **an implementation plan.** An LTAD is a framework that will guide sport development, decision making and action into the foreseeable future. It has been described as a 5 to 10 year plan that will take time to fully realize. This document provides basic information and tools that should be the basis for discussions among all stakeholders who are actively involved in providing sport and physical activity programs for d/Deaf individuals.
- ▶ **intended to have CDSA become responsible for all training of d/Deaf athletes,** especially for those athletes advancing to high performance contexts where increased training and sport specific expertise is required of coaches. The expectation is that partnerships with NSOs will increasingly provide access to d/Deaf athletes through existing NSO/PSO systems.

PLEASE VISIT THE FOLLOWING WEBSITES FOR MORE INFORMATION ON:

- ▶ CDSA: www.assc-cdsa.com
- ▶ Sport Canada and Canadian Sport System: www.pch.gc.ca
- ▶ LTAD: www.canadiansportforlife.ca
- ▶ LTAD for parents: www.canadiansportforlife.ca/resources/ltad-information-parents
- ▶ Physical Literacy for parents: www.activeforlife.com
- ▶ Own the Podium: www.ownthepodium.org
- ▶ Provincial High Performance resources: www.pch.gc.ca/eng/1358276409781/1358276581852

WHY LTAD?

There are 10 positive reasons for implementing the Long-Term Athlete Development model for Deaf Sports:

1. To establish an optimal development pathway for d/Deaf athletes and participants
2. To identify gaps in the current development pathway that might affect our talent development system and athletes' performance
3. To assist athletes in achieving excellence and podium performances
4. To improve communication on all levels of participation and development
5. To educate about the equipment needed for d/Deaf athletes
6. To improve awareness, education and planning for parents, coaches, schools, clubs, community recreation programs, Provincial Sport Organizations, National Sport Organizations and multisport organizations
7. To serve as planning and training for coaches as well as increasing the pool of quality coaches across Canada
8. To improve partnerships with National Sport Organizations, the body responsible for technical development of all Canadian athletes.
9. To improve partnerships with Provincial Deaf Sport Organizations
10. To promote lifelong sports enjoyment for d/Deaf Canadian



THE 9 STAGES OF THE CDSA LTAD

The CDSA LTAD model has nine stages for the optimum long-term development of a d/Deaf athlete and participant.

1. AWARENESS	ANY AGE	Creating opportunities
2. FIRST CONTACT	ANY AGE	Creating a positive first
3. ACTIVE START	MALES 0-6 FEMALES 0-5	Learn FUNdamental movements and link them together into play
4. FUNDAMENTALS	MALES 6-9 FEMALES 6-8	Learn all FUNdamental movement skills and build overall motor skills
5. LEARN TO TRAIN	MALES 9-14 FEMALES 8-13	Learn overall sport skills
6. TRAIN TO TRAIN	MALES 14-18 FEMALES 13-17	Build aerobic base, develop speed and strength, further develop and consolidate sport specific skills
7. TRAIN TO COMPETE	MALES 18-25 +/- FEMALES 17-24 +/-	Optimize fitness preparation and sport-, individual-, and position specific skills as well as performance
8. TRAIN TO WIN	MALES 21 +/- FEMALES 21 +/-	Podium Performances
9. ACTIVE FOR LIFE	ENTER AT ANY AGE	Smooth transition from an athlete's competitive career to lifelong physical activity and participation in sport

CDSA (2013) adapted from No Accidental Champions 2005, Canada Sport for Life 2005.

NOTE: ages are indicators only and an additional 2 years are added in Stage 3 and onwards due to late specialization and a frequently delayed introduction to the Deaf Sports.



1. AWARENESS

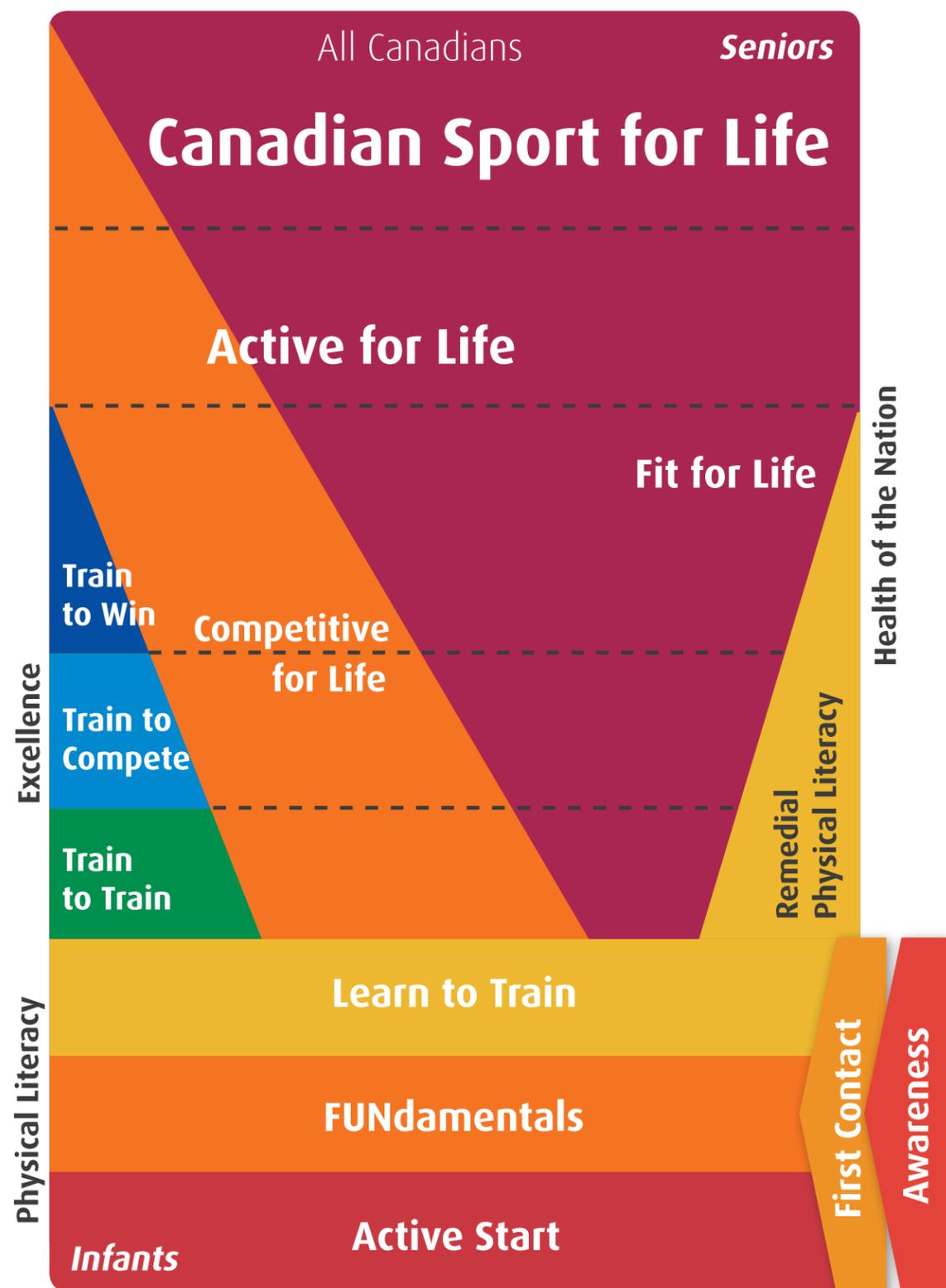
Sport opportunities are present for d/Deaf athletes in Canada; however, the awareness about Deaf Sports is not always well-known outside of the Deaf community. Athletes, who are d/Deaf and mainstreamed at school or not fully involved in the Deaf community, may not have any knowledge of the existence of Deaf Sports. As children often look up to their role models or even idolize heroes in their specific sports, the knowledge of d/Deaf role models within and outside of the Deaf community needs to be increased. Children need to be aware of successful d/Deaf athletes. CDSA has developed a plan to increase awareness about Deaf Sports and services offered within and external to the Deaf community.

