

Long-Term Player Development Guide for Golf in Canada



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Introduction

Golf Canada and the Canadian Professional Golfers' Association are pleased to present the *Long-Term Player Development (LTPD) Guide for Golf in Canada*. This document provides a valuable roadmap as we develop a pathway to creating champions.

The *LTPD* is an important first step towards reaching our goal of placing Canada among the top golfing nations in the world. To achieve that goal we need:

- Partnership and cooperation among the various national and provincial golf associations.
- Systematic talent identification.
- Systematic coaching development and support at all levels.
- An athlete development framework from the grassroots to elite levels.
- Training programs tailored specifically to an athlete's developmental stage.
- Long-term strategies rather than a short-term focus.

To develop this *LTPD* we have incorporated best practices and the latest scientific research from a number of sports organizations from Canada and around the world, as well as the Canadian golf industry.

We believe the guide is a key factor in achieving international success for our athletes and fostering a life-long love and involvement in the sport of golf by as many Canadians as possible.

It not only provides a solid framework, but clearly outlines the roles and responsibilities of everyone involved in the sport. The ultimate goal is to create a model for success for years to come.



Scott Simmons
Golf Canada, CEO and Executive Director



Gary Bernard
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Why Canada needs a Long-Term Player Development (LTPD) Guide

The need for a systematic LTPD process arises from the challenge of competing in the rapidly advancing international sporting arena and the resulting importance of identifying and developing the next generation of internationally successful athletes. Furthermore, participation in recreational sport and physical activity has been declining and physical education programs in the schools are being marginalized. When addressing the steps necessary to implementing LTPD it is critical to be cognizant of shortcomings that are affecting not only golf, but the entire Canadian sport system, along with the consequences of those shortcomings. Through proper implementation of golf's LTPD guide and the principles of development that it advocates, we will enable all stakeholders to recognize these challenges and develop cooperative strategies to overcome them.

| Shortcomings | Consequences |
|--|---|
| Developmental golfers over-compete and under-train | Bad habits developed from too much competition where the focus is on winning |
| Adult training and competition programs are imposed on developing players | Undeveloped and unrefined skills due to inappropriate training |
| Preparation is geared to the short-term outcome and winning and not on optimal long-term development | Lack of systematic development of the next generation of successful international athletes |
| Chronological rather than developmental age is used in training and competition planning | Remedial programs, implemented by provincial and national team coaches, to counteract the shortcomings of athlete preparation |
| Coaches largely neglect the critical periods of accelerated adaptation to training | Athletic potential is not reached |
| Typically the most knowledgeable coaches work at the elite level; least experienced and trained coaches work at the developmental level where quality of trained coaches are essential | Poor skill development, inappropriate level of programming, poor demonstration of skills |
| Parents are not educated about the LTPD | Players are pulled in different directions |
| In most instances, the competition schedule interferes with athlete development | Poor movement abilities compromise long-term development – the focus being on short term age group success |
| There is not integration between physical education programs in the schools recreational community programs and elite competitive programs | Little talent identification, poor movement skill education and performance levels in international competitions |
| Limited access of affordable training at facilities | Lack of depth in talent pool – limited number of genetically talented players can afford to take up the game, inhibits overall growth of mass participation |



Golf's Long-Term Player Development Guide has been designed to establish a consistent and systematic guide to maximizing the potential of our players and to increase the number of people participating in the sport of golf from "cradle to grave."

The guide has been designed through a broad consultation process involving a wide variety of experts from within and outside the golf community in our country and should be viewed as a working document, based upon research and best practices from coaches, administrators, and sport science experts from around the world.

It should be noted that these are guidelines and recommendations for the sport as a whole and that coaches, families, educators, officials and players need to use them with a degree of flexibility to ensure that the golf experience is enhanced for all individuals within the sport. The various sections within this guide refer to the stages of development that a golfer progresses through as he or she matures in the game. All sections relevant to the LTPD stages are colour coded thus specific commentary on those specific stages can be easily tracked (i.e., physiology, psychology etc.)

When referring to the information in this document, please keep in mind that all players/athletes have their own unique physical, mental, emotional, and social needs and require individualized programming and evaluation by qualified, accredited professionals.



Glossary of terms

Golf, like any specialized sport, has a language unto itself. This section will enable you to develop a better understanding of the terms commonly used when referring to golf training.

Accelerated Adaptation refers to a stimulus or a series of stimuli, which induces functional and/or morphological changes in the organism. Naturally, the level or degree of adaptation is dependent on the genetic endowment of an individual.

Anthropometry Measurement is a regular, periodical measurement of standing height, sitting height, arm span and weight to monitor growth. This helps predict the onset of PHV.

Ball Speed is a measurement in MPH of the ball's initial velocity, once a golfer hits the ball, which is measured at impact by a device known as a "Launch Monitor." Ball speed shows how much energy the golfer is transferring to the golf ball.

Ball speed, along with the variables of launch angle (take-off trajectory), and spin rates (backspin and sidespin in RPM) determine the distance, trajectory, and flight characteristics of the golf ball. Ball speed is different than club head speed. Ball speed reliably shows how centered or "flush" the contact is whereas club head speed measures how fast the club is traveling at impact. Club head speed does not take into account how much energy is transferred to the golf ball.

Biomechanical Model is a description of the neural, muscular, and/or bone dynamics that occur during movement.

Blocked Practice refers to a practice sequence in

which individuals repeatedly rehearse the same task. It is also referred to as low contextual interference.

Cardiovascular Endurance refers to the general physical fitness of the athlete. More specifically, it is the body's ability to deliver oxygen and nutrients to tissues and to remove wastes over a sustained period. The heart, lungs, blood, and muscles must all be working optimally for maximal cardiovascular endurance. In golf, cardiovascular endurance is important for keeping high energy levels during play, having the ability to play and practice for long periods of time without fatigue, and for overall health.

CDM The Coaching Development Model is the framework which defines the structure of the coaching program that is put in place to support and train coaches to service participants in the sport of golf.

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

CPGA Canadian Professional Golfers' Association is a membership based non-profit organization representing over 3,000 club professionals and tournament professionals across Canada. The Association was

founded in 1911 which makes it the oldest professional golf association in North America. Further information is available at www.cpga.com.

Developmental Age refers to the interrelationship between growth and maturation in relation to the passage of time. The concept of development also includes the social, emotional, intellectual, and motor realms of the child. Developmental age reflects the 'true' overall situation of an individual's growth and maturation and may be thought of as an index of development stated as the age in years of an individual and determined by specified standardized measurements such as motor and mental tests and body measurements. The terms "growth" and "maturation" are often used together and sometimes synonymously. However, each refers to specific biological activities. Growth refers to observable, step-by-step, measurable changes in body size such as height, weight, and percentage of body fat. Maturation refers to qualitative system changes, both structural and functional in nature, in the organism's progress toward maturity; for example, the change of cartilage to bone in the skeleton.

Emotional Management is the acceptance and processing of feelings. The ability to understand and effectively manage basic human emotions (e.g., fear, anger, guilt/embarrassment, surprise, sadness, happiness).

Golf Canada – a member-based organization governed by the Royal Canadian Golf Association (RCGA) – is the governing body of golf in Canada, representing more than 350,000 members at 1,600 clubs across the country. Recognized by Sport Canada as the National Sport Organization (NSO) for golf in this country, Golf



Canada is responsible for promoting participation in and a passion for the game of golf in Canada.

Golf Canada actively conducts championships, programs and services to help shape the present and future of golf in Canada. High performance athlete development, National Golf in Schools, Golf For the Cure, the Canadian Golf Hall of Fame and Museum, the CN Canadian Women's Tour and CN Future Links, Canada's national junior golf program, are only some of the initiatives the association leads for golf in Canada. As the authority for golf in Canada, the association also administers the Rules of Golf, amateur status and handicapping and course rating under the respected RCGA brand.

In addition, Golf Canada conducts Canada's most prestigious golf championships. The RBC Canadian Open and CN Canadian Women's Open attract the best professional golfers in the world, while regional junior and national amateur championships provide world class competitive opportunities for Canada's top golfers to showcase their talents. www.golfcanada.ca

Greens in Regulation (GIR) occurs when a golfer advances his/her ball onto a putting green in one stroke on a par 3 hole, one or two strokes on a par 4, or two or three strokes on a par 5 hole. Any part of the player's ball must be on the green for a player to record a GIR (i.e. a ball on the fringe doesn't count as a GIR). GIR's are the most reliable golf statistic for performance. A recent MIT study shows that a player's score is correlated to the equation: $\text{Score} = 95 - 2(\text{GIR})$. Therefore a player who hits 10 GIR in a round is likely to shoot a score of $75 - 95 - 2(10)$. This is reliable about 17.5 times out of 20.

Ideal Performance State is the self-created feeling, or state of mental readiness, in which you are totally (both mentally and physically) focused on the pending event and are confident that you will perform to the best of your ability.

Information Processing Skills enables the player to differentiate between information or stimuli (internal

or external) that are distractions and those which are relevant to the task at hand.

NCCP The National Coaching Certification Program (NCCP) is a coach training and certification program for 65 different sports and is offered in both official languages across Canada. The NCCP is the recognized national standard for coach training and certification in Canada. As part of the program, all coaches are trained in ethical decision-making and sport safety.

Peak Height Velocity (PHV) is the maximum rate of growth in stature during the adolescent growth spurt. The age of maximum velocity of growth is called the age at PHV. The rate of change in height varies through specific stages of growth and allows for 'height cues' or rates of growth changes to be used as potential indicators of appropriate activity programming and evaluation content for developing athletes/players.

Onset of PHV (Peak Height Velocity) is the beginning of the growth spurt.

Periodization is a time management and planning technique that provides the framework for arranging the complex array of training processes into a logical and observationally and scientifically based schedule to bring about optimal improvements in performance. Periodization sequences the training components into weeks, days, and sessions. Periodization is situation specific depending upon priorities and the time available to bring about the required training and competition improvement. In the LTPD context, periodization connects the 'stage' the athlete is in to the suggested requirements of that 'stage'.

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

Quality Ball Strike is to be engaged with full concentration in a strike specifically designed to improve feel, skill and/or golf score. This changes as one progresses through the stages as accuracy and precision of the strike becomes more critical.

Random Practice is a practice sequence in which individuals perform a number of different tasks, in no

particular order, thus avoiding or minimizing consecutive repetitions of any single task. It is also referred to as high contextual interference.

Readiness refers to the child's level of growth, maturity, and development, which enables him/her to perform tasks and meet demands through training and competition.

Physiological Proficiencies proficiencies are a set of physical skills that contribute to the ability to play golf at a high level without fatigue or other limitations. They include (but are not limited to) such factors as balance, strength, flexibility, power, core stability, cardiovascular endurance.

Shot by Shot is an industry leading statistically-based online golf performance analysis program. It is the most accurate and advanced game analysis program available. Traditional statistics (fairways, greens-in-regulation, sand saves and # of putts) provide little insight and can be misleading when used as indicators of performance.

Golfers enter their on course performance data by logging onto the shotbyshot.com website following play. Shot By Shot provides golfers with instantaneous feedback. It enables golfers to accurately determine the relative strengths and weaknesses of all facets of their games versus their target handicap group. This information allows players and their coaches to be aware of their skill levels and performance trends. Shot By Shot is an excellent diagnostic tool and game improvement motivator.

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

USGA The United States Golf Association is the governing body of golf in the US, its territories and Mexico since 1894. It is a not for profit association run by golfers for the benefit of golfers.



background

Background information on the LTPD

This Long-Term Player Development (LTPD) Guide for Golf in Canada presents a general framework for optimal golfer development with special reference to growth, maturation and development, appropriate training, and suitable competition exposure.



In addition, it presents a system of qualified instruction and coaching at all levels of participation within the Canadian golf system that is completely aligned and integrated. Furthermore, this guide should inspire all those involved in golf to question and challenge conventional thought in all areas from technical execution to facility design, from equipment selection to competition structure, and from coaching education to rules and etiquette.

The general theme of this guide draws heavily upon the *Canadian Sport for Life Long-Term Athlete Development (LTAD)* published in 2005 by the Canadian Sport Center network and Sport Canada. This resource paper was written on the basis of a comprehensive review of coaching literature and sport science research, the observation and experience of effective sports programs within Canada and in other areas of the world over the past 30 years.

Exercise and sport sciences research and experience has provided insight and information regarding the role of growth, development, and maturation in athletic development. These sciences include pediatric exercise science, exercise physiology, sport psychology, psychomotor learning, sport sociology, biomechanics and nutrition. In addition, analyses of the literature on organizational development have also contributed significantly. It should also be realized that the LTPD process is an inclusive model that encourages all individuals to be involved in lifelong physical activity, as well as striving to ensure that all children, particularly those that have the capability and desire to become truly elite, are given a solid foundation in physical, technical, tactical, and mental capacities upon which to build their performance abilities.

The Long-Term Player Development Guide For Golf in Canada is based on several principles, which include:

- A 'Made in Canada' approach that recognizes international best practices, and research but clearly understands the cultural, social and political factors that make Canada unique unto itself.
- Supporting the four goals of the Canadian Sport Policy – Enhanced Participation, Enhanced Excellence, Enhanced Capacity, and Enhanced Interaction.
- Contributing to and promoting a healthy, physically literate nation whose citizens participate in lifelong physical activity.
- Ensuring that optimal training, competition, and recovery programs are developed, provided, and accessible throughout a golfer's career.
- The physical, mental, emotional, and cognitive development of children and adolescents.
- Establishing a "strong physical literacy" upon which specialized sport excellence can be developed through community recreation, facility-based, and elite sport/club programs.
- Recognizing the need to involve all Canadians in the LTPD process, including athletes with a disability.
- Suggesting an understanding of an optimal competition structure that is appropriate for the various stages of a golfer's development.
- Optimizing the involvement of all members of the sport including participants, parents, coaches, officials, specialist consultants, schools, golf clubs, community recreation programs, provincial golf organizations, Golf Canada, the CPGA, municipalities, and all levels of government.



factors

10 Key Factors Influencing LTPD

ONE The 10-Year Rule:

Scientific research has suggested that it takes approximately 10 years or 10,000 hours of training for an athlete to reach an international elite level of competitiveness within his/ her sport. This factor is supported by The Path To Excellence, which provides a comprehensive view of the development of U.S. Olympians who competed between 1984 and 1998. Most reported a 12- to 13-year period of talent development from their sport introduction to making an Olympic team. The most recent PGA Tour statistics suggest that for golf this number is closer to 20 years.