2. FIRST CONTACT

Opportunities need to be created within the Deaf community and beyond for a positive environment in which d/Deaf athletes feel welcome regardless of their backgrounds. Collaboration between Deaf Sport leaders, coaches and sport federations will go a long way. A lack of positive experiences could lead to lost opportunities not only for Deaf Sports programs, but also for individuals and their healthy lifestyles.



THE CDSA LTAD MODEL IS BASED ON THE CANADIAN SPORT FOR LIFE LTAD MODEL



3. ACTIVE START

The Active Start stage consists of developing motor and movement skills through play. Typically, but not limited to, children from birth to six (0 to 6) years of age for boys and five (0 to 5) years of age for girls. This stage is the most important period for human development.

Physical activity is essential for healthy development and must become a part of the child's daily life. The skills developed are based upon the individual's environment and activities offered. It is important for the child to be active in a secure and safe environment. The activity must take place in a cheerful and fun context. The primary focus is for the child to be active.

MISSION (OF THOSE INVOLVED WITH CHILDREN)

To create conditions, design and implement lessons that ensure the active involvement of all participants. The children will be introduced to activities in order to create motor patterns that will facilitate sport specific skill acquisition at the next stage. This stage is considered the foundation for later development and will impact lifelong motor learning and active habits.

GENERAL OBJECTIVES FOR THE ATHLETE

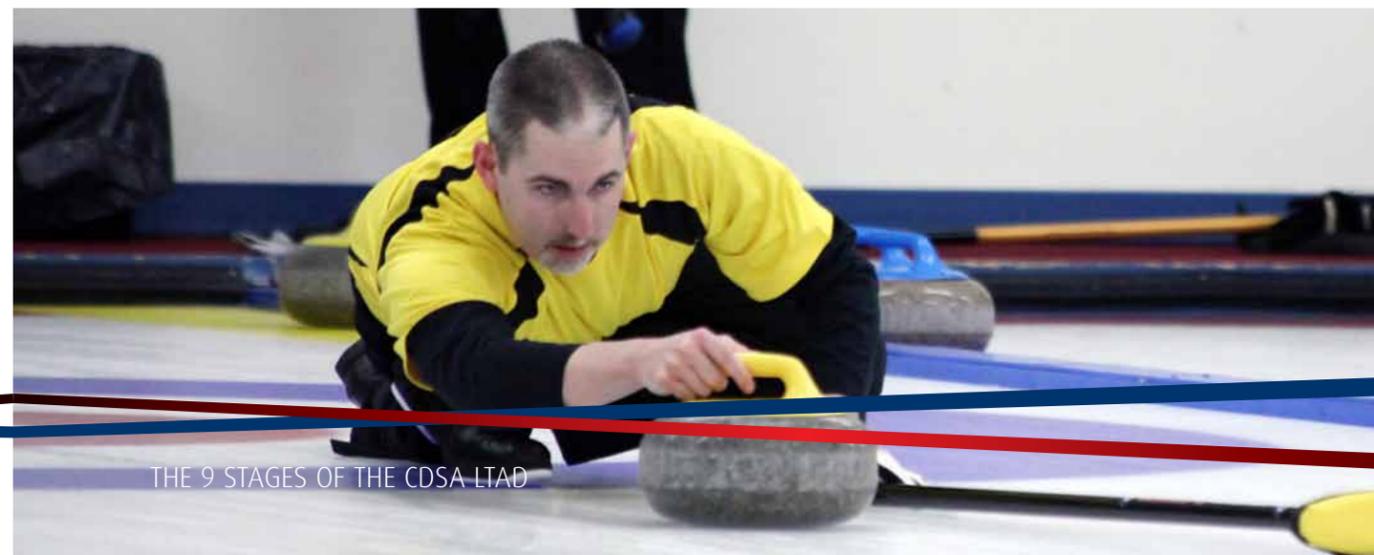
- ▶ Develop fundamental movement skills (running, jumping, throwing, catching, gymnastics, adaptation to water, ice and snow)
- ▶ Emphasize daily physical activity
- ▶ Exploring his/her limits and taking risks in a stimulating and safe environment

GUIDING PRINCIPLES FOR THE COACH

- ▶ Help children build confidence and positive self-esteem
- ▶ Help children to move skillfully and enjoy being active
- ▶ Recognize being active should be fun and a part of the child's daily life
- ▶ Encourage more involvement in activities with parents as well as individual play.

Inclusion of d/Deaf children in community sports usually comes with communication issues, for instance a lack of accessibility to interpreting services and equal opportunities. The above can be achieved if children and parents have complete accessibility, accommodations and equal opportunities. Deaf cultural sensitivity training, role modeling and parent support/education should be provided in order to increase the participation and involvement of d/Deaf children in sports.

For the majority of d/Deaf children, there is no barrier to the development of movement skills other than communication. As such the program and the coach or instructor should strive to impart the same skills and level of mastery as for any child.





4. FUNDAMENTALS

The Fundamentals stage is where children (typically, but not limited to boys 6-9 years old, girls 6-8 years old) develop a wide range of movement skills. The primary focus is FUN, SAFETY and ACTIVE PARTICIPATION.

GUIDING PRINCIPLES FOR THE ATHLETE

- ▶ Acquire / develop basic multisport skills
- ▶ Learn basic practical tactical knowledge leading to modified games and to basic team play
- ▶ Develop the ABCs of motor skills (Agility, Balance, Coordination, Speed, including rhythm, time/space orientation, dexterity, “hand-eye coordination”, etc.)
- ▶ Learn simple sport rules and ethics
- ▶ Develop self-confidence, self-esteem and a positive attitude
- ▶ Daily physical activity

MISSION OF THE COACH

The mission of the coach is to create conditions, design and implement lessons that ensure the active involvement of all participants. The focus will be to further develop fundamental movement skills and introduce motor abilities as well as sport specific skills through modified games. Children should be exposed to several sports. Learning takes place in a FUN and JOYFUL environment.

GUIDING PRINCIPLES FOR THE COACH

- ▶ Encourage this age group to be involved in at least three sports for skills and agility
- ▶ Increase exposure to different sports
- ▶ Maintain d/Deaf children’s interest and motivation to stay involved in sports
- ▶ Create a stimulating and learning environment
- ▶ Use modified and adapted equipment
- ▶ Adapt the space (field, ice, pool, etc.) to the age level of participants
- ▶ Limit the information communicated to the participant to what is essential
- ▶ Be clear, concise and adapt the terminology to the age level
- ▶ No periodization, but well-structured programs and practices
- ▶ Coaches should be knowledgeable about child development

This stage is often all too often neglected for d/Deaf children due to the lack of accessibility. Communication issues such as language development, knowledge of appropriate technology, and isolation may be factors. Generally, d/Deaf children are behind in basic skills acquisition due to communication challenges in learning such things as rules of a game or techniques. This creates delays when it comes to playing many sports.

Acquiring and developing basic multisport skills requires accessibility and communication. A good approach would be setting up partnerships between schools, Provincial Deaf Sport Associations, Provincial Sport Organizations and other community organizations such as recreation programs.

Increasing accessibility to communication (for example, interpreting services), will help the child to learn about rules and goals. One-on-one teaching is also another useful approach. To ensure good relationships between coaches and athletes, training should be provided to coaches about deafness and how to communicate with d/Deaf children. For example, eye contact is an important part of the communication process as well as taking the time to communicate.

5. LEARN TO TRAIN

The Learn to Train stage is where children acquire and develop sport skills. Children (typically, but not limited to boys 9-14+ years old and girls 8-13+ years old) should be playing at least three sports in order to acquire a solid base of skills.