TWO The FUNdamentals:

Fundamental movements and skills should be introduced through fun and games at an early age. FUNdamental sports skills should follow and include basic universal sports skills such as running, jumping, and throwing. Without the basic movement skills, a child will have difficulty excelling in most sports. For example, to enjoy baseball, basketball, cricket, football, netball, handball, rugby and softball, the simple skill of catching must be mastered. The table on page 61 provides an overview of the range of FUNdamental movements that underpin physical literacy.



The pictures on this page are some examples of basic movement skills required in all sport. Further examples are provided on pages 60 and 61.



10 Key Factors Influencing LTPD **factors**

THREE Specialization:

Sports can be classified as early or late specialization sports. Early specialization sports include artistic and acrobatic sports such as golf, gymnastics and figure skating. These differ from late specialization sports in that very complex skills are learned before maturation since they cannot be fully mastered if taught after maturation.

FOUR Developmental Age:

This refers to the degree of physical, mental, cognitive and emotional maturity. Physical developmental age can be determined by skeletal maturity or bone age after which mental, cognitive and emotional maturity is incorporated. LTPD requires the identification of early, average and late maturers in order to help design appropriate training and competition programs in relation to optimal trainability and readiness for the individual(s). The beginning of the growth spurt and the peak of the growth spurt are very significant considerations in training and competition program design. In this respect developmental age differs from chronological age, which refers to the number of years elapsed since birth (refer to glossary of terms.)

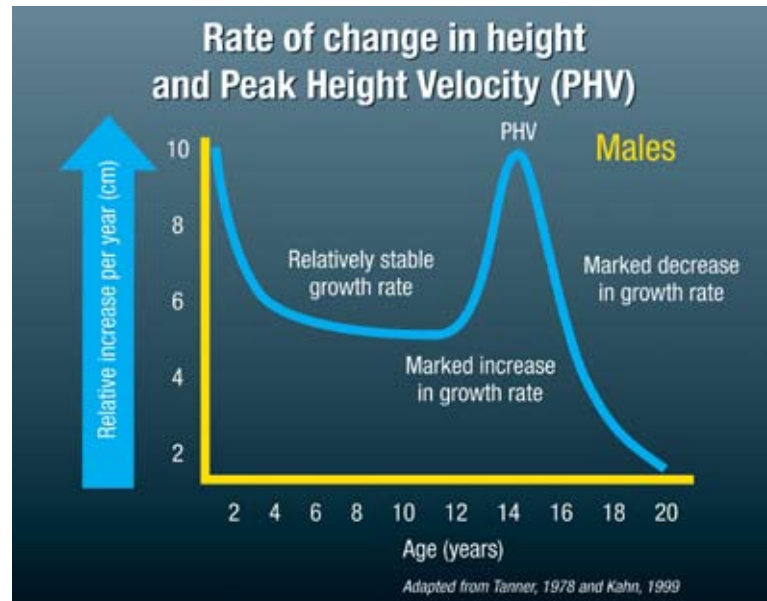


Figure 1.

Figures 1 and 2 (right) show the rate of change in height in boys and girls through key growth period.

Photo (top right) illustrates the wide range of physical difference between individuals of same age.

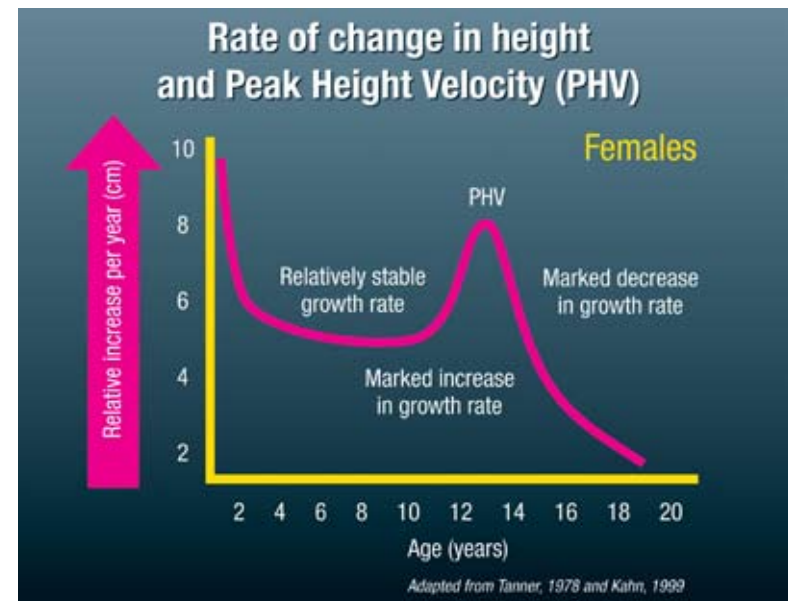


Figure 2.



factors

10 Key Factors

Influencing LTPD

FIVE Trainability:

The five basic S's of Training and Performance are Stamina (Endurance), Strength, Speed, Skill and Suppleness (Flexibility) (Dick, 1985). The terms "adaptation" and "trainability" are often used interchangeably in coaching, however, the difference between them is significant. Adaptation refers to changes in the body as a result of stimulus that induces functional and/or morphological changes in the organism. Trainability has been defined as the responsiveness of the developing individuals to the training stimulus at different stages of growth and maturation.

SIX Physical, Mental, Cognitive and Emotional Development:

A major objective of LTPD is a holistic approach to athlete development. In addition to traditional physical, technical and tactical training the mental, cognitive, and emotional development must be considered. This includes emphasis on ethics, fair play and character building.

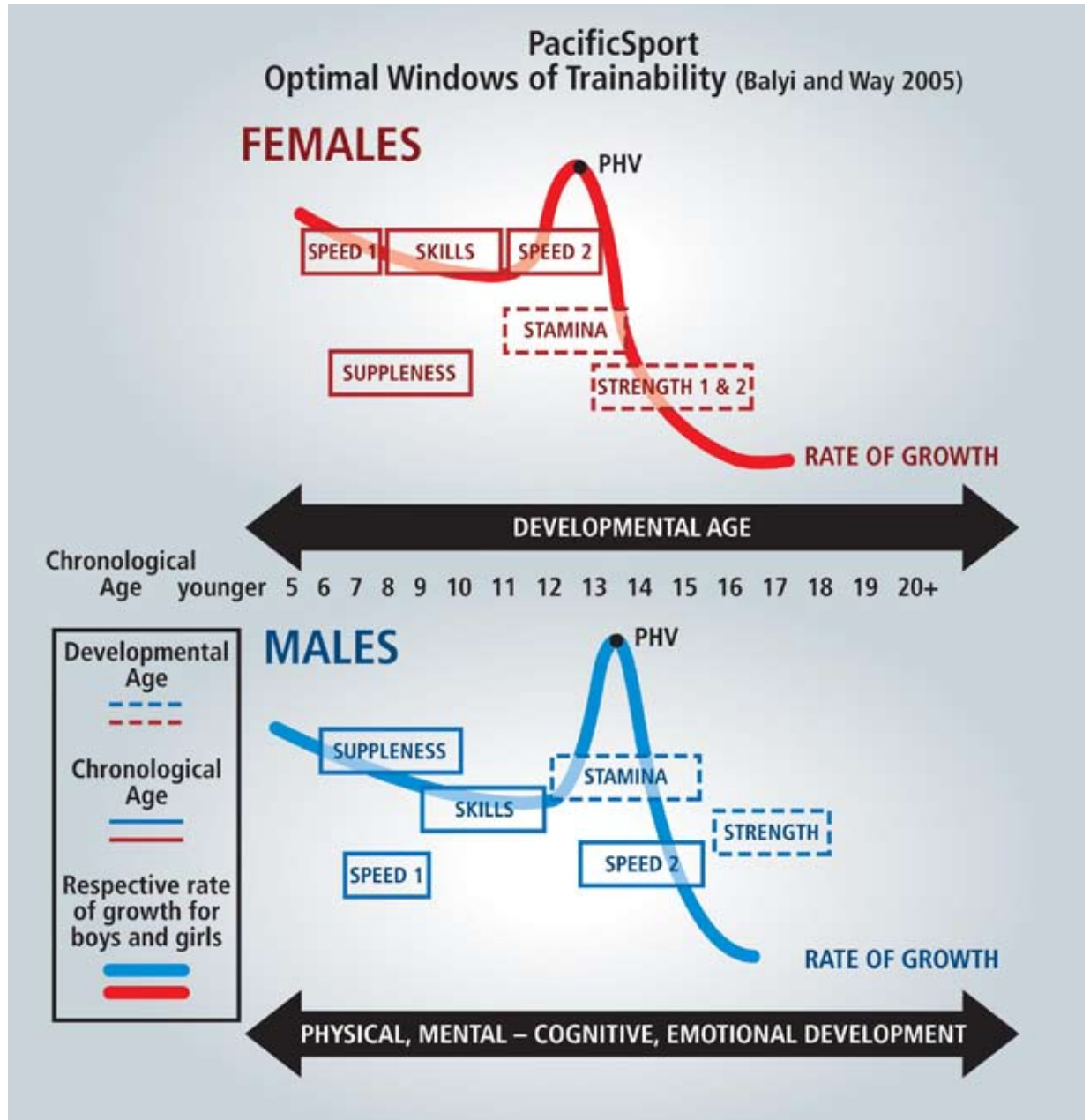


Figure 3.



10 Key Factors Influencing LTPD

factors

SEVEN Periodization:

Simply put, periodization is time management. As a planning technique it provides a detailed plan for arranging the complex array of training factors into a logical and scientifically based schedule to bring about optimal improvements in performance. It is an essential component in optimal sports programming and athlete development at all levels. See appendices for sample of periodization plans.

EIGHT Calendar Planning for Competition:

Optimal competition calendar planning at all stages is critical to athlete development. At certain stages, development of sport skills during training takes precedence over testing these skills through competition. At later stages, the ability to compete becomes the focus. Competition schedules should be selected by the coach and athlete based on the athlete's developmental needs. The LTPD design recommends a sport-specific system of training and competition that is optimized for the abilities of athletes during the various developmental stages.



NINE System Alignment and Integration:

LTPD can be a tool for motivating change towards effective system organization, alignment and integration. It is important that all facets of the sport/golf community work together to implement the right programs, and establish a sport system that will produce optimal conditions for training and competition. An example of system alignment would be the CPGA, Golf Canada and the Coaching Association of Canada partnership, working hand in hand in the development of a leading edge coaching certification program. The future organization of the sport system should include schools, sport facilities, and coaching organizations.

TEN Continuous Improvement:

The concept of continuous improvement, which permeates LTPD, is drawn from the respected Japanese industrial philosophy known as Kaizen. Continuous improvement ensures that LTPD responds and reacts to new scientific and sport-specific innovations and observations and is subject to continuous research in all its aspects. Periodic updates and changes to the LTPD model will be performed at regular intervals in the future based on feedback from athletes, coaches, parents, officials, administrators, scientists, and other leaders in the sport community.



The Basis for a Vision Moving Forward

Canada has a proud and storied history of successful golfers at both the amateur and professional level. Players such as Al Balding, Moe Norman, Stan Leonard, George Knudson, Doug Roxburgh, Mike Weir, Stephen Ames, Dave Barr, Richard Zokol, Lorie Kane, Marlene Stewart Streit, Cathy Sherk, Dawn Coe-Jones and Jocelyne Bourassa have all been role models for our current wave of successful players, which include Jon Mills, David Hearn, Alena Sharp, Lisa Meldrum, Graham DeLaet, Chris Baryla, Nick Taylor and Matt Hill, to name a few.

The LTPD Guide will enable Canada to make use of its vast resources and love for the game to empower athletes, parents, teachers and coaches as well as associations to create a model for success and sustainability of the game for years to come.

It also clearly maps out the manner in which participants can actively take part in the game of golf in Canada. To that end, the ultimate goal should be to add to the aforementioned list by not only continuing to produce young men and women golfers who can compete with the best players in the world, but also bring more recreational golfers into the fold to enjoy a lifelong involvement in the game.

What does Canada have going for it as a golfing nation? No other sport in Canada has higher participation rates (one in every five Canadians plays the game on an annual basis (Ipsos Reid *Golf Participation in Canada Survey Report*, 2006) and per capita, Canada is the leading golfing nation in the world in this respect.

What we need to address is a systematic approach to growing the game at all levels which will not only maximize the experience one takes away from participation in the game, but will ultimately lead to Canada's performance on the international stage both in the amateur and professional ranks.

For too many years there has been a splintered and disjointed approach to developing young golfers. While this approach has achieved some success in small pockets across the country, a national and unified effort will net better results.

It is important to recognize that other leading golf nations have entered into the long-term athlete development model process (refer to appendices for what England, Scotland and Sweden have done) and that for Canada to be on the crest of the wave with respect to growing the game in our country and being recognized as a world leader with respect to producing world class players at all levels, the LTPD is a critical foundation to be used by all programs moving forward.