At this stage, children are developmentally ready to acquire general sport skills that are at the centre of all athletic development. However, in late specialization sports, children must resist focusing on one sport only. It is important at this age to increase the child’s repertoire of skills and motor abilities. Athletes in early specialization sports should focus on two sports – one major and one minor.

GUIDING PRINCIPLES FOR THE ATHLETE

- ▶ Develop basic sport specific skills essential to participating in at least three sports
- ▶ Acquire and develop basic practical tactical knowledge of the real game
- ▶ Further develop motor skills (agility, balance, coordination, rhythm, time/space orientation, speed, dexterity “hand-eye coordination”, etc.)
- ▶ Introduce mental preparation (concentration, self-activation, visualization, relaxation, positive internal dialogue)
- ▶ Introduce conditioning using medicine and swiss balls, and the individual’s own body weight, for example.
- ▶ Introduce ancillary capacities such as warm-up, hydration, cool-down, stretching, etc.

MISSION OF THE COACH

The mission of the coach is to teach basic sport specific skills and elementary tactics essential to participate in the chosen activity as well as introduce physical conditioning and fundamental mental skills. The sport specific skills are coupled with motor abilities development.

GUIDING PRINCIPLES FOR THE COACH

- ▶ Introduce single periodization (seasonal planning)
- ▶ Incorporate training regimes that improve the awareness of space and timing. More time should be spent training (70 per cent) than competing (30 per cent)
- ▶ The frequency of practices (training) as well as the number of repetitions must be high enough to ensure learning (must have a 70 per cent success rate for learning to occur)
- ▶ The participant must be actively engaged in the activity on both motor and cognitive levels
- ▶ Communicate to the athlete only what they need to know to accomplish the task.
- ▶ Utilize windows of optimal trainability for: flexibility, speed, endurance at the onset of the Peak Height Velocity (PHV) curve



- ▶ Skills learning (technique) comes under the umbrella of tactics. The participant must have a clear idea of what tactical problems s/he can solve with what s/he has learned
- ▶ All basic movement skills, motor abilities and basic sport specific skills (physical literacy) should be learned before the Training to Train stage
- ▶ Develop a practice routine to reach a goal
- ▶ Ensure practices are fun by helping the child improve his/her skills
- ▶ Develop a self-assessment of abilities and skills for d/Deaf athletes
- ▶ Promote positive mental, cognitive and emotional development
- ▶ If a coach pursues multiple objectives in the training session, skills or tactical acquisition should come first in the main part of the session (after warm-up) to ensure an athlete is rested and able to concentrate for learning to occur
- ▶ Teach d/Deaf children the tools to work with hearing coaches, for example focus on individual training and have one-on-one meetings with the coach. Hearing coaches need to be patient and understand the cognitive level of d/Deaf athletes and ensure they are treated equally with hearing athletes.

Well constructed practices, where skills are specifically developed and shaped, are important at each stage. The coach should clearly explain why these skills are being developed. Importantly, coaches need to keep in mind that adaptations are needed for the teen's body, mind and emotional state. Athletes who are d/Deaf need to learn about mental preparation through positive encouragement, team building activities and an open-minded environment.

The coach plays a critical role in the development of d/Deaf athletes. Some coaches display an indifferent attitude towards d/Deaf players. While it can appear to be that they are not taking the time and effort to help d/Deaf children feel included and understand what is going on during play, it may be that they do not know what to do due to a lack of knowledge about deafness and modes of communication.

Most importantly, d/Deaf athletes benefit from having d/Deaf coaches as motivators who understand them as a fellow d/Deaf person, asking important questions such as 'what is your goal in this sport?' 'How do you see yourself achieving this?'



THE 9 STAGES OF THE CDSA LTAD

6. TRAIN TO TRAIN

The Train to Train stage, according to Istvan Balyi (1998), is where you make or break an athlete.

The primary focus is to consolidate and refine all basic technical skills and practical tactical knowledge in a specific sport as well as commit to a style of play. This stage also includes the introduction of game plans and development of the decision-making process. Athletes could be adolescents: males 14-18 years old and females 13-17 years old, and maybe even older.

GUIDING PRINCIPLES FOR THE ATHLETE

- ▶ Consolidate basic sport skills (two sports)
- ▶ Consolidate basic practical tactical knowledge
- ▶ Acquire new practical tactical knowledge tailor-made to the level of performance of the athlete
- ▶ Develop game strategies (game plans) as well as decision-making
- ▶ Develop training commitment by increasing the number of training sessions (roughly 60 per cent training and 40 per cent competition).
- ▶ Introduce ideal performance /competition state (individual mental preparation prior to the competition)
- ▶ Develop a solid general physical foundation: speed, strength, endurance and flexibility
- ▶ Develop sound nutritional habits

MISSION OF THE COACH

The mission of a coach is to raise the performance capacity of athletes (Five S's: Stamina, Strength, Speed, Suppleness and Skills), prepare athletes to perform during identified competitions and reach a peak performance at the year's decisive competition. Athletes playing in late specialization sports should be involved in at least two sports (one major and one minor).



THE 9 STAGES OF THE CDSA LTAD



GUIDING PRINCIPLES FOR THE COACH

- ▶ Ensure the athlete increases his/her repertoire of sport specific skills by acquiring variants of basic skills and adding new skills.
- ▶ Ensure skills or tactics are consolidated in controlled conditions as well as random ones
- ▶ Ensure the athlete can perform multiple skills linked by transition movements.
- ▶ Skills/tactics have to be consolidated and performed in a light to moderate state of fatigue in order to prepare the athlete adequately for competition requirements
- ▶ Training load must be increased gradually and progressively. This translates in an increase in training volume (frequency of training) and making sure the intensity level meets the competition requirements
- ▶ The athlete has to learn to extend the limit of his/her performance capacity methodically and systematically in order to improve
- ▶ Be aware of the growth, development and maturation process of the athlete in order to make adjustments to his/her training program
- ▶ Monitor athlete growth through the Peak Height Velocity (PHV) curve (better known as the growth spurt)
- ▶ Evaluate musculoskeletal development during the PHV
- ▶ Utilize the windows of optimal trainability indicated by PHV: speed, endurance, strength at puberty
- ▶ Apply single or double periodization
- ▶ Includes competition simulation in practice

To ensure success in training teen athletes, coaches should have adequate skills and be certified for coaching as well as informed about Deaf culture and awareness (e.g. through workshops). Coaches should be able to design a yearly training, competition and recovery plan tailor-made to the needs of the athletes. Meeting with the athlete on a regular basis will impact the athlete's development related to physical components, techniques, tactics and mental skills. It is recommended to take extra time to explain and expose the athlete to different games.

Training needs to be visual for d/Deaf athletes and tools should be developed to accommodate each person. Coaches should also be aware that certain athletes are kinesthetic learners (learn by doing).

The more d/Deaf athletes participate in training camps, the better the chance for selecting the right d/Deaf athletes for either team sport or individual events.

Communication between coaches, athletes and parents is essential to an athlete's success in this stage. E-mail correspondences, phone calls, and/or texts are good ways to communicate with d/Deaf athletes. Interpreters are useful when everyone involved in a meeting needs to understand each other clearly.



THE 9 STAGES OF THE CDSA ITAD

7. TRAIN TO COMPETE

The Train to Compete stage is where athletes focus their training for performance at competition. Athletes will be males aged 18 to 25+ years old and females aged 17 to 24+ years old.

The main objectives of this stage are to optimize fitness preparation, sport-specific skills and tactics, mental preparation and appropriate nutritional habits to reach optimal performance in key competitions. Training is to provide athletes with high volume workloads with competition requirement intensity. This stage is to expose athletes to national multisport games as well as international events. In late specialization sports, this is the stage (age level) where sport specialization occurs.

GUIDING PRINCIPLES FOR THE ATHLETE

- ▶ Refine a sequence of basic sport skills (intensity/density) during competitions (one sport)
- ▶ Develop consistency in implementing variants of basic and new skills acquired in a competition environment
- ▶ Increase and improve the athlete's repertoire of skills
- ▶ Increase the success rate of skills executed during competitions
- ▶ Increase the success rate of the basic practical tactical knowledge implemented during competitions
- ▶ Develop and consolidate new practical tactical knowledge adapted to the strengths of the athlete/team
- ▶ Improve decision-making
- ▶ In an analogous competitive situation, the player should be able to solve the same tactical problem using different ways (skills/techniques)
- ▶ Develop general and specific physical conditioning
- ▶ Develop a system of associative solutions specifically for team sports. It is considered the quickest link between the perception of a playing situation by the players/team and the adequate response
- ▶ Develop and improve ideal performance state/competition integrating the performance factors (techniques, tactics, physical, mental and nutrition)
- ▶ Develop strategies and tactics (game plans) adapted to the athlete's strengths and taking into account the opponents habits in certain situations
- ▶ Develop the performance capacity of the athlete/team in a given period of the year followed by preparing the athlete/team to perform in key competitions
- ▶ Optimizing general and specific fitness preparation related to the requirements of the sport, individual and position-specific skill



THE 9 STAGES OF THE CDSA ITAD





- ▶ Further develop basic mental skills during practices
- ▶ Develop and improve ideal performance state of athletes
- ▶ Introduce athletes to international competitions
- ▶ Incorporating single, double or triple periodization integrating the performance factors (sport-specific techniques and tactics), sport specific fitness related to position or event and mental skills.

MISSION OF THE COACH

The mission of the coach is to integrate in a complex and harmonious blend the performance factors (techniques, tactics, physical, mental, nutrition) in order for the d/Deaf athlete to perform on a regular and consistent basis at identified major events domestically and internationally.

GUIDING PRINCIPLES FOR THE COACH

- ▶ Training intensity must be tailored for the activity and the desired effect, including with suitable rest periods. For example, if the athlete trains disproportionately at sub-maximal intensity, it will impact motor coordination and synchronization
- ▶ When training for a team, combat or racquet sports, more time should be spent on random conditions (competition reality) than on controlled conditions by the coach (drills)
- ▶ Monitor fatigue/recovery adequately
- ▶ Be aware of the factors that influence tactical thinking when the athlete is confronted to a decision-making situation: speed of the action taking place, quality of observation, experience and tactical knowledge, memory and emotional state
- ▶ In team sports, emphasis in training should be on cooperation and synchronization between players as well as speed of execution
- ▶ In competition, the athlete should concentrate on the task to do and not the outcome
- ▶ Competitions chosen must favor the athlete's development and be meaningful competitions
- ▶ In direct opposition-confrontation sports, the athlete has to learn to stick to the game/race/combat plan and not get carried away because the going gets rough.
- ▶ Manage and lead an Integrated Support Team (IST) of sport science and sport medicine experts working with the athletes and the program coach.

Increase the frequency of training sessions per week and ensure the training program is adapted to the individual's needs. Providing interpreters is useful for mentoring, coaching, and counseling to affect the mind-set of athletes and encourage support and flexibility. Additionally, establish a carding system exclusive for d/Deaf athletes that will include sponsorships and help them to strive towards the ideal performance state in competition.

8. TRAIN TO WIN

The Train to Win stage is where performance is refined for results at the highest levels of competition. Athletes will typically be 21 years old or older.

The primary focus is to fully commit to the pursuit of international excellence and be able to have excellent and consistent performances.

GUIDING PRINCIPLES FOR THE ATHLETE AND COACH PARTNERSHIP

- ▶ Optimize and integrate all performance factors taking into account the international competition calendar as well as the domestic calendar of events
- ▶ Full commitment to the pursuit of international excellence – plan towards winning events (podium performance)
- ▶ Athletes must have the opportunity to face the best in the world regularly and are prepared to reach their best performance in key competitions
- ▶ Ensure access to sport specialists, including sport medicine and sport science experts on an individual and team basis
- ▶ Manage all demands for their career (school, work, sponsors, media, etc.) and explore with the athlete, aspects related to their post-sport career

MISSION OF THE COACH

The mission of the coach is to model all aspects of training and performance in order to help the athlete reach the podium during major international events.

GUIDING PRINCIPLES FOR THE COACH AS THE ARCHITECT AND ARTISAN RESPONSIBLE TO PREPARE THE ATHLETE TO PERFORM

- ▶ Modeling all possible aspects of training and performance
- ▶ Periodization (training, competition and recovery) is carefully calibrated throughout the season to lead to performance at key competitions
- ▶ Training is geared to integrate the performance factors (techniques, tactics, physical and mental preparation, and nutrition) to meet the specific upcoming competition requirements
- ▶ Monitor fatigue/recovery adequately
- ▶ Frequent preventive breaks permitting recovery to avoid overtraining and injuries
- ▶ Ensuring for single, double, triple or multiple periodization
- ▶ Take into account the environmental factor in the athlete's preparation
- ▶ Coaches have to be more effective in managing and leading an "Integrated Support Team" (sport science and sport medicine experts involved with the athletes, and possibly interpreters)

Workshops or seminars should be recommended for athletes and coaches to understand their roles as they enter this stage with the aim of making it to the podium. They need to be exposed to resource management tools to manage the media profiling and exposure, create training schedules around competitions, seek and secure sponsorships, and work with professionals such as sport psychologists and sport medicine specialists.

The CDSA will need to develop strategies to help support d/Deaf athletes by means of promotion, including raising their profiles on the CDSA websites and social media accounts. Other ways of raising awareness about d/Deaf athletes are possible "road-shows", releasing announcements by the way of press releases, and partnering with National Sport Organizations and Sport Canada on promotions.



At the Train to Win stage, d/Deaf athletes should be given an opportunity to develop a long-term plan for post-sport careers. Career and/or university education are possible tools as part of their long-term plans. Career management can also include transitioning into other sport roles, such as becoming a motivational speaker or a coach through NCCP certification. Athletes have several options to incorporate into their decision-making processes for their post-sport careers.

9. ACTIVE FOR LIFE

This stage is for males and females to enter at any age.

The main objective is to continue participation and training to stay physically healthy as well staying involved in sports.

The primary focus is to practice a sport for fun, possibly compete in masters competitions, or become involved in sport-related activities such as coaching, administration, officiating, etc.

MISSION

The mission of the coach is to facilitate life-long participation in sport for pleasure and self-esteem.

GENERAL OBJECTIVES

- ▶ Develop background skills related to sport such as teaching, coaching, supporting and being a role model (moving onto sport careers or volunteering)
- ▶ Develop the transition of athletes' competitive lifestyle into society (smooth transition from competition to participation)
- ▶ Offer more activities for the community (participating in a number of mass sport activities as well as moving from competitive sport to recreational activities)
- ▶ Be a mentor
- ▶ Focus on being physically active for life with a minimum of 60 minutes of moderate daily activity or 30 minutes of intense activity for adults

Keeping athletes engaged after their competitive sport careers end and providing ongoing support is essential for a well-balanced life. Mental preparation before retirement is also essential to ensure a healthy and smooth transition to a new phase in their life. The recommendation is continue to be active by interacting with athletes as a referee, being involved in a coaching role, or participating in semi-competitive events. As well, being a volunteer in the community (board member, mentor) is a good way to contribute to the overall health and wellness of the community.

Now that you have seen our CDSA LTAD generic model, we will introduce in the next section the 11 key factors we took into account to design the LTAD model.