**“Logic will get you from A to B.
Imagination will take you
everywhere.”**

*Albert Einstein (1879 – 1955)
German-American physicist*





Several areas have been identified within the development of this guide and it is **strongly recommended that action be taken** on the following:

- **Identification of Canada's player pathway**
– golf in Canada has lacked an effective system for developing our players and truly understanding the benchmarks necessary for developing players as they progress. This needs to be understood by all those working with players.
 - **Understanding that golf is a family game** and this will be the one way in which we can positively affect the number of golfers introduced to the sport – initiatives that address this are needed.
 - **Equipment manufacturers and retailers actively promoting junior golf** through various mediums and develop partnerships with other stakeholders to promote the game.
 - Golf facility owners/developers must adapt their facilities and their attitudes to **accommodate and provide access to children and beginners of all ages** within the LTPD guidelines and understand the critical elements of a facility that are necessary for development as per the LTPD Guide.
 - **Development of a national warm weather training facility and educational institution.**
 - **Developing sophisticated methods for tracking our junior players** so that in five years time we have a much better idea of what is working.
 - **Creating “Enjoy” programs** – we must look at our programming for our largest demographic of golfer.
 - **Integrating NCCP coach education into CPGA certification model in all three identified phases of development** – Community, Instruction and Competition.
 - **Optimizing the competitive structure for developing players** – looking at length of tournaments, number of days, number of holes and how this progresses as a player progresses through the system.
 - **Integrating golf into the curriculum within the Canadian school system** to introduce the game to youngsters.
 - **Targeting non-traditional areas of exposing youth to the game.**
 - **Actively supporting and nurturing existing golf development programs** that support the LTPD principles.
 - **Developing sources of funding** for the LTPD and those programs that support the LTPD principles.
 - **Promoting golf as a healthy game** that can be played for life by all Canadians.
 - **Increasing the focus of the importance of grassroots programs** designed to bring as many people as possible into the game – the bigger the base, the better our chances of finding more successful elite golfers.
 - **Improving promotion of our existing, and up-and-coming golf heroes** to motivate young people to take up and excel at the game.
 - Developing welcome programs for new/beginner golfers to **reduce the barriers to playing the game** and provide a more inviting and enjoyable environment.
 - Addressing the “gap” that exists when our top amateurs turn professional and when they achieve success at the professional level. **A stronger support system** (inclusive of corporate Canada) needs to be created to support our upcoming talent.
- Canadians believe in their hearts that this nation can and should be among the best in the world when it comes to the sport of golf. The above items and recommendations provide a clearly defined pathway to achieve what is a very realistic goal.**



development

An Integrated Golf Development System

The latest Ipsos-Reid survey on Canadian golf participation proves that when it comes to the game of golf there are a number of positives occurring right across the country. As an example, the increase in overall participation rates is being largely driven by a rise in the population of “core golfers,” which the research firm defines as anyone who plays at least eight rounds of golf annually.

“... As far as golf, one of the things my dad kept instilling in me was the joy of the game. He made it fun for me. A lot of the times I see a lot of the kids, they don’t enjoy being out there and that’s a shame, you’re supposed to enjoy the game, it’s a game, ultimately...”

Tiger Woods

A sampling of data from this independent effort to assess the golf market in Canada reveals that the number of rounds played (by Canadian golfers) totaled 92.2 million, a huge increase from the 64.7 million rounds played when the last survey took place in 2001.

Maintaining that momentum, particularly among teenagers, while at the same time introducing more and more children to the game of golf, will take a coordinated effort from all of the primary stakeholders – parents, the players, golf instructors and coaches, golf course owners, owners of practice facilities, equipment manufacturers and golf retail outlets, and every organization affiliated with the game including Golf Canada, provincial golf associations and the Canadian Professional Golfers’ Association.

It is critical that everyone be aware of each other and that everyone provide input. This will allow the creation of an integrated golf development system, a

first for this country in that it not only clearly identifies the different groups involved in the development process, but also outlines the roles each should play. The contributions from each form the basis of the LTPD guide, a schematic of which appears on pages 20 and 21. The guide is a model based on the LTPD philosophy that delivers a developmental pathway for Canadians who play golf, regardless of their age, gender or level of ability.

Think of it as an integrated sporting family in which everyone has responsibilities and everyone is aware of what they are responsible for. Traits or qualities of each group include:



Parents

- Participate in sport with their children
- Encourage participation of their children in two to three other complementary sports – refer to appendices
- Provide support and guidance and make their involvement in golf fun
- Be educated about golf and how one can progress through the sport
- Basic education on nutrition/recovery
- Long-term commitment to skill progression/performance progression
- Understand the ABC's of athleticism: agility, balance, coordination and speed
- Understand the concept that increased activity reverses the current trends in childhood and adult obesity and cardiovascular disease
- Understand the concept that inactive adults tend to produce inactive children and that the reverse is also true



- Understand that children will lose motivation if they feel that cannot match their parents' expectations
- Be flexible with their expectations; as children pass through different phases of development, parents (and coaches) should modify their expectations as necessary
- Strive to get an accurate assessment of their children's ability
- Since this is about the development of the child; it is important that parental expectations of their child's skills, abilities and aspirations are in line with the child's
- Explore the child's expectations, goals and aspirations

Players

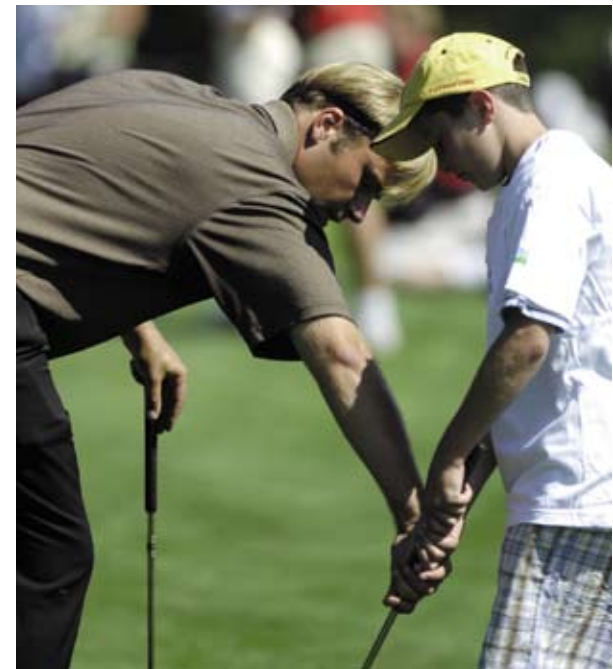
- Enjoy the sport
- Become adept at the key physiological proficiencies: balance, flexibility, posture, core stability, strength and power, cardio endurance and performance skills



- Understand how pressure and or stress affects performance
- Understand their mental performance strengths and weaknesses
- Know what mental management skills they need to integrate into their personal performance plan to be able to control their emotions, focus on the task, and cope with adversity under pressure
- Become self-reliant and demonstrate taking independent initiative in learning and developing their skills and strategies

Coaches and Instructors

- Be educated
- Have a thorough understanding of the Canadian golf industry's LTPD
- Understand how and where they fit into the "system"
- In understanding their role, know what is required in order to best deliver the player to the next level





- Have a passion for the game and for excellence
- Solid understanding of the tools required to get to the next level
- Continue to upgrade by attending workshops and lectures relating to the game and their profession
- General understanding of what is available for golfers of all levels
- Accept that effective mental skills are critical to consistent, quality performances at all levels
- Integrate the mental skills training process into player programs

Clubs/Facilities

- Understand their role and what is required in order to best deliver the player to the different levels
- Provide proper training and competition facilities
- Provide proper access to training and competition facilities
- Provide appropriate price point for access
- Provide appropriate condition of play for level of competitor
- Provide a support structure i.e. finances, mentoring, resources, instruction, coaching etc.
- Be aware of and encourage junior golf programs and welcome programs such as CN Future Links and other entry programs

Golf Associations

- BE a source of information, expertise and support – the backbone to provide the necessary information, contacts, personnel and communications in the development of golfers
- Understand what is required in order to best deliver the player to the next level
- Facilitate discussion among the various stakeholders, clubs, players, appropriate administrators and associations
- Source means to reduce costs to stakeholders (players, coaches, facilities etc)
- Make sure significant programming is in place to support their role
- When it comes to their role in the system, strive to be the best
- Continue to place more emphasis on junior development and adult recreational programs to ensure the long-term growth of the sport



Enter, Enjoy and Excel

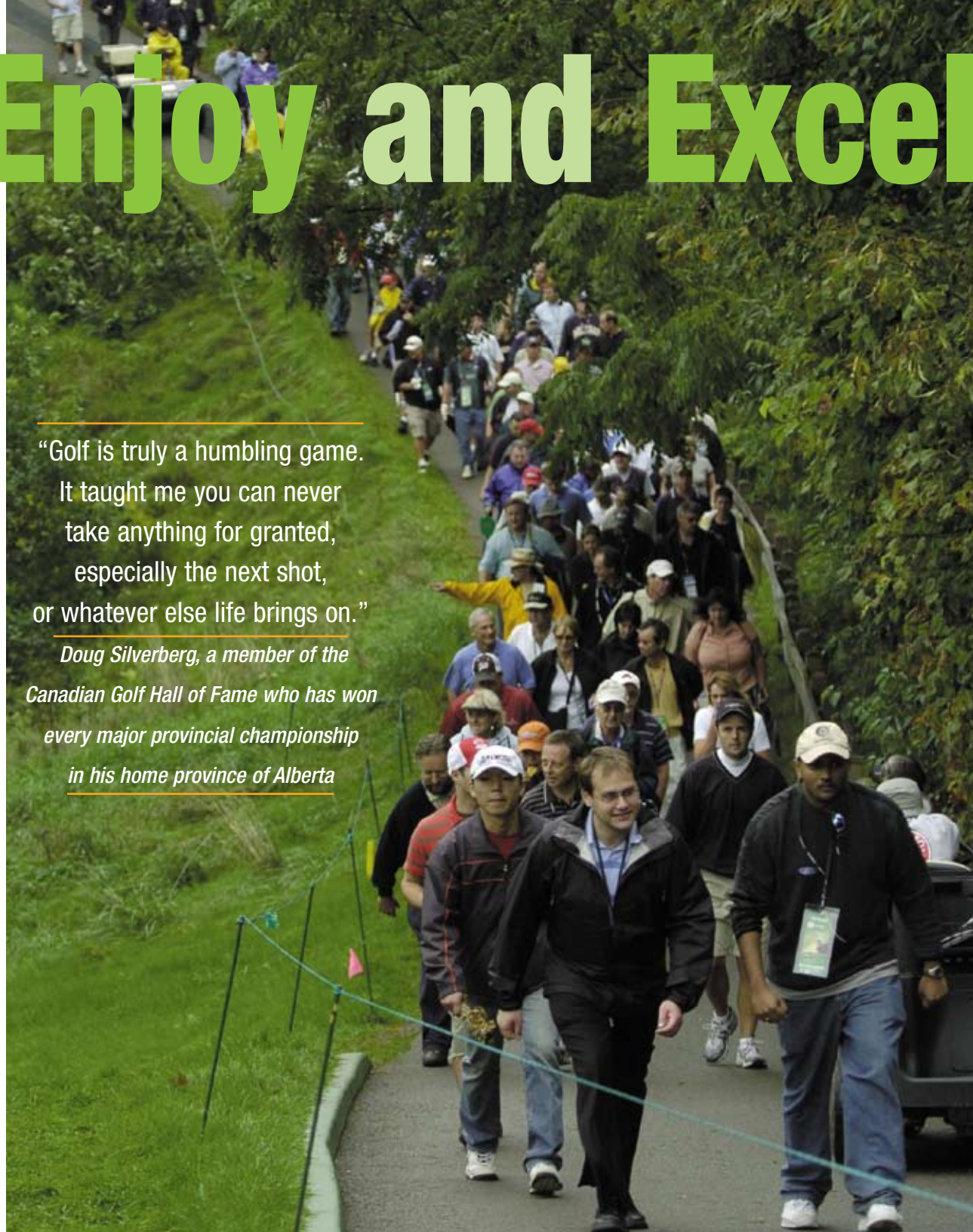
These terms denote the overall description of golf participation and in broad terms categorize player involvement into the areas of beginning involvement and, or instruction (Entry), pursuing a performance-oriented and competition stream (Excel), and an all-encompassing category that captures the vast majority of golf participants who play the game on any given day (Enjoy). Obviously, the 'Enjoy' term should also overlap and envelope the aspects of 'Entry' and 'Excel' in a perfect scenario.

The essence of the Long-Term Player Development Guide is to provide guidance to players throughout their lives and at the same time introduce children to the skills and progressions that will allow them to strive to become high performance competitive players or recreational participants who are active for life. The guide also allows those who have great aptitude for golf to reach the highest levels in a sequential fashion supported by a productive system involving instructors, coaches, clubs, organizations and facilities, as opposed to it happening strictly by chance.

At the heart of the guide is a concept of continuous improvement and challenge for all, drawn from the respected Japanese industrial philosophy known as "Kaizen." This thinking suggests never-ending efforts for improvement involving everyone in the organization – managers and workers alike. The same can happen in golf, except that it will be the individual and the golf community at large who will reap the benefits.

"Golf is truly a humbling game. It taught me you can never take anything for granted, especially the next shot, or whatever else life brings on."