THE 9 STAGES OF THE CDSA LTAD

THE 11 KEY FACTORS INFLUENCING THE CDSA LTAD



There are 11 key factors influencing the Long-Term development of d/Deaf athletes.

1. ACCESSIBILITY TO SPORT AND COMMUNICATION

Athletes who are d/Deaf must explain their needs to coaches, officials, and referees prior to participating in a game or competition. Parents are usually the first advocates for their d/Deaf children when it comes to fair participation in physical activities. A factor particular to d/Deaf players participating in sports is communication. Deaf athlete participation should not require having physical abilities or technical skills that are superior to their hearing peers in order to out-weigh communication barriers. Strategies exist to ensure full Deaf athlete involvement.

The availability of CDSA LTAD booklets and workshops designed specifically for parents, coaches and officials, as well as information on the CDSA website, will help raise awareness about Deaf sports and the needs of athletes in any stage of the CDSA LTAD. Children who are d/Deaf must have the opportunity to develop fundamental movement and sport skills. Failure to do so severely limits their lifelong opportunities for recreational and athletic success.

DIFFICULTIES FACED BY D/DEAF CHILDREN IN ACCESSING SPORT INCLUDE:

- ▶ Overly protective parents, interpreters, teachers and coaches who shield them from the bumps and bruises of childhood play;
- ▶ Adapted physical education is not well developed in all school curriculums;
- ▶ Some coaches and programs do not welcome d/Deaf children in their activities because of a lack of knowledge on how to integrate them; and
- ▶ It takes creativity to integrate a d/Deaf individual into group activities where physical literacy and sport skills are developed.

Athletes accustomed to using hearing aids or cochlear implants must learn alternative approaches if they wish to participate in Deaf Sports, or if otherwise limited by sport rules as they will not be able to use such devices during sport events.

THE 11 KEY FACTORS INFLUENCING THE CDSA LTAD



2. EXCELLENCE TAKES TIME

Scientific research has concluded that it takes 10,000 hours of deliberate training over a minimum of 10 years (Ericsson et al, 1993) for a talented athlete to reach elite levels. This translates into an average of more than three hours of daily training for 10 years. There are no shortcuts – athlete development is a long-term process. Short-term performance goals must never be allowed to undermine long-term athlete development.

This factor is reinforced by The Path to Excellence, which provides a comprehensive view of the development of U.S. Olympians who competed between 1984 and 1998.

The results reveal that:

- ▶ U.S. Olympians begin their sport participation at the average age of 12.0 for males and 11.5 for females.
- ▶ Most Olympians reported a 12-to-13 year period of talent development from their sport introduction to making an Olympic team.
- ▶ Olympic medalists were younger – 1.3 to 3.6 years – during the first five stages of development than non-medalists, suggesting that medalists were receiving motor skills development and training at an earlier age. However, caution must be taken not to fall into the trap of early specialization in late specialization sports.

3. FUNDAMENTALS

FUNDamental movement skills (running, jumping, throwing, catching, etc.), FUNDamental motor skills (agility, balance, coordination, etc.) and fundamental sport skills (skating, cycling, skiing, etc.) are the basis for all other sports, and are known collectively as physical literacy.

Children who are d/Deaf should develop physical literacy before the onset of their growth spurt. There are three activities that are extremely important to the development of physical literacy:

ATHLETICS: running, jumping, and throwing

GYMNASTICS: ABCs of athleticism (agility, balance, coordination and speed) as well as the fundamental movement patterns of landing, stopping, locomotion, rotation, swinging, jumping and object manipulation

SWIMMING: for water safety reasons, for balance in a buoyant environment and as the foundation for all water based sports

Other activities include cycling, skiing, skating, which all develop balance while in motion.

Without these basic movement skills, a d/Deaf child will have difficulty participating in any sport and will have fewer opportunities for athletic success and lifelong enjoyment of physical activity.

The physical literacy skills needed by d/Deaf children vary depending on the nature and extent of their deafness and should include all such skills learned by hearing children as well as the additional skills required for effective use of assistive devices such as starter lights and strobe lights.

Regardless of their previous hearing abilities, individuals who become deaf, hard of hearing or deafened often have to learn new physical literacy skills such as feeling instead of listening to sounds during their movements, visually adapt to team members and communicate effectively during competitions.



Even though they may be adults, it is critical that individuals effectively train FUNDamental movement skills and motor abilities so that those skills can be applied to a wide range of sports and recreational activities. Some d/Deaf athletes who are introduced to Deaf Sports later in life may already have already acquired a strong physical literacy base.

Adaption may vary for each individual – and it can be integrated into each individual’s development in a wide range of sports and recreational activities. The timing of adaption may vary for each individual.

4. SPECIALIZATION

Many of Canada’s most successful athletes participated in a wide variety of sports and physical activities before focusing on one sport. The movement, motor and sport skills they developed have helped them reach the top levels of their sport.

Attention is called to early specialization in a late specialization sport, which can negatively contribute to:

- ▶ One-sided, sport specific preparation
- ▶ Lack of development of basic movement and sport skills
- ▶ Overuse injuries
- ▶ Early burnout
- ▶ Early retirement from training and competition



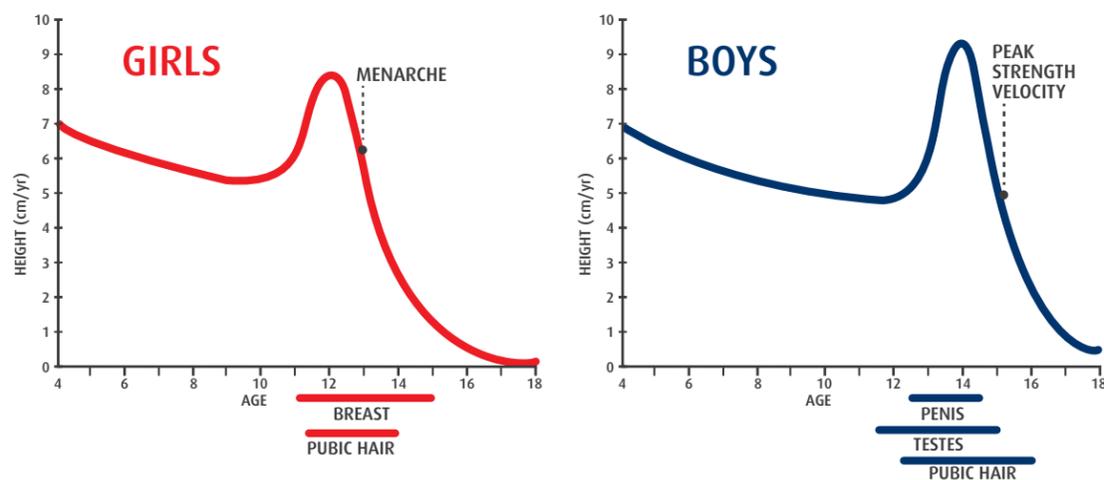
5. THE DEVELOPMENTAL AGE: BIOLOGICAL AGE VS. CHRONOLOGICAL AGE

Being d/Deaf or hard of hearing does not modify childhood and adolescent development and the timing of puberty. An individual's onset of puberty may vary, but the sequence of development that the adolescent goes through usually does not. In the stages of sport development in the CDSA LTAD model, the age factor is modified with two additional years for each stage and both genders due to the late specialization, delayed introduction of Deaf Sports, and communication barriers.

Chronological age refers to the number of years and days elapsed since birth. A group of d/Deaf children of the same chronological age can differ by several years in their biological age and maturity of physical, motor, cognitive and emotional qualities.

We all follow the same stages to maturity, but the timing, rate and magnitude of maturity for various qualities differs between individuals. The CDSA LTAD is based on maturity, not chronological age. The LTAD requires the identification of early, late and average maturation to help design appropriate instruction, training and competition programs according to the readiness of the participant.