Doug Silverberg, a member of the Canadian Golf Hall of Fame who has won every major provincial championship in his home province of Alberta



framework

Long-Term Player Development Framework

The overview diagram of the *Long-Term Player Development Guide for Golf in Canada*, a hypothetical 'ideal' pathway, illustrates nine seamlessly linked stages. The first two stages (Active Start and FUNdamentals) encourage strong physical and movement skill development and general foundation that leads into the typical initiation of golf specific entry programs. The next three stages (Learn to Play, Train to Play, and Learn to Compete) focus upon the sport specific aspects of golf and a gradual increase in the importance of competition play, as well as providing for a continued underlying general athleticism. The next stage (Train to Compete) emphasizes a shift to a true high performance expectation with a strong attention to detail and a comprehensive evaluation and review process. The following stages (Train to Excel and Excel) mark the process of ascent to the highest levels of competitive play. It should be noted that there is likely to be overlap in these latter stages reflecting individual player differences and rates of progress. The last stage (Active for Life/Enjoying Golf for Life) is a stage that may actually be entered at anytime after a player's entry into golf and reflects, among other things, an individual's desire, competency, and personal pathway. This final stage emphasizes life-long participation and activity not only in golf, but in other healthy pursuits as well. It should be noted that the headings for the various stages imply the general thrust or bias of the programming within each stage (i.e., 'Learn to Play' refers to systematic programming aimed at establishing the key skill elements of the game of golf, whereas 'Train to Compete' refers to a period of time where the focus is upon harnessing

the various skills and supporting aspects and putting them into practice in competition settings). Finally, the diagram recognizes that during the early stages, non-traditional golf settings and other child activity

agencies (e.g., gymnastics clubs, community soccer groups, and elementary school physical education programs) may all contribute to a child's physical and technical development.

Figure 4.

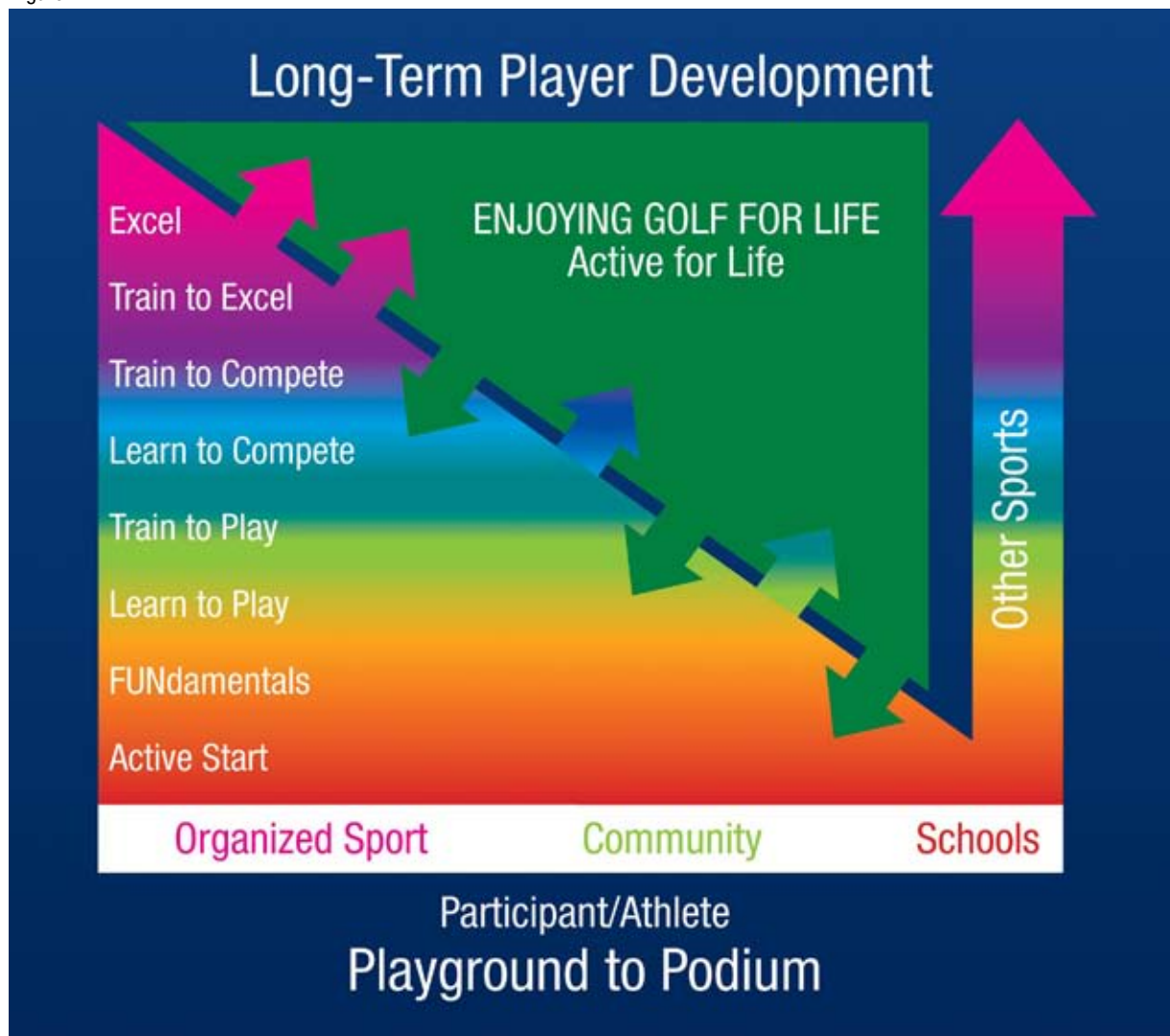
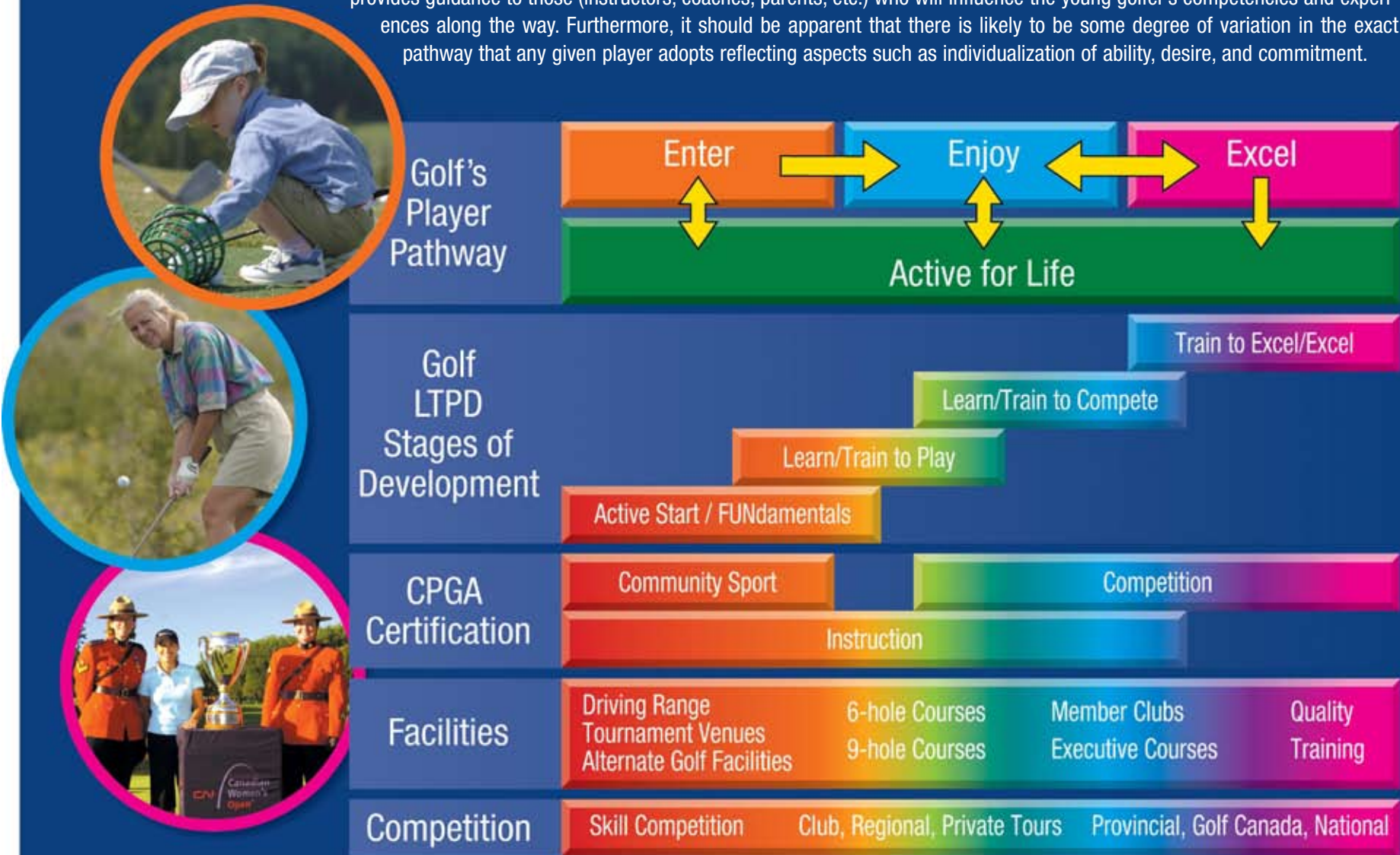


Figure 5.

Long-Term Player Development Framework for Golf

This theme is then expanded upon in figure 5 to illustrate the Canadian golf community at large and the three overarching categories of involvement (Entry, Enjoy and Excel) while clearly showing the hypothetical long term route of involvement for a child starting his/her golf career before the age of 10 (Entry) and progressing over the next decade or more into the 'Enjoy' and potentially the 'Excel' streams. It should be noted that this is a theoretical journey that provides guidance to those (instructors, coaches, parents, etc.) who will influence the young golfer's competencies and experiences along the way. Furthermore, it should be apparent that there is likely to be some degree of variation in the exact pathway that any given player adopts reflecting aspects such as individualization of ability, desire, and commitment.



Stages

Stages of development

The *Long-Term Player Development Guide for Golf in Canada* utilizes a number of stages that are seamlessly linked in keeping with Sport Canada's generic *LTPD Guide*, but with a golf-specific focus that reflects the reality and demands of the game at the highest level, yet retains at its core, the notion of age and ability appropriate programming and evaluation. In addition, the document provides general direction for those dealing with very young children (the Active Start and early years of FUNdamentals), as well as addressing the 'Active for Life' element for those not pursuing a highly competitive focus.

The following sections provide an overview of the age groups in question for each stage and the relative importance of chronological and developmental age, together with a summary of the key objectives and performance indicators that are suggested at each level.



Active Start & FUNdamentals

Active Start: Ages 0 to 6 years (males & females)

FUNdamentals: Ages 6 to 9 years (males), 6 to 8 years (females)

Without the basic movement skills, a child will have difficulty participating in any sport. For example, to enjoy baseball, basketball, football, handball, rugby and softball, the simple skill of catching must be mastered. However, it is certainly not wise for parents to place their three or four-year-old into a sport exclusive golf program, for example. They should be exposed to many activities such as learning to swim or run or kick a ball. In other words, develop the basic tools first, so when a child comes face-to-face with a golf program, he or she is well equipped to optimize his or her experience (refer to page 10 from 10 key factors that would support this concept).

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

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

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

Organized physical activity and active play are particularly important for the healthy development of children with a disability if they are to acquire habits of lifelong activity. Because this is a period when children rapidly outgrow their mobility aids, communities need to find effective ways – equipment swaps or rentals,

for example – to ensure that all children have access to the equipment they need in order to be active.

Skill development in the FUNdamentals stage should be well structured, positive and FUN! The first window of accelerated adaptation occurs at ages 6 to 8 for girls and 7 to 9 for boys. Bypassing the specialized skill development in the FUNdamentals stage is detrimental to the child's future engagement in physical activity and sport.

If children later decide to leave the competitive stream, the skills they acquire during the FUNdamentals stage will benefit them when they engage in recreational activities, enhancing their quality of life and health.

Key concepts of the game that would be introduced include **Grip:** (holding the club with two hands close together), **Stance:** (standing with their feet either side of the ball), **Balance:** (finishing in balance when swinging the club), and **Swing:** (arms swing back up and then swing through to a finish, copying, imitating and doing).

Objectives:

Learn fundamental movements and link them together into play.

Learn all fundamental movement skills and build overall motor skills.



Benchmarks:

- Skill Set:** Future Links Level 1: Putting, chipping, full swing.
- Key Concepts Introduced:** Start position, grip, posture, ball position, stroke.
- Equipment:** Basic junior specific set with 3, 5 or 6 clubs (i.e. fairway wood, mid iron, lofted iron and a putter would make an ideal set).
- Practice:** One to three sessions per week.
Minimum 60 to 180 ball strikes (full swing) per week.
Drills, fun games 200 to 400 putts a week.
- Play:** One to three holes a week of modified golf over a minimum of five weeks.
- Courses:** Practice facilities, Par-3 and/or Pitch and Putt with a variety of greens.
- Golf Knowledge:** Introduction to the etiquette and safety issues involved with the game.



Learn to Play

Ages 9 to 12 years (males), 8 to 11 years (females); towards end of phase, change in height cue to be utilized for guide to appropriate programming.

One of the most important periods of motor development for children is between the ages of 9 and 12. At this stage, children are developmentally ready to acquire the general sports skills that are the cornerstones of all athletic development.

The goals include:

- Developing all fundamental movement skills and teaching general overall sport skills.
- Developing strength using exercises that incorporate the child's own body weight as well as medicine balls and Swiss balls.
- Introducing hopping and bounding exercises or routines, or wheeling up gradients, to aid in strength development.
- Further developing endurance through games and relays.
- Further developing flexibility through exercises.
- Further developing speed by using specific activities that focus on agility, quickness and change of direction during the warm-up.
- Structuring competition to address differences in training age and abilities.
- Apply a ratio of 70 per cent training to 30 per cent competition. The 30 per cent ratio includes competition and competition-specific training. These percentages vary according to individual specific needs. Athletes undertaking this type of preparation will be better prepared for competition in both the short- and long-term than those who focus solely on winning.
- Encourage unstructured play.

This is also the time where the recognizable golf programming begins and where emphasis is placed on teaching swing basics and other technical components such as how to achieve optimum balance, flexibility, posture, strength and power.

As an example, the CN Future Links program, which has involved more than 500,000 boys and girls since its inception in 1996, involves basic instruction on putting, chipping, pitching, sand play, full swing with irons, full swing with woods, golf etiquette and rules and pace of play at this age.

Objectives:

Develop all fundamental movement skills, golf fundamental movement skills, and teach general overall sports skills (refer to appendices). Otherwise, a significant window of opportunity is lost, compromising the ability of the young player/athlete to reach full potential.

Key concepts of the game that would be introduced include **Grip:** (effective and functioning grip), **Stance:** (routine or procedure for each shot), **Alignment:** (aiming the clubface and aligning the body), and **Scoring:** (how to keep each others score), **Etiquette:** (where to stand, quiet, bunkers, pitch marks), **Chipping/Pitching/Putting:** (angle of club at impact, loft, roll vs. carry).



Benchmarks:

Practice: Golf is a core summer sport.
 More specific or specialized instruction/coaching.
 Age appropriate (instructor supervised) 1 1/2 hour.
 Blocked 80 per cent – 4 to 12 hours using a distributed and varied concept.
 Distributed (short time frame) vs. Mass (long time frame.)
 Varied – same skill but different activities.
 Random 20 per cent – 1 to 3 hours
 five to 15 hours of golf specific practice per week.
 150 to 450 ball strikes – full swing.
 150 to 450 ball strikes – chipping.
 150 to 450 ball strikes – putting.
 Play three to nine holes a week of modified golf age/development appropriate.

Amount: Minimum six weeks.

Competition: Match play not recommended at this stage.

Integrate skill testing into competition.

Five to 10 events per year

- Skills tests.
- 9-hole events – one to five.
- 18-hole events – three to five.
- 36-hole events – one.

Total 99 to 171 holes of competition.

Total quality ball strikes (practice and competition) approximately = 550 to 1,650.

Equipment: A basic junior set involving three to 14 clubs (i.e. driver, fairway wood – 5, 7, 9, pitching wedge, sand wedge and a putter would be an ideal minimum)
 Cutdown adult clubs and adult clubs are not recommended.

Golf Course: Minimum 1,000 yards – 9-hole course – par 3 layout.
 Length: 4,500 to 5,700 yards (18-hole course) for males;
 3,000 to 5,000 yards (18-hole course) for females.

Activities: Basic athlete movements are encouraged by participation in a minimum of two other physical sports (refer to appendices.)

Competition: Chipping and putting contests that have both internal and external means of evaluation, club matches, inter-club matches, regional competitions for continued improvement.

Golf Knowledge: General knowledge of the etiquette and rules of the game.



“Example is the most potent of all things.”

*Theodore Roosevelt (1858-1919),
 26th President of the United States*



Train to Play

Ages 12 to 16 years (males); 11 to 15 years (females).
Programming dependent upon change in height cue (Peak Height Velocity).

Objectives:
Learn to cope with the physical and mental challenges of competition.
Optimize the skill set and build on competitive experiences.

Fast-forwarding two years, the technical skills for males 12 to 16 and females 11 to 15 would revolve around set up (grip, posture, alignment and ball position), putting, chipping, pitching and the full swing. The Train To Play phase is one of the most important stages of athletic preparation because this is when sport-specific skill development really begins. It is important to note that during this stage, we can heavily influence (in both ways – good and bad) an individual who has aspirations of playing golf competitively – due to factors such as good basic skill competency and stable mechanics.

Key concepts of the game that would be introduced include:

Putting: (Eyes over the ball, putter face square to intended target at impact, grip with both thumbs down the shaft, ball positioned forward of centre, handle slightly forward at impact.)

Ball position for all swings: (The ball is positioned appropriately in relation to the player's sternum given the chosen club and desired shot trajectory)

Weight transfer: (Complete transfer to the forward side should occur.)

Handle of club: (The handle is set forward of clubhead at address and remains in this position through impact.)

In terms of skill acquisition and development of physical abilities, the emphasis should be placed on general physical conditioning and health, which includes seven key physiological proficiencies: balance, flexibility, posture, core strength and stability, strength and power, cardiovascular endurance and performance skills (nutrition, lifestyle and environmental factors. See pages 43 and 44 for further details on each).

Benchmarks:

Practice: Seven to nine months of training/competitive periodized program.
Five to seven months of outdoor play.
20 to 40 hours per week.
20 hour example:

- Two rounds of golf (10 hours) = 1/2 hour warm up, 4 hour round, 1/2 hour warm down.
- 10 hours of practice
 - Blocked 80 per cent – 8 hours using a distributed and varied concept.
Distributed (short time frame) vs. Mass (long time frame.)
 - Varied – same skill but different activities.
 - Random 20 per cent – 2 hours.

One to two hours – target.

Two to three hours – technique/skill.

Equipment:
Competition:

Full set of clubs.

10 to 20 events per year:

- 9-hole events – 1 to 2.
- 18-hole events – 5 to 12.
- 36-hole events – 2 to 3.
- 54-hole events – 1 to 2.

Total 225 to 450 holes of competition.

Total quality ball strikes (practice and competition):

1,100 to 2,200 per week.

Level of competition:

Learning to play with adults / field play.

Junior interclub play.

Junior Regional / mini tours.

Junior Provincial Championships.

Golf Canada National Championships (high performers.)

Golf Canada

Handicap Factor®:

Male average handicap is 16 – top 10 per cent = 2.3

Female average handicap is 21 – top 10 per cent = 2.6

Golf course:

Length: males 5,600 to 6,600 yards; females 5,200 to 6,000 yards.

Course rating: males 69+; females 71+

Slope rating: 115 to 120.

Set-up: Easy to moderate.

Green speeds: variety.

Rough: 1 to 2 inches.

Golf knowledge:

Understands Rules of Golf and knowledge of how far they generally hit all clubs in their golf bag. Etiquette significant factor as players begin to play with adults.





During this stage, we can heavily influence (in both ways – good and bad) an individual who has aspirations of playing golf competitively.



Learn to Compete

Ages 16 to 18 years (males), 15 to 17 years (females);
Programming dependent upon change in height cues.

Objectives:

Learn to compete.

Optimize fitness preparation and specific skills as well as overall performance.

Everything that has been learned in earlier stages will come to fruition in this phase where the emphasis is all about execution when it counts. In order to increase the likelihood of future success golfers must first test their technical competencies in different circumstances and conditions. Moving through this stage they will start to make choices and decide what they want to do. They follow the pathway, however, they may step away from the central course of the pathway and return at a later date.

Learn to Compete To-Do List

- Provide year-round, high intensity, individual event and golf position-specific training.
- Teach golfers, who are now proficient at performing basic and sport specific skills, to perform those skills under a variety of competitive conditions during training.
- Place special emphasis on optimum preparation by 'modeling' high competitions in training.
- Individually tailor to a greater degree fitness programs, recovery programs, psychological preparation and technical development. Emphasize individual preparation that addresses each golfer's individual strengths and weaknesses.
- Utilize single, double and triple periodization as the optimal framework of preparation.
- Change the training-to-competition and competition-specific training ratio to 40:60. Devote 40 per cent of available time to the development of technical and tactical skills, improving fitness and 60 per cent of training to competition and competition-specific training.

Benchmarks:

- Practice:** Six to eight months outdoor play / 2 months indoor learning.
Two to four 18-hole rounds per week.
Total 30 to 50 hours of training.
Example: 40 hours practice per week.
- 15 hours playing.
 - 25 hours practice (4¹/₂ hours per day – 6 days.)
 - Random 70% – 17+/- hours – create play, visualize situations.
 - Block 30% – 7.5+/- hours – refine, automatic using a distributed and varied concept.
Distributed (short time frame) vs Mass (long time frame.)
Varied – same skill but different activities.
 - Short Game – 50 per cent.
 - Long game – 50 per cent.

Two to four hours target.

Four to eight hours technique.

Equipment: Full custom fit equipment.

Competition: 15 to 25 events per year:

- 18-hole events – 3 to 5.
- 36-hole events – 5 to 8.
- 54-hole events – 4 to 7.
- 72-hole events – 3 to 5.

Total 666 to 1,116 holes of competition.

Total quality ball strikes (practice and competition): 1,640 to 2,650 per week.

Competition level: Some adult competition – club championships, inter club.
Junior Tours – Regional, Canadian Junior Golf Association, Maple Leaf Junior Tour.

Junior Provincial Golf Association Championships, CN Future Links Championships.
Golf Canada National Championships.
Some international events – (high performers.)

Golf Canada

Handicap Factor®: Male average handicap is 11 – top 10 per cent = 0.1

Female average handicap is 16 – top 10 per cent = 0.8

Golf course: Length – males 6,500 to 7,000 yards; females 5,600 to 6,000 yards.

Course Rating – males 71; females 73.

Slope 120 to 130.

Golf knowledge: Introduction of yardage books/ course charting.

Re-calibrate club distances 3 times a year.



Key concepts of the game that would be introduced include **Pitching:** (shot selection, stance balanced, tempo), **Chipping:** (loft of club, stance, ball position, grip), **Bunkers:** (face angle, stance, ball position, spin vs. roll) and **Sloping Lies:** (uphill, downhill, side-hill, ball position, body angle, balance, tempo.)

... execution when it counts



Train to Compete

Ages 18 to 23+ years (males), 17 to 23+ years (females)

Objectives:

Optimize overall golf-specific skill set.

Optimize fitness preparation.

Have well-developed information processing skills.

The goal in this stage is to provide high intensity individual and golf-specific training year round. Upwards of 50 per cent of training is devoted to the development of technical and tactical skills and fitness improvement, and 50 per cent is devoted to competition and competition-specific training.

Train to Compete To-Do List:

- Provide year-round, high intensity, individual event, and position-specific training.
- Teach golfers, who are now proficient at performing basic and golf specific skills, to perform these skills under a variety of competitive conditions during training.
- Place special emphasis on optimum preparation by 'modeling' high competition.
- Individually tailor to a greater degree fitness programs, recovery programs, psychological preparation and technical development. Emphasize individual preparation that addresses each golfer's individual strengths and weaknesses.
- Utilize single, double and triple periodization as the optimal framework of preparation.
- Change the training-to-competition and competition-specific training ratio to 40:60. Devote 40 per cent of available time to the development of technical and tactical skills and improving training training to 60 per cent competition and competition-specific training.
- Maximize strength training to bring about overall improvement.
- Updating, reviewing and understanding the importance of performance and personal goal setting.
- Recognize and plan for appropriate level of competition.

Key concepts of the game that would be introduced include **Escape shots:** (fades, draws, ball position, body alignment, clubface angle), **Trouble shots:** (punch shots, low shots, high shots, ball position, club selection. **Fairway bunkers:** (club selection, "quiet legs," ball position, grip.)



Benchmarks:

Practice: Extensive outdoor play.
Three to four 18-hole rounds per week.
16 to 25 hours of practice per week.
Example – 20 hours of practice.
Random 70 per cent – 14 hours.
Blocked 30 per cent – 6 hours using a distributed and varied concept.
Distributed (short time frame) vs. Mass (long time frame)
Varied – same skill but different activities
Short game 70 per cent Random = 10 hours Block = 4 hours.
Long game 30 per cent Random = 4 hours Block = 2 hours.

Total 31 to 45 hours of training.

Weaknesses should be assessed during Shot by Shot and worked upon 70 per cent of all practice time.

Equipment: 100 per cent custom-fitted equipment – balls and accessories.
Optimized through scientific testing.

Competition: 15 to 30 events per year.
• 36-hole events – 4 to 5.
• 54-hole events – 6 to 15.
• 72-hole events – 5 to 10.

Total 828 to 1,710 holes of competition.

Total quality ball strikes (practice and competition): 1,740 to 2,650 per week.

Competition level: Provincial Amateur Championships.
Golf Canada National Amateur Championship.
University and major amateur events.
International amateur events.
World Amateur Team Championships.
Some pro events.

Greens in regulation: 11

Golf Canada

Handicap Factor®: Males 0 to +1; Females 1 to 0.

Ball speed (mph): Male 155; females 125

Golf course: Length – males 6,500 to 7,200 yards; females 5,900 to 6,400 yards.

Course Rating – male 71; female 73.

Slope 120 to 130.

Golf knowledge: Consistent use of yardage book.

Re-calibrate club distances 4 times a year /
introduction to the use of a caddy / course mapping / course management /
match equipment to golf course / travel/ climate/ time zones/ nutrition/food



The goal in this stage is to provide high-intensity individual and golf-specific training the year round.



Train to Excel

Ages 23 to 29 years (male), 23 to 28 years (female)

This is the final stage of preparation. All of the golfer's physical, technical, tactical, mental and ancillary capacities are now firmly established. The focus of training continues to zero in on the optimization of performance.

Train to Excel To-Do List:

- Train golfers to peak for major competitions.
- Change the training-to-competition ratio to 25:75 with the competition percentage including competition-specific activities.
- Instructor to be sensitive in goal setting to ensure that common goals are established and met.
- Allow golfers to make decisions about their training regimen.
- Continue with the critical evaluation program in which coach and player thoroughly examine how the golfer prepared for a competition and how he or she

performed. The cycle would occur after each event played.

- Ensure that physical training programs employ the most advanced techniques and sport science information in order to minimize injuries.
- Use state-of-the-art testing and physical fitness programs.
- Utilize single, double and triple periodization as the optimal framework of preparation

Key concepts that would be introduced include **Full swing:**(Impact position hips cleared, swing plane one or two plane) **Tempo:** (same tempo with each club, takeaway to impact), **Balance:** (full swing and partial swings, weight transfer throughout each swing) **Alignment:** (aim club align body to intended target), **Trouble shots/short game:** (use the clubface, buried lies, left handed, one handed.)

Objectives:

Achievement of pre-established targets at the amateur or professional level.

Achieve a high degree of excellence and knowledge in every skill set needed to be successful and perform in the present and future. Strive for continual improvement of ones golf specific skills and optimize fitness.