Rapid or slow transition through puberty can also be important. Rapid transition means that the individual goes through the growth spurt quickly (e.g. in 1.5 years) as compared to another individual who may take four or five years, or more, to reach maturity (slow transition). Rapid transition can have a detrimental, but not necessarily permanent, effect on skills, speed, strength, power and flexibility, because of the large changes in limb and body length. Coaches, parents and athletes must be well informed about the impact of rapid transition. Some sports have made the decision that athletes don't compete during their growth spurt or are highly selective about the number and type of competitions as well as the goals set for athlete performance.



On average Peak Height Velocity (PHV) in girls occurs at about 12 years of age. Usually the first physical sign of adolescence is breast budding, which occurs slightly after the onset of the growth spurt. Shortly thereafter, pubic hair begins to grow. Menarche, or the onset of menstruation, comes rather late in the growth spurt, occurring after PHV is achieved. The sequence of developmental events may normally occur 2 or even more years earlier or later than average.

PHV in boys is more intense than in girls and on average occurs about 2 years later. Growth of the testes, pubic hair, and penis are related to the maturation process. Peak Strength Velocity (PSV) comes a year or so after PHV. Thus, there is pronounced late gain in strength characteristics of the male athlete. As with girls, the developmental sequence for male athletes may occur 2 or more years earlier or later than average. Early maturing boys may have as much as a 4-year physiological advantage over their late maturing peers. Eventually, the late maturer will catch up when they experience their growth spurt.

In order to design a tailor-made training program for the athlete during puberty, it becomes important to determine precisely the onset of the growth spurt and the peak height velocity (PHV) curve.

6. TRAINABILITY

Trainability is the responsiveness (adaptation) of individuals to a training stimulus at different stages of growth and maturation. All physiological systems are always trainable, but there are sensitive periods in development when the body is more responsive to specific training.

Coaches must be aware and make the best use of these sensitive periods of trainability when planning programs. CDSA LTAD addresses these key periods in the growth and development of young athletes where training must be carefully planned to achieve optimal adaptation. Canadian Sport for Life Resource Paper (2005) identifies five physiological factors as the pillars of training and performance. They are referred as the 5 S's (Frank Dick, 1985).

STAMINA (ENDURANCE):

A sensitive period of trainability for stamina occurs at the onset of PHV. Aerobic capacity training is recommended before athletes reach PHV and is determined by developmental age. Aerobic power should be introduced progressively after the growth rate decelerates

STRENGTH:

The sensitive period of trainability for strength is determined by developmental age. For girls it is immediately after PHV and/or the onset of menarche; while for boys it is 12 to 18 months after PHV. Speed strength and endurance strength can be developed prior to puberty using body weight, lighter loads, medicine balls and swiss balls, for example.

SPEED:

For boys, the first period of sensitivity for speed training occurs between the ages of 7 and 9 years, and the second period occurs between the ages of 13 and 16 years. For girls, the first period occurs between the ages of 6 and 8 years and the second period occurs between the ages of 11 and 13 years. The duration of the growth, up to 5 - 6 seconds for the first window of trainability and extended to 20 seconds for the second window.

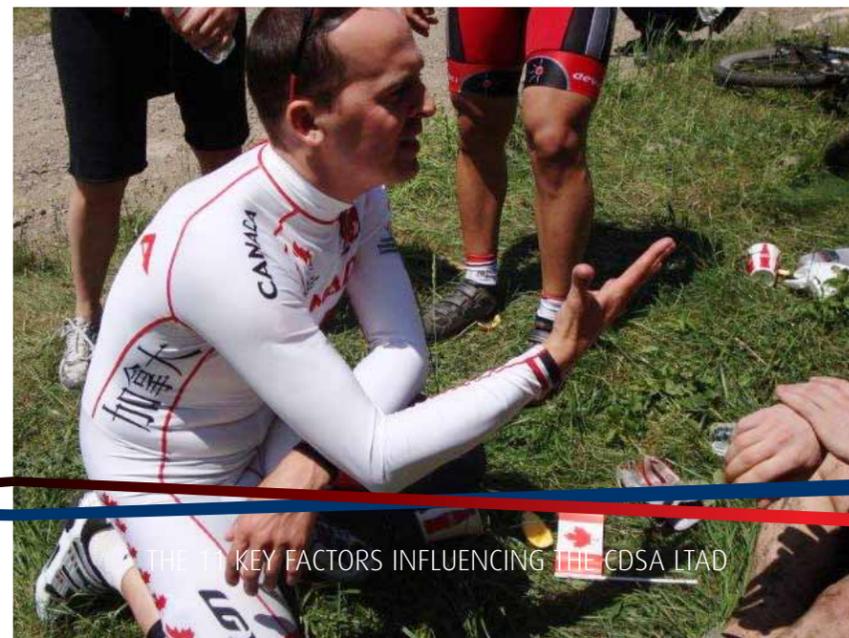
SKILL:

The period of sensitivity for skill training for boys is between the ages of 9 and 12 years, while for girls it is between the ages of 8 and 11 years. This assumes that a foundation of fundamental movement skills and motor skills have been developed prior to these ages, which will help to increase the trainability of new sport skills.

SUPPLENESS (FLEXIBILITY):

The period of sensitivity for suppleness training for both boys and girls occurs between the ages of 6 and 10 years. Special attention should be paid to flexibility during PHV.

The coach can rely on chronological age to develop speed, skills and suppleness. They serve as a template for sport specific skills acquisition. The golden age to develop motor abilities is before the athlete reaches 12 years of age.





7. PHYSICAL, MENTAL, COGNITIVE, SOCIAL AND EMOTIONAL DEVELOPMENT

Sport can play an important role in helping d/Deaf individuals to develop a new and positive self-image as well as enhance their self-concept. These athletes may be feeling socially isolated due to educational mainstreaming. Sports can be an outlet for them to feel part of a team. They share something in common with the hearing athletes – passion for sports. This will have an impact on their social development at any stage of their lives. With the introduction of Deaf Sports, the feeling of social isolation would be diminished and they would feel more comfortable with their peers in any language (signed or spoken). For this reason, sport programs should consider the social, mental, cognitive and emotional development of d/Deaf athletes in addition to their physical development. This is particularly important for coaches when working with d/Deaf athletes.

Along with the LTAD's holistic approach to athlete development, Deaf Sports programs need to put an emphasis on ethical behavior, fair play and character building throughout the various stages.

8. PERIODIZATION

Simply put, designing a yearly plan is time management. It means planning the right activities with the adequate degree of difficulty, and in the right sequence to reach training and competition objectives.

The plan must be broken down into workable units. The proper sequencing of these units (periods, phases, mesocycles) is critical for success. In order to reach optimal performance in a competition environment, the training goals are as follow:

1. Develop the performance capacity of the athlete in the preparation period. The performance capacity includes: sport specific skills, tactics/strategies, physical components and mental skills.
2. Integrate the performance factors in a complex and harmonious blend in the competition period by alternating training microcycles and modeled competition microcycles.
3. Prepare the athlete to perform at identified competitions and taper for the decisive competition of the year.

Breakdown: Annual Training, Competition and Recovery Plan

Annual Cycle																		
Macrocycle																		
Preparatory Period									Competition Period						Trans. Period			
General Preparatory Phase						Specific Prep. Phase			Comp. Phase 1		Comp. Phase 2				Trans. Phase			
Condition Meso			General Basic Meso			Specific Basic Meso			Comp. Meso		Comp. Meso		Taper	Peak Comp		Recovery Meso		
Microcycle	Microcycle	Microcycle	Microcycle	Microcycle	Microcycle	Microcycle	Microcycle	Microcycle	Microcycle	Microcycle	Microcycle	Microcycle	Microcycle	Microcycle	Microcycle	Microcycle	Microcycle	Microcycle
Séance Session	Séance Session	Séance Session	Séance Session	Séance Session	Séance Session	Séance Session	Séance Session	Séance Session	Séance Session	Séance Session	Séance Session	Séance Session	Séance Session	Séance Session	Séance Session	Séance Session	Séance Session	Séance Session

Martin Roy (2005) adapted from Cardinal (1998).