Benchmarks:

- Practice:** Training 40+ weeks per year.
Three to four 18-hole rounds per week.
Skill retention / refined practice and simulated play practice.
20 to 30 hours of practice per week.
Practice sessions are 4 to 6 hours in length.
- Blocked 40 per cent using a distributed and varied concept
Distributed (short time frame) vs. Mass (long time frame)
Varied – same skill but different activities
 - Random 60 per cent.

Short game vs. long game should be 70/30.
Total 35 to 50 hours training per week.

Practice week (sample)

- Mon. to Fri. – 8 hours per day.
- 3 18-hole rounds – i.e. Mon., Tues. and Thurs.
- Sat. – 18-hole round.
- Sun. – off.
- 25 hours practice plus 15 hours playing.
- 50 per cent Blocked (12.5 hours) 50 per cent Random (12.5 hours.)

Competition week (sample)

- Mon. – 4 to 6 hours range 50 per cent blocked 50 per cent random, (50 per cent long and short game.)
- Tues. – play 18-hole round and 4 hours situational on course and weaknesses.
- Wed. – play 18-hole round and 4 hours situational on course and weaknesses.
- Thurs. – 1 hour + play (18-hole round) + 1 hour.
- Fri. – 1 hour + play + 1 hour.
- Sat. – 1 hour + play + 1 hour.
- Sun. – 1 hour + play + 1 hour.

Equipment: 100 per cent custom-fitted equipment – balls and accessories.
Optimized through scientific testing.

- Competition:** 25 to 40 events per year:
- 36-hole events – 2 to 5.
 - 54-hole events – 3 to 5.
 - 72-hole events – 20 to 30.

Total 1,674 to 2,610 holes of competition.

Total quality ball strikes (practice and competition): 2,100 to 3,100 per week.

- Competition level:** Provincial Championship.
Golf Canada National Championship.
University and major amateur event.
International amateur.
World Amateur Team Championships.
Pro – Cdn Tour, Regional Tours, Mini Tours, Q schools
Nationwide, Other international, futures tour,
other women's events.

Greens in regulation: 12 / 18 holes – average.

Golf Canada

Handicap Factor®: Males 1 to +3; females 1 to +2.

Ball speed (mph): Males 160; females 130.

Rankings: Males Top 10 Golf Canada OOM;
females Top 8 Golf Canada OOM.
Top 500 Men's World Golf Rankings.
Top 200 on the Women's World Ranking.
Top 25 Canadian Tour – Men.
Top 25 Women's Futures Tour.

Golf course: Length – males 6,900 to 7,400 yards.
female 6,200 to 6,500 yards.

Course rating: Males 75; females 72.

Slope: 130+

Golf knowledge: Professional use of caddy / post round analysis stats /
media training/ business planning.



Excel

Age 23+ years (male), 23+ years (female)

The golfer achieves success on both the national and international stage as a high-ranked amateur or competes as a professional on the PGA Tour, European Tour or the LPGA Tour.



Objectives:

Become an elite player at either the amateur or professional level.

Set and meet specific and realistic individual goals.

Excel To-Do List:

- Maintain a high enough level of fitness so that golf can be played without the risk of fatigue or injury.
- Be aware of and be knowledgeable on how to deal with physical and mental fatigue.
- Introduce financial management and travel planning practices into the mix.
- Detailed physiological and biomechanical testing (three to four times a year) to optimize physical performance.

- Be selective when it comes to the type of competitions entered.
- Continue with the critical evaluation program in which coach and player thoroughly examine how the golfer prepared for a competition and how he or she fared. The cycle would occur after each event played.
- Set objectives of very high standards of accomplishments in competitions.

- Utilize single, double and triple periodization as the optimal framework of preparation.
Key concepts of the game that would be introduced include **Full swing:** (Impact position, swing plane) **Greenside bunkers:** (shaft angle, spin, loft), **Ball flight:** (manipulate the ball to desired target, club face position, body position), **Ball flight pattern:** (Predominant flight, left to right or right to left, body set up, swing path).



Benchmarks:

Practice: Training 40+ weeks per year.

Two to three 18-hole rounds per week.

24 to 30 hours practice per week.

Skill retention / refined practice and simulated play practice.

Practice sessions are 4 to 6 hours in length.

- Block 20 per cent using a distributed and varied concept.
Distributed (short time frame) vs. Mass (long time frame)
Varied – same skill but different activities

- Random 80 per cent.

Short game vs. long game should be 70/30.

Total 34 to 45 hours training per week.

Practice week

- 4 to 6 hour sessions.
- 4 to 6 days per week.
- 45 holes +.

Competition week

- 2 to 4 hour sessions.
- 3 to 6 days per week.
- 54 to 108 holes.

Competition: 25 to 35 events per year:

- 36-hole events – 2 to 4.
- 54-hole events – 3 to 4.
- 72-hole events – 20 to 27.

Total 1,674 to 2,304 holes of competition.

Total quality ball strikes (practice and competition): 2,360 to 3,000 per week.

Competition level: Provincial amateur championship.

Golf Canada national amateur championship.

Major amateur events.

International amateur.

World Amateur Team Championships.

Pro – Cdn Tour, Regional Tours, Mini Tours, Q schools.

Nationwide, Other international, futures tour,
other women's events.

PGA Tour, European Tour or the LPGA Tour.

Greens in regulation: 12 / 18 holes – average.

Golf course: Length – males 7,000 to 7,500 yards.
female 6,300 to 6,500 yards.

Course rating: Males 75; females 72.

Slope: 135+.

Golf knowledge: Professional use of caddy / post round analysis stats.

Equipment/accessories: 100 per cent custom-fitted balls, equipment and accessories optimized through scientific testing.

Ball speed (mph): Males 165; females 135.

Golf Canada

Handicap Factor®: Males +3; females +5.



ENJOY: Active for Life (entry may occur at any age)



Golf is not just for the elite, the strong or those with the reflexes of a cat. If it was, we wouldn't have one in five Canadians playing the game at more than 2,200 golf facilities across this country, of which 83 per cent have driving ranges and other practice areas. The game is available for everyone to enjoy

The game is available for everyone to enjoy outdoors, whether that be a young child in grade school at golf camp during summer or a retired school principal who would like to play, but has never swung a club.

outdoors, whether that be a young child in grade school at golf camp during summer or a retired school principal who would like to play, but has never swung a club. Unlike skiing, bobsledding, baseball or lacrosse, there is no "best before date," – almost 35 per cent of Canadian golfers are over the age of 50 – and that means there is a huge opportunity for golf course owners, instructors and ultimately golfers and soon-to-be golfers across this country, regardless of their age or their handicap.

In the above-mentioned sports, the objective, according to Sports Canada, is a smooth transition from an

athlete's competitive career to lifelong physical activity and participation in sport. "Canada's sport systems should encourage athletes to move from one sport to another," it states. "For example, the gymnast becomes an aerial skier, the sprinter takes up bobsledding, or the 12-year-old basketball player discovers canoeing." Fortunately, golf can be a lifelong activity, which is particularly relevant given the fact that Canada is currently in the midst of an obesity epidemic that needs to be cured. The game of golf presents a fantastic opportunity in that it allows individuals to challenge themselves mentally, while staying physically fit.

Consider that a typical golfer takes anywhere from 40 to 50 maximal explosive efforts when swinging and the forces that are generated are enormous. The physical swing itself also requires balance, coordination, flexibility and strength. Recent studies done on caloric expenditures over 18 holes have shown that golfers are expending in the range of 2,000 calories over this period of time, of which is done in a beautiful setting in the company of friends and companions. Supporting the findings that physical activity is the leading trigger for why more women are taking up the game.

The walking and the exercise in the great outdoors certainly does not need to occur on a 6,400 yard golf course. It can take place on a pitch-and-putt facility, a popular venue in the British Isles and in Ireland. The Irish Amateur Pitch and Putt Union, for example, currently has 125 clubs with roughly 12,000 members, in 19 counties. These innovative club structures came to be for a number of reasons utilizing partnerships and existing "communities" that shared a passion for activity in a social setting.

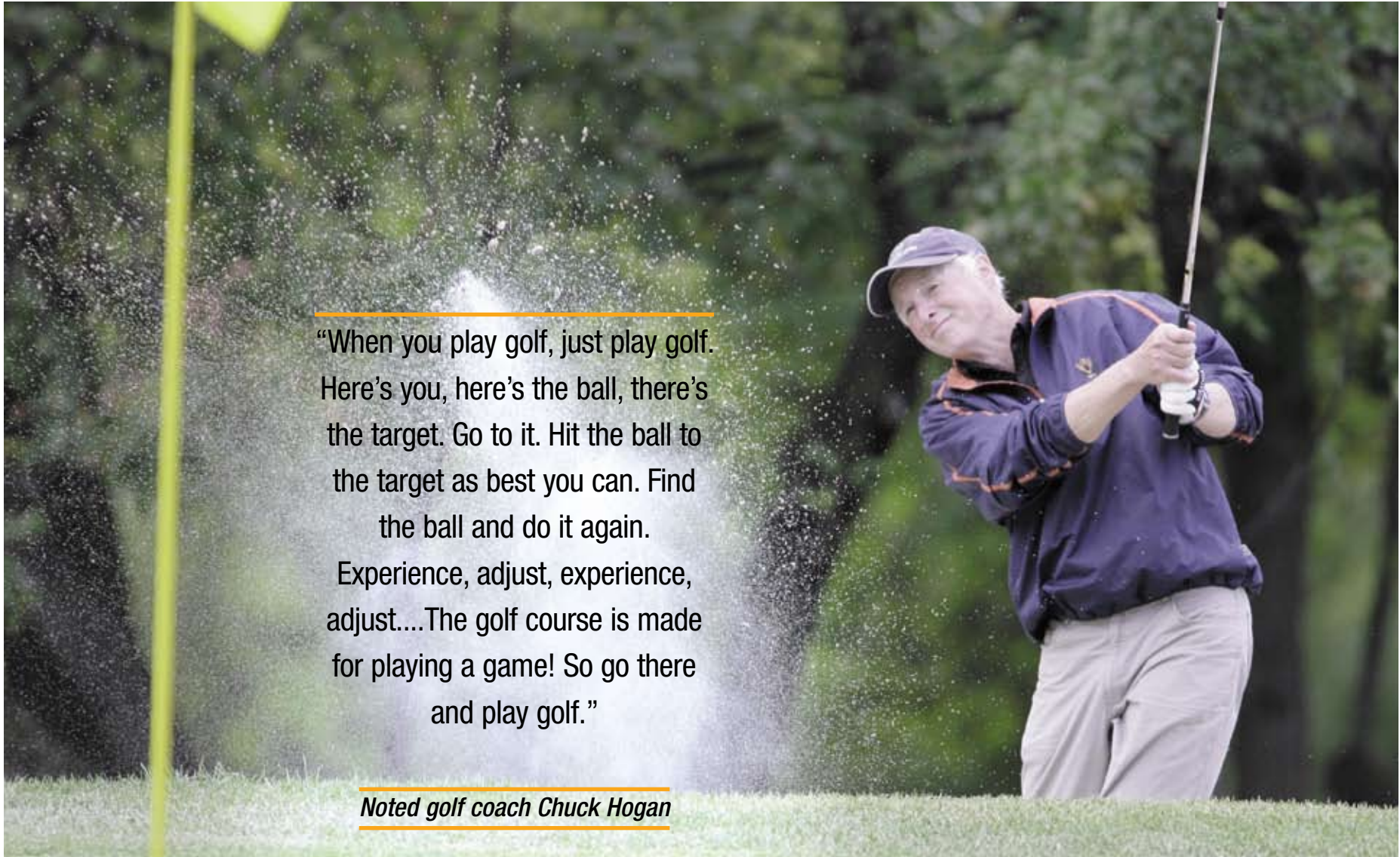


The following are some examples of where these clubs have been developed:

- Factories building a facility within their premises
- Sports and social sections of companies founding a course

- Courses set -up on spare ground adjacent to football/rugby/Gaelic Athletic Association pitches
- Courses set -up within hospitals as a recreational facility for patients and staff
- Courses within army complexes

These facilities are developed by demand. In Canada the "baby boomers" are aging (golfers age 55+ will be the largest segment for growth in golf – Ipsos Reid). Shorter course facilities as described above will be a legitimate alternative for this segment.



“When you play golf, just play golf. Here’s you, here’s the ball, there’s the target. Go to it. Hit the ball to the target as best you can. Find the ball and do it again. Experience, adjust, experience, adjust....The golf course is made for playing a game! So go there and play golf.”

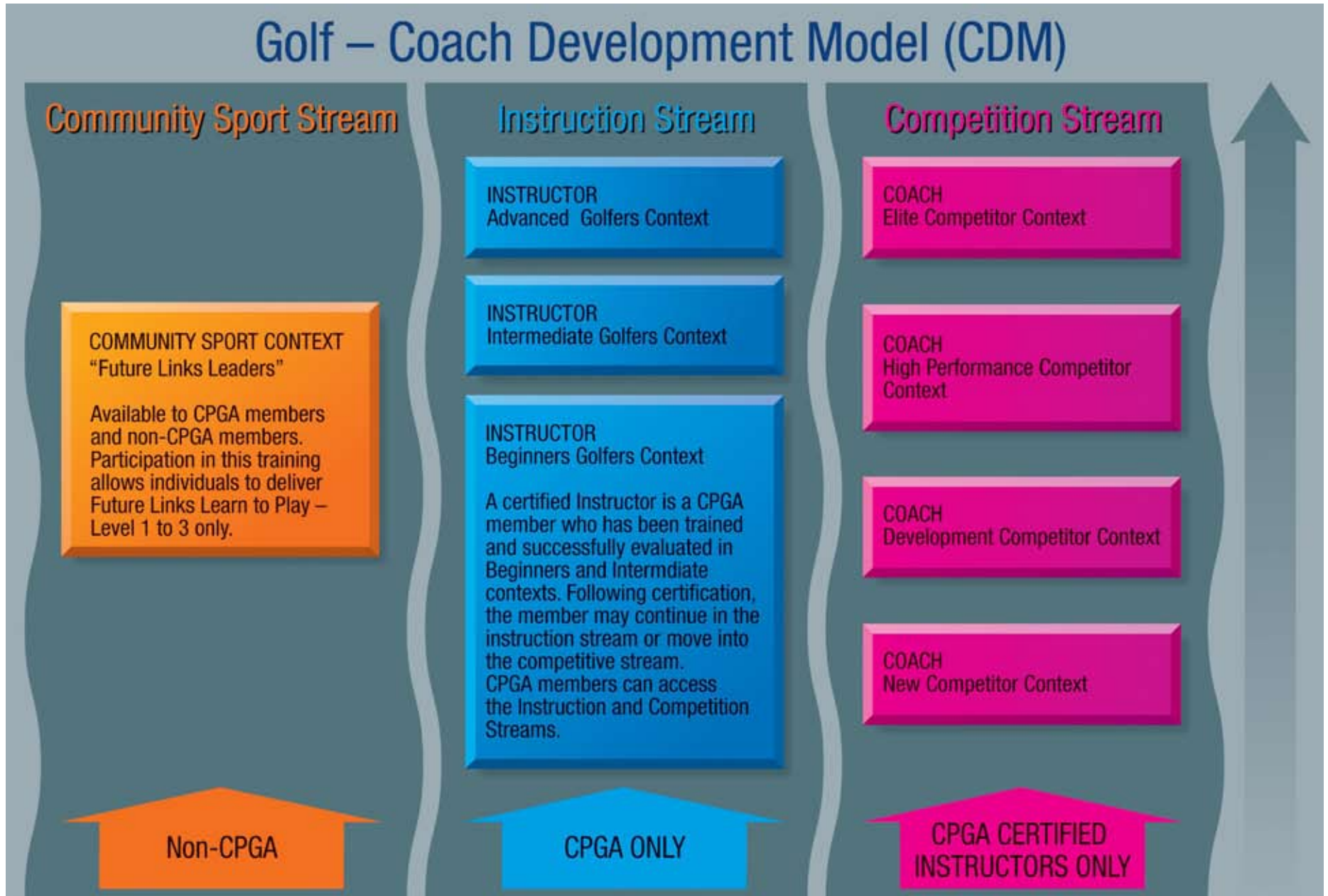
Noted golf coach Chuck Hogan



instructor

Instructor and Coaching Program

Figure 6.



The sport of golf has adopted a context approach to its coaching development in order to best serve the participants in each area of the *Long-Term Player Development Guide (LTPD)*.

This approach ensures that the coaches working with athletes in a particular context are trained specifically in the areas where these participants require expertise.

The CDM is broken down into three distinct streams:

- 1. Community Sport**
- 2. Instruction**
- 3. Competition**

The Community Sport Stream is an area where participants are simply being initiated to the game and is aimed at young participants ranging from six to 12 years of age. This grass roots level of coaching will be open to individuals who are not members of the Canadian PGA and they must complete a one day workshop, eight hours in length that will end with them being trained Future Links Leaders capable of delivering the Future Links Learn to Play – Levels 1 to 3.

The Instruction Stream is open to Canadian PGA members only. This stream is aimed at any individual looking to learn the skills required in order to play the game. The emphasis is on the instructors being able to instruct in each context the skills required by the player. The skill sets and degree of proficiency

increases as the player moves from the Instructor Beginner Golfers context through the Instructor Intermediate Golfers context up to the Instructor Advanced Golfers context. The instructors will be trained in each context to enable them to best serve the player and their needs as they follow the natural progression. Instructors will only be certified in their specific context once they have completed the workshop training and passed the respective evaluation process as set down in each context. The player and golf consumer will now be able to discern which type of certified instructor is best suited for their individual needs in the area of skill instruction.

The Competition Stream is open to Canadian PGA members only. This stream is aimed at any individual athlete looking to learn the skills required in order to compete in the game of golf. The emphasis is on the coaches being able to instruct in each context the skills required by the athlete. The skill sets and degree of proficiency increases as the athlete moves from the Coach New Competitor context through the Coach Development context up to the Coach High Performance context and on to the Coach Elite context. The coaches will be trained in each context to enable them to best serve the athlete and their needs as they follow the natural progression. Coaches will only be certified in their specific context once they have completed the workshop training and passed the respective evaluation process as set down in each context. The athlete and golf consumer will now be able to discern which type of certified coach is best suited for their individual needs in the area of competitive coaching skills. The athletes in this stream may range in age from 10 to 55 depending on when they decide they require formalized coaching in the skills necessary to compete at their chosen level.

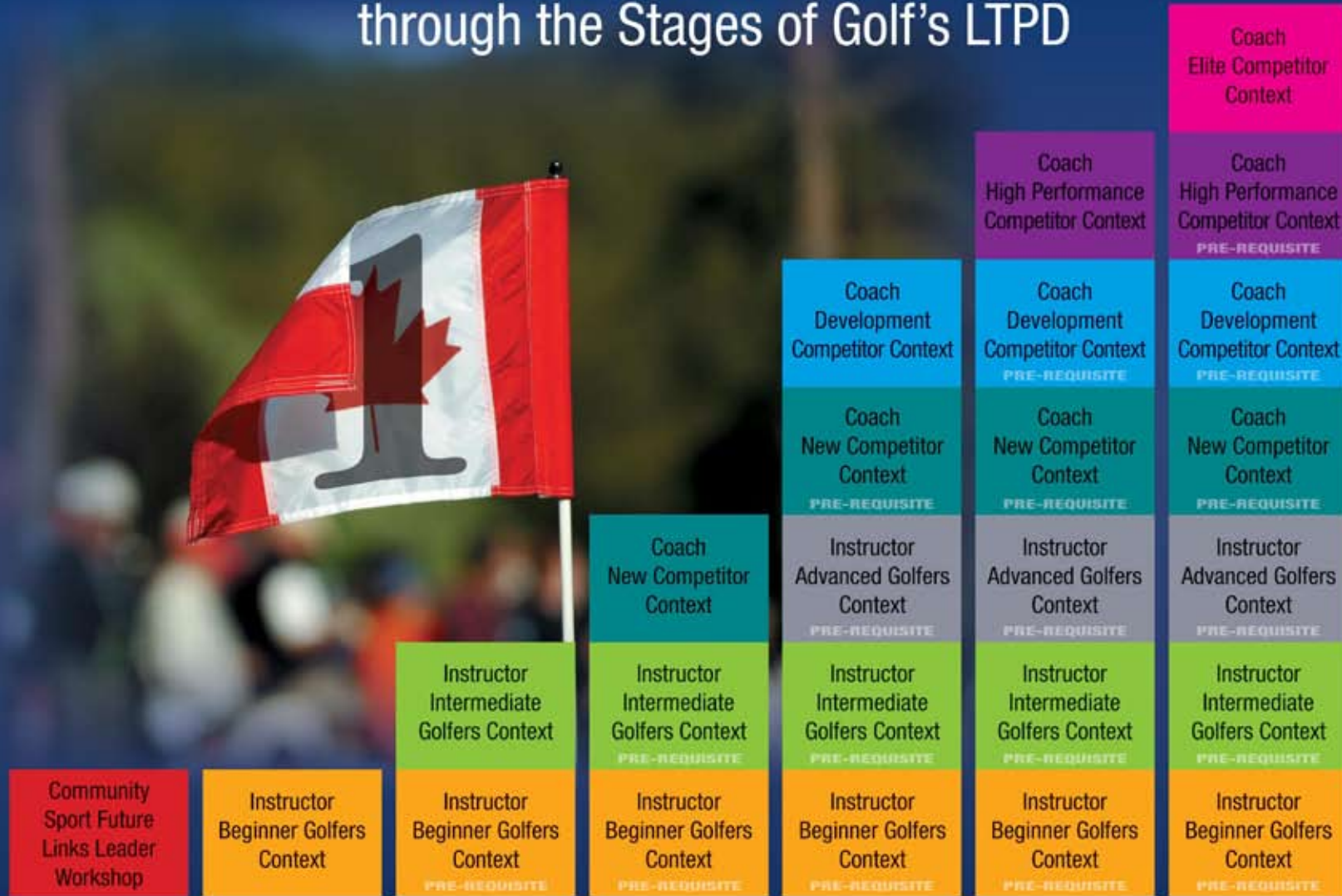
Summary:

The CDM for golf endeavors to accommodate all levels of participants and athletes regardless of what stage of development they may find themselves. All instructors and coaches will undergo rigorous training that is entirely specific to the type of participant or athlete they wish to work with. In this way athletes, parents, instructors, coaches and associations will know the defined pathway for training and certification of golf instructors and coaches. The natural result is that athletes will benefit from the best available instruction and coaching which in turn will enable the athlete to achieve their goals. This will produce more recreational participants as they will now have easier access to the game and more high performance athletes as they will now have a pathway and a coaching system that supports their long-term goals as elite performers.



Figure 7.

Progression of Certification Required to Teach/Coach through the Stages of Golf's LTPD



Canadian PGA Certification Contexts

Stages of Long-Term Player Development



Core Elements

Scientific research has concluded that it takes a minimum of 10 years and 10,000 hours of training for a talented athlete to reach elite levels. For the athlete and a coach, this translates into slightly more than three hours of training or competition daily for 10 years.

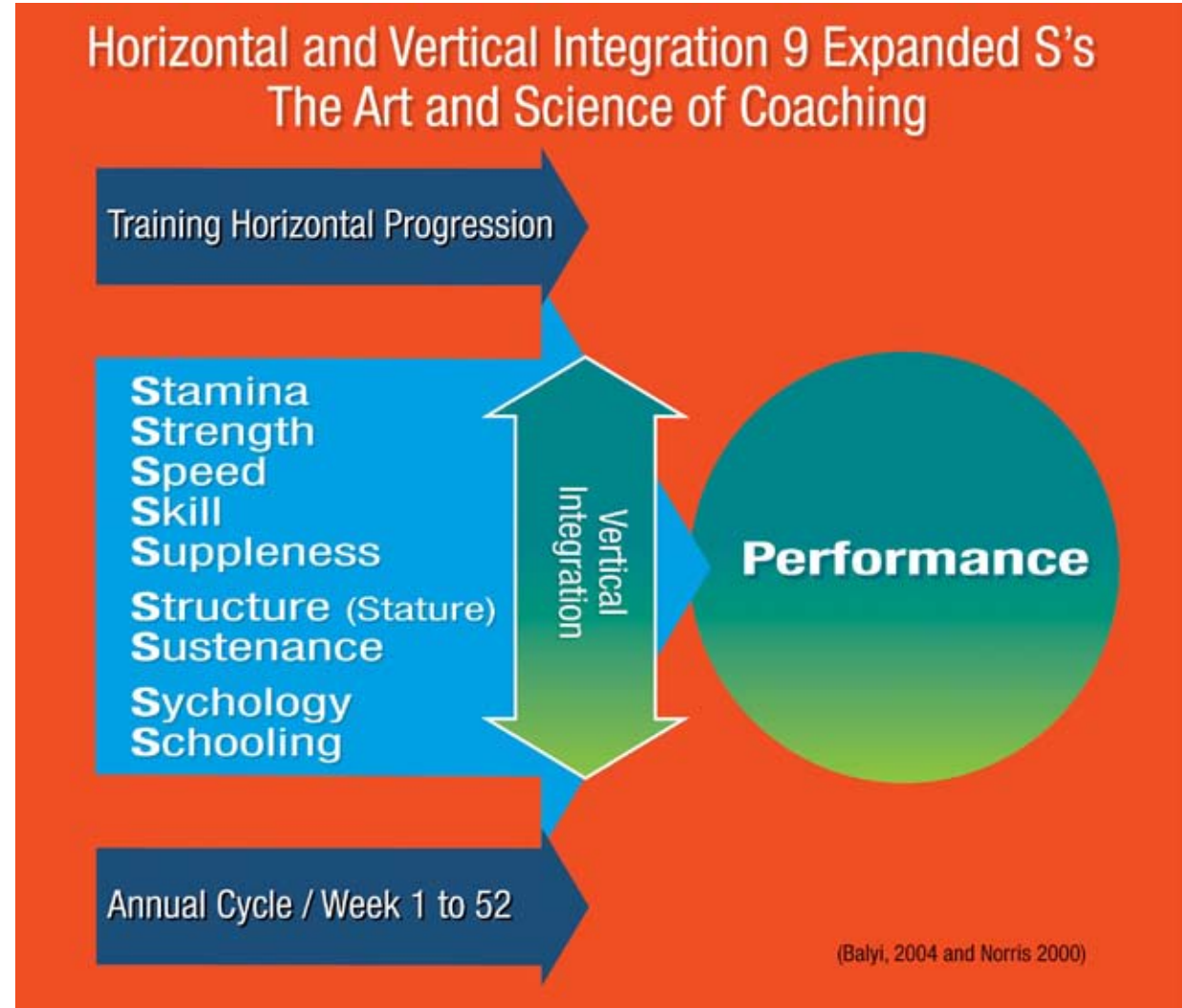
By the time he or she reaches this level, all of an athlete's physical, technical, tactical (including decision-making skills), mental and personal and lifestyle capacities are fully established and the focus of training has shifted to the maximization of performance.

The following Core Elements provide a roadmap for advancement in which all are connected in the same manner a jigsaw puzzle comes together. The individual pieces of this particular puzzle are technical, tactical, physical, psychological and supporting aspects.

Technical:

This section refers to the physical aspect of technical execution and competency surrounding the playing of a golf shot, no matter what the circumstance (tee, fairway, rough, green, hazard, poor conditions, under pressure etc). The proper execution of a "golf shot" is developed gradually over time. Learning the "right way" to strike a golf ball requires a lot of practice over several years. As a player progresses from the "Entry" stage he/she will learn to optimize his or her swing and to do so on demand, under pressure.