In order for a coach to design an annual plan for d/Deaf athletes or teams, the following items are necessary in the planning:

- ▶ Know how a sport specific athletic form is developed
- ▶ The requirements (demands) of the sport in competition
- ▶ The competition calendar and its relative importance
- ▶ The actual training state of the athlete at the start of a yearly plan
- ▶ The contextual reality a coach and athlete have to cope with
- ▶ The sport specific LTAD model

Planning adequate training, competition and recovery is a critical blueprint for success.



THE ROLES OF A COACH

All programs are athlete-centered and coach-driven. In order for the coach to help the athlete/team reach their dream goals, s/he must be able to play effectively five roles.

- ▶ **The architect:** responsible to design the athlete's/team pathway towards the final goal of the year.
- ▶ **The builder:** responsible to structure, lead and manage an integrated support team (sport science, sport medicine experts, and perhaps interpreters)
- ▶ **The artisan:** bringing support to the athlete in the training environment. Raising the performance capacity of the athlete/team and integrating all the performance factors in order to prepare the athlete/team to perform at identified competitions.
- ▶ **The counselor:** bringing support to the athlete/team in a competition environment. Making sure the athlete/team is in an ideal performance state, stay focused throughout the competition, and extend to the limit of their performance capacity.
- ▶ **The facilitator:** bringing socio-emotional support to the athlete as related to the situation at the moment.

PREREQUISITES TO PLANNING

In order for a coach to design an annual plan for d/Deaf athletes or teams, the following items are necessary in the planning:

- ▶ Know how sport specific athletic form is developed
- ▶ The requirements (demands) of the sport in competition
- ▶ The competition calendar and the relative importance of competitions
- ▶ The actual training state of the athlete at the start of a yearly plan
- ▶ The contextual reality a coach and athlete have to cope with
- ▶ The sport specific LTAD model

Planning adequate training, competition and recovery is a critical blueprint for success.



THE 11 KEY FACTORS INFLUENCING THE CDSA LTAD

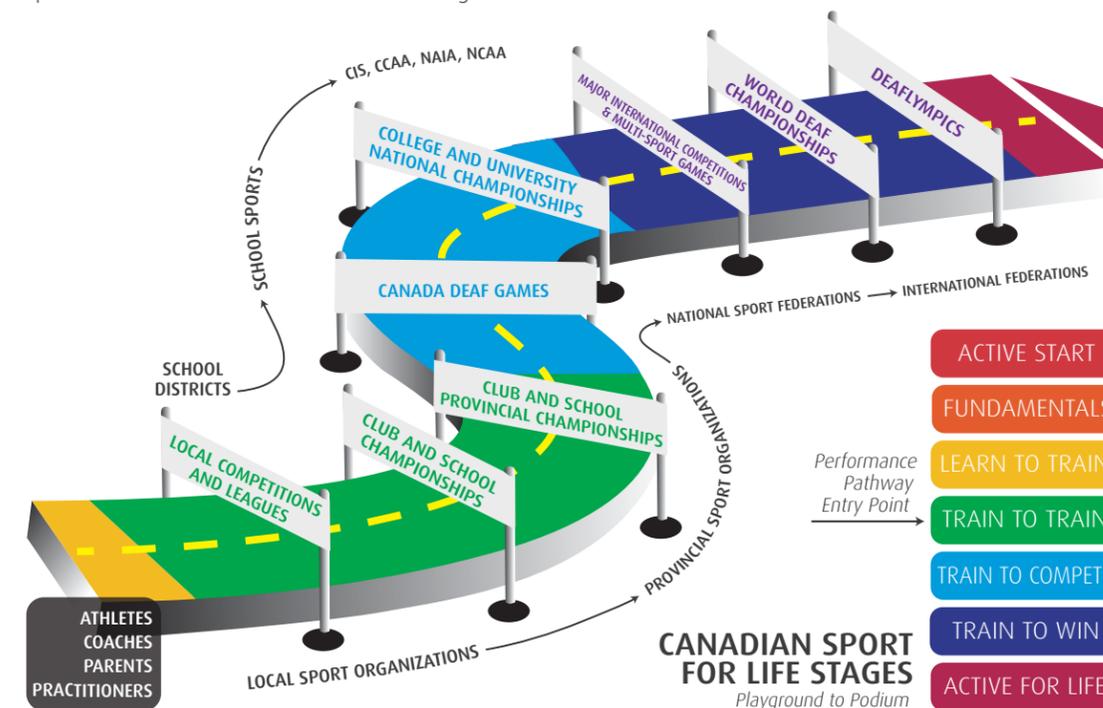
9. CALENDAR PLANNING FOR DEAF SPORT COMPETITIONS

There are significant challenges for establishing a competition calendar that can make planning and periodization very difficult in a Deaf Sport context. Whereas mainstream sport often suffers from over competition, the tendency for events to be unconfirmed or cancelled at the last minute means that there are few competitions to focus on and reliably use for development in a Deaf Sport context.

QUESTIONS TO CONSIDER:

- ▶ Does the actual competition structure and format hinder or favour the athlete's development?
- ▶ Are there meaningful competitions?

Optimal competition structure at all stages is critical to the athlete's development. The structure of competition in a sport has implications for selection, talent identification, safety, cost, and adolescent periodization as tailor-made to the d/Deaf athletes' developmental age and their health. The domestic competition and event calendar must support and be consistent with CDSA LTAD. Different stages of development and different levels of participation have different requirements for the type, frequency and level of competition. At some stages of development, training and development take precedence over competitions and short-term success. At later stages, it becomes more important for athletes to experience a variety of competitive situations and to perform well at international and other high-level events.



Source: CDSA 2013 - Adapted from the PacificSport Northern BC model
www.pacificsportnorthernbc.com/athlete-services/performance-pathway

THE 11 KEY FACTORS INFLUENCING THE CDSA LTAD



Provincial and national competitions as well as event calendars must be coordinated. Tournaments should be selected according to the priorities of the specific stage of development of the participants/athletes. The CDSA has no power over the international competition calendar; however, the CDSA and its provincial members do have the power to set domestic competitions.

Currently, international competitions suitable for the Learn to Train and Train to Train stages are more readily available than competitions suitable for athletes at the Train to Compete and Train to Win stages. The alignment of calendar planning begins with the International Committee of Sports for the Deaf (ICSD) – a governing body for Deaf Sports including the Deaflympics, World Deaf Championships, and regional competitions – such as Pan Am Games for the Deaf in this instance. With improved stability on the international front and new Deaf Sports training and competition programs in Canada, the alignment will become more manageable. This gap in the competition calendar must be eliminated if optimum development is to occur. Enhanced partnerships with NSOs may lead to greater opportunities to promote Deaf Sports, or opportunities for d/Deaf athletes within hearing competitions.



Source: CDSA 2013



THE 11 KEY FACTORS INFLUENCING THE CDSA LTAD

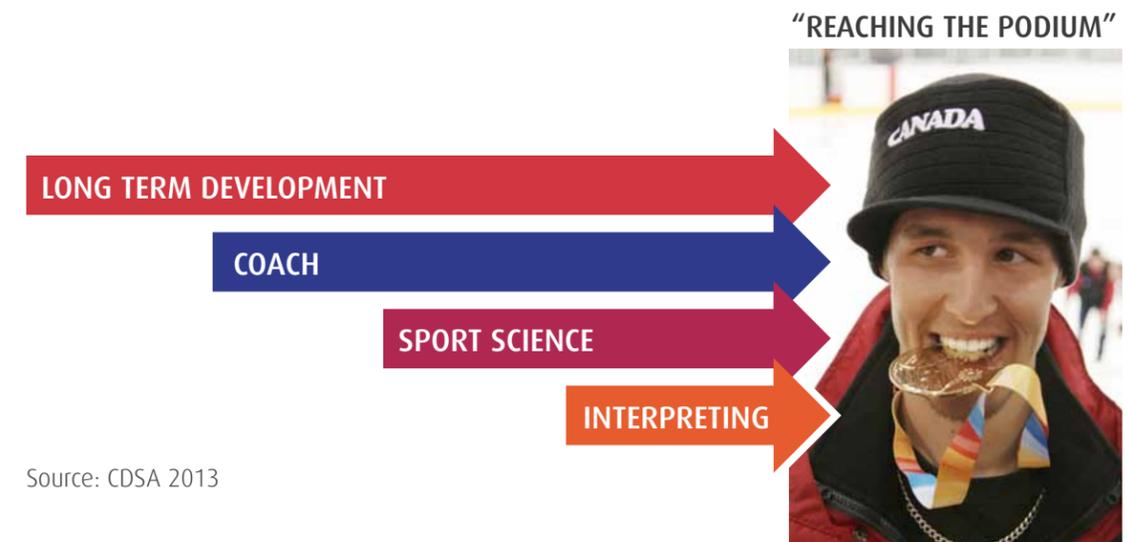


10. SYSTEM ALIGNMENT AND INTEGRATION

Stakeholders in a sport include participants/athletes, coaches, parents, administrators, spectators, sponsors and supporting national, provincial and multisport organizations. With so many partners across a vast country with different demographic composition, system integration and alignment is a major challenge. The CDSA LTAD recognizes that physical education, school sports, recreational activities and competitive sport are interdependent. It recognizes that enjoying a lifetime of physical activity and achieving athletic excellence are both built on a foundation of physical literacy and fitness.

All elements of this sport system should be integrated and aligned to achieve these goals. Similarly, all parts of the sport community in Canada must be integrated and aligned. Each element in the system plays a crucial role in the athlete's development. The system must be clear, seamless and based upon a consistent set of principles.

The CDSA LTAD model puts emphasis on aligning the many components of this system for d/Deaf athletes. This includes the development of competitions, coaching, funding, facilities and equipment, training partners, sport science, interpreting and captioning services as well as talent identification and development. Without a sport system alignment and integration, optimum benefits for d/Deaf athletes will not be achieved. CDSA needs to coordinate and build relationships with NSOs to share knowledge and expertise on sport specific aspects of LTAD.



Source: CDSA 2013

THE 11 KEY FACTORS INFLUENCING THE CDSA LTAD



11. CONTINUOUS IMPROVEMENT

Even though Deaf sports have evolved over the last century, the concept is relatively new to many. To put Canadian d/Deaf athletes “out front”, sport organizations must be alerted to take advantage of all new information. Permeating CDSA LTAD is the belief in continuous improvement by the active and ongoing process of selecting what information will be used and then integrating it into programs and services. This concept is drawn from the Japanese industrial philosophy known as Kaizen and ensures that the CDSA LTAD model for d/Deaf athletes:

- ▶ Responds and reacts in a timely manner to new scientific and sport specific data, observations and research;
- ▶ Is a continuously evolving vehicle for positive change in the sporting, recreation and physical education lives of d/Deaf, hard of hearing and late-deafened individuals; and
- ▶ Promotes ongoing education and sensitization of federal, provincial/territorial and municipal governments, the mass media and Canadian sport system to the needs and expectations of d/Deaf athletes.
- ▶ Leadership and inspiration need to be integrated in this process to attract and lead new d/Deaf athletes to greater heights.

改善

“KAI” = CHANGE
“ZEN” = GOOD



THE 11 KEY FACTORS INFLUENCING THE CDSA LTAD

GLOSSARY AND DEAF SPORT TERMS

ASL: American Sign Language is a sign language used by Anglophone Canadians as well as by Deaf Americans.

Audism: A term generated from the Latin audire, to hear, and -ism, a system of practices, behaviours, beliefs or attitudes. Coined by Dr. Tom Humphries, it has been defined in many ways and basically means “the notion that one is superior based on one’s ability to hear” (Humphries, 1977).

Closed captions: The process of displaying a transcription or a verbatim text of what is being said on television or a DVD as it occurs.

Cochlear implant: A small surgically implanted electronic device that could help provide a sense of sound to individuals who are profoundly or severely hard of hearing.

Deaf: The term “deaf” that belongs to the medical and audiological views, includes all individuals with different hearing limitations. This term is also employed as a collective label for those who are medically deaf, but who don’t identify themselves as part of the Deaf community. On the other hand, “Deaf” with a capital D is a term that includes medically deaf people who identify themselves as part of the Deaf community.

Deaf community: A community formed by Deaf individuals sharing a common language, history, traditions, values and culture. It is an organized community at different levels – local, provincial, national and international – in various areas of life such as sports, human rights, activism and the arts to mention only a few.

Deaf culture: Includes from an anthropological point of view a set of social beliefs, knowledge, behavior, tradition, history, art, values and language that is unique to the Deaf community. It also meets all the five sociological criteria – language, values, traditions, norms and identity – for the culture to be defined as it is. In a few words, it is the heart of the Deaf community.

Deafened: A hearing individual who gradually becomes hard of hearing or deaf.

Deaf identity: It is a social construct where there are many levels of identity that d/Deaf individuals could give themselves. It greatly depends on the individual’s level of implication and interrelation with the Deaf community. Most of them would feel “Deaf and proud of it”, referring to their feeling of belonging to the Deaf community and the use of sign language. Deaf identity is at the root of the Deaf community.

Deaflympics: The sporting event for the Deaf was established in 1924 and was then known as “International Silent Games”. Eugène Rubens-Alcais of France and Antoine Dresse of Belgium were the co-founders of the Games. The title was renamed in 1967 as

“World Silent Games”. The name change happened again in 2001 as Deaflympics upon official recognition by the International Olympic Committee (IOC). www.deaflympics.com

Deaf Sports: The term is in reference to the entirety of the sporting events and activities for the d/Deaf on all levels including the pathway to the Deaflympics.

Hard of hearing: An individual with a mild to moderate hearing loss.

Hearing: While, in general, it could either mean any auditory perception or ability to hear. To d/Deaf people, it refers to anyone who can hear or in other words, “the Other”.

Hearing aids: An electro-acoustic device designed to amplify sounds to allow the wearers to hear noises that occur in their immediate environment.

Hearing impaired: A technical term that describes individuals who are deaf or hard of hearing. Despite the high criticism among the Deaf community due to its pejorative meaning, a large majority of hearing people still use this term.

Late deafened: A hearing individual who gradually becomes hard of hearing or deaf later in life.

LSQ: Langue des signes québécoise (Quebec Sign Language). It is a sign language used by Francophone Canadians. Note that even though in France people speak French as well, they use LSF (Langue des signes française – French Sign Language).

Non-signer: Can be either a d/Deaf or hearing individual who doesn’t use sign language to communicate.

Sign language interpreter: Someone who interprets a message between a signed language and a spoken language or between two sign languages. For instance, there are ASL/English, LSQ/French and ASL/LSQ interpreters.

Signer: Can be either a deaf or hearing individual who knows sign language to communicate. Not all signers have enough skill to interpret.

TTY: An abbreviation for “teletypewriter”, an electronic communication device that allows deaf people to use the telephone by typing messages back and forth instead of talking and listening.

Videophone: An electronic communication device that allows d/Deaf people to communicate with others in sign language through a computer or television screen. Similar to using a webcam, however, the quality is better.



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DEAF SPORTS FOR LIFE



CANADIAN DEAF SPORTS ASSOCIATION