The chart below illustrates the 'art and science' required by the coach when planning the horizontal and vertical integration of the nine expanded S's of training and performance. The horizontal arrows represent the progress of an athlete that is quantifi-



able and based on scientific guidelines; the vertical integration is based on the interrelationship of each aspect of training and performance, which is often based on the 'art' of coaching.

Figure 8.



Proficiencies to develop and emphasize:

1. Performance enhancement skills (nutrition, environmental factors, athletic lifestyle.)
2. Strength and flexibility during growth spurt (+/- onset of PHV. Peak height velocity is the maximum rate of growth in stature during growth spurt. The age of maximum velocity of growth is called the age at PHV.)
3. Fine motor and general co-ordination skills development after PHV.
4. Coping with physical and mental challenges of competition.
5. Optimize training and competition ratios and follow a 60:40 per cent training to competition ratio. Too much competition wastes valuable training time and conversely, not enough inhibits the practice of technical/tactical and decision-making skills.
6. Utilize single and double periodization as the optimal framework of preparation (Simply put, peri-

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

Periodization is situation specific depending upon priorities and the time available to bring about the required training and competition improvement.

7. Emphasize flexibility training given the rapid growth of bones, tendons, ligaments and muscles.
8. Note that both aerobic and strength trainability are dependent on the maturation level of the golfer. For this reason, the timing of training emphasis differs depending on whether athletes are early, average or late maturers.

Tactical:

The tactical element refers to the cognitive (thinking/decision making/problem solving) aspect of golf. Examples would be club selection, shot choice (or swing modification), target end point for the ball,

'reading' the green, and also round preparation and recovery strategies. The mental (psychological) component of golf is clearly interwoven with the tactical element.

This area represents the gradual ascendancy and complexity of decision-making in the game of golf. As an example, In Learn To Play there are very few tactical elements other than the lining up of the shot. As golfers mature and improve, the range of tactical decision-making becomes increasingly more diverse and complex.

Optimal competition calendar planning at all stages is critical to athlete development. At certain stages, developing the physical capacities takes precedence over competition. At later stages, the ability to compete well becomes the focus.

The table below outlines general recommendations for the ratio of training to competition and competition-specific training. It is important to consider how the quantity and quality of the training and competition program changes as long-term plans progress.

Figure 9.

| Stages | Recommended Ratio |
|------------------|--|
| Active Start | No specific ratios |
| FUNdamentals | All activity is FUN based |
| Learn to Play | 70 per cent training to 30 per cent competition |
| Train to Play | 60 per cent training to 40 per cent competition |
| Learn to Compete | 60 per cent training to 40 per cent competition. |
| Train to Compete | 40 per cent training to 60 per cent competition and competition specific training. |
| Train to Excel | 25 per cent training to 75 per cent competition and competition specific training. |
| Excel | 25 per cent training to 75 per cent competition and competition specific training. |



Physical:

The physical component provides direction for the appropriate training of the main factors contributing to the physical ability to not only play golf, but also to provide a healthy basis for life and to be able to deal with travel and other stressors. As with the other elements, the programming guidelines are established relative to the developmental levels of the stage in question.

Golf is a physically demanding game that requires explosive power and at the same time, incredible precision and complexity. As an example, the average adult male uses 30 lbs. of muscle and nearly every joint in the body during the swing, producing 2,000 lbs. of force in less than 1/2 a millisecond. Physical training can improve all aspects of a golfer's game by enhancing flexibility, increasing club head speed and shot accuracy.

Figure 10.

| Key development stages: (approximate ages; mix of chronological age and developmental age) | |
|---|---|
| Active Start and FUNdamentals | (Ages 0 to 6 males and females / 6 to 9 males / 6 to 8 females) |
| Learn to Play | (Ages 9 to 12 males / 8 to 11 females) |
| Train to Play | (Ages 12 to 16 males / 11 to 15 females) |
| Learn to Compete | (Ages 16 to 18 males / 15 to 17 females) |
| Train to Compete | (Ages 18 to 23 males / 17 to 23 females) |
| Train to Excel | (Ages 23 to 29+ males / 23 to 28+ females) |
| Excel | (Ages 23+) |

Figure 11.

| Skill development; physical training ratios: | | |
|--|---------------------------------|------------|
| | Skill % | Physical % |
| FUNdamentals | 90 | 10 |
| Learn to Play | 80 | 20 |
| Train to Play | 60 | 40 |
| Learn to Compete | 40 | 60 |
| Train to Compete | 50 | 50 |
| Train to Excel | 60 | 40 |
| Excel | 60 | 40 |
| Playing for Life | As determined by the individual | |

7 key physiological proficiencies:

- Agility/Balance/Co-ordination
- Flexibility
- Posture
- Core strength and stability
- Strength and power
- Cardiovascular endurance
- Performance skills
(nutrition, lifestyle, environmental factors)





Figure 12.

7 Key Physiological Proficiencies: Program Composition at Each Developmental Stage (% of physical training)

| | FUNdamentals | Learn to Play | Train to Play | Learn to Compete | Train to Compete | Train to Excel | Excel |
|--------------------|------------------|---------------|---------------|------------------|------------------|----------------|-------|
| Balance | Introduce | 20 | 15 | 10 | 10 | 5 | 5 |
| Flexibility | Introduce | 20 | 20 | 15 | 15 | 15 | 15 |
| Posture | Introduce | 20 | 15 | 10 | 5 | 5 | 5 |
| Core Stability | Introduce | 20 | 20 | 20 | 25 | 25 | 25 |
| Strength and Power | Introduce | 10 | 15 | 20 | 20 | 25 | 25 |
| Cardio Endurance | Introduce | 5 | 10 | 15 | 15 | 15 | 15 |
| Performance Skills | Introduce | 5 | 5 | 10 | 10 | 10 | 10 |
| Total (%) | As part of games | 100 | 100 | 100 | 100 | 100 | 100 |



Physiological Training for Golf

skills

FUNdamentals

Ages: males 6 to 9 years; females 6 to 8 years

Objective:

- Development of general movement and athletic skills (movement literacy.)

Windows of opportunity:

- General athleticism, central nervous system development.

Proficiencies to introduce:

- ABC's of athleticism games (agility, balance, coordination and speed.)
- ABC's of athletics games (running, jumping, throwing, kicking, skipping, catching and other movement skills.)
- Ball striking games (hockey, baseball, etc...)
- Introduce strength (own – body weight exercises only), balance and flexibility.

Recommended complementary activities:

- Participate in as many physical activities as possible.
- Golf games, ball and stick games, racquet sports, soccer, gymnastics, running.
- Daily physical activity, not sedentary for more than 60 minutes except when sleeping.
- No periodization.

Learn to Play

Ages: males 9 to 12 years; females 8 to 11 years

Objective:

- To begin to develop golf specific movement skills and further develop general athletic abilities.

Windows of opportunity:

- Motor skills and coordination development.
- Major skills learning phase.

Proficiencies to develop:

- ABC's (agility, balance, coordination) skills.
- Ball striking skills.
- Running, throwing, jumping and kicking movement skills.
- General co-ordination skills.
- Introduce seven key physiological proficiencies (own – body weight only.)
- Warm-up and cool down: intro to concept.

Recommended activities:

- Encourage participation in two to three other complementary sports (50 per cent golf, 50 per cent other sports.)
- Ball and stick sports, racquet sports, soccer, gymnastics, track and field.



Train to Play

Ages: males 12 to 16 years; females 11 to 15 years

Objective:

- Critical phase for skill acquisition and development of physical abilities.
- Emphasis on general physical conditioning and health including seven key physiological proficiencies.

Windows of opportunity:

- Speed and strength development, cardio conditioning.
- Must consider growth spurt in programming (decrease in coordination during growth.)

Proficiencies to develop:

- Seven key physiological proficiencies (begin supervised strength training with free-weights.)
- Performance enhancement skills (nutrition, environmental factors, athletic lifestyle.)
- Strength and flexibility during growth spurt (+/- onset of PHV.)
- Fine motor and general co-ordination skills development after PHV.
- Sport specific warm-up and cool-down routines.

Recommended activities:

- Encourage participation in one to two other complementary sports.
- Ball and stick sports, racquet sports, soccer, gymnastics, track and field.

Sport science:

- Anthropometry (height, limb length), general fitness testing.
- Introduce periodization.

Learn to Compete

Ages: males 16 to 18 years; females 15 to 17 years

Objective:

- Develop skills and physical abilities for competition performance.
- Develop a high enough level of fitness that the athlete can perform high volume and high intensity golf play and practice without fatigue and without injury.

Windows of opportunity:

- Strength development, sport specific physiological conditioning.

Proficiencies to develop:

- Comprehensive development of seven key physiological proficiencies through organized fitness training program (can introduce plyometrics.)
- Specific performance lifestyle skills and support (managing travel and competition, drug education, advanced nutrition, education and career guidance, positive athletic life behaviours.)

Recommended activities:

- Specialization in golf during this phase with other sport activity to provide supplementary training and remedial development.

Sport science:

- Basic periodized planning.
- Fitness testing (bi-annual) to benchmark and monitor development of physical abilities.
- Basic sport science support.



skills

Train to Compete

Ages: males 18 to 23+ years; females 17 to 23+ years

Objective:

- Golf specialization and performance development and optimization.
- Maintain a high enough level of fitness that the athlete can perform high volume and high intensity golf play and practice without fatigue and without injury.

Windows of opportunity:

- Continued development and optimization of seven key physiological proficiencies.

Proficiencies to develop:

- Optimization seven key physiological proficiencies through individualized training programs (advanced sport specific training techniques, plyometrics, etc.)
- Optimization of physical abilities through implementation of sport science principles and support from sport science teams (nutrition, biomechanics, physiology, all necessary remedial therapies, etc.)
- Optimization of performance through dedication and commitment to positive life skills.

Recommended activities:

- Optimization of golf during this phase with other sport activity to provide cross-training and physiological support for golf performance.

Sport Science:

- Detailed periodized seasonal planning (preparation, competition 1, competition 2.)
- Detailed physiological and biomechanical testing (three to four times a year) to optimize physical performance.
- Comprehensive sport science support (access to performance enhancement team.)

Train to Excel

Ages: 23 to 29+ years

Objective:

- Golf specialization and performance development and optimization.
- Maintain a high enough level of fitness that the athlete can perform high volume and high intensity golf play and practice without fatigue and without injury.

Windows of opportunity:

- Continued development and optimization of seven key physiological proficiencies.

Proficiencies to develop:

- Optimization seven key physiological proficiencies through individualized training programs (advanced sport specific training techniques, plyometrics, etc.)
- Optimization of physical abilities through implementation of sport science principles and support from sport science teams (nutrition, biomechanics, physiology, all necessary remedial therapies, etc.)
- Optimization of performance through dedication and commitment to positive life skills.

Recommended activities:

- Total focus on golf during this phase with other sport activity to provide physiological support for golf performance.

Sport science:

- Detailed periodized seasonal planning (preparation, competition 1, competition 2.)
- Constant physiological and biomechanical monitoring to optimize sport performance.
- Comprehensive sport science support (access to performance enhancement team.)



skills

Excel

Ages: 23+ years

Objective:

- Professional golf specialization and performance optimization.
- Maintain a high enough level of fitness that the athlete can perform high volume and high intensity golf play and practice without fatigue and without injury.

Windows of opportunity:

- Optimization of seven key physiological proficiencies.

Proficiencies to develop:

- Optimization seven key physiological proficiencies through individual training programs (advanced sport specific training techniques, plyometrics, etc.)
- Optimization of physical abilities through implementation of sport science principles and support from sport science teams (nutrition, biomechanics, physiology, all necessary remedial therapies, etc.)
- Optimization of performance through dedication and commitment to positive life skills.

Recommended activities:

- Total focus on golf performance.

Sport science:

- Detailed periodized seasonal planning (preparation, competition 1, competition 2.)
- Constant physiological and biomechanical monitoring to optimize sport performance.
- Comprehensive sport science support (access to performance enhancement specialists.)



Psychological Training for Golf

To excel in the world of competitive golf, players must master precise technical skills and undertake specialized physical training regimens. Perhaps more importantly, players must also develop the mental skills that permit them to control their physical performance on-course.

Players, in general, spend considerable time developing their technical skills and physiological capacities yet seldom include a formal and systematic mental training component in their on-course programs. This is a puzzling perspective since most high-performance players believe that successful performance is 80 to 90 per cent mental and only 10 to 20 per cent physical. It stands to reason that if one develops effective mental skills, one will develop the foundation for peak performance.

Fortunately, there is no mystery in acquiring and/or improving mental skills. By developing simple techniques such as how to focus, relax, think constructively, use images and deal effectively with stress and distraction, players, at all levels, will be better able to manage the mental factors of competitive golf. By engaging in mental skills training, players will be well on their way to becoming confident, elite performers who are capable of effective emotional control and self-regulation.



FUNDamentals

Ages: males 6 to 9 years; females 6 to 8 years

Objective:

- Gain an awareness of the importance of mental skills.
- Exposure to positive thinking skills to build confidence and the ability to cope with stress.

To-do list:

- Learn about basic relaxation and energizing skills.
- Learn about creative imagery.

Suggested Materials:

- *Better Golf Jr. Workbook.*
- Terry Orlick's *Feeling Good Program* (at this level and next.)



Learn to Play

Ages: males 9 to 12 years; females 8 to 11 years

Objective:

- Understand the importance of practicing basic mental skills.
- Develop an awareness of how performance unfolds from a mental perspective.
- Understand the voluntary nature of refocusing, i.e., players can adjust their focus and behaviours.
- Develop an awareness of personal ideal performance states. For example: “When I remember to slow down my backswing, I hit the ball better.” and “When I am calm, I feel more relaxed and play better.”

To-do list:

- Exposure a foundational mental skills framework.
- Complete a personalized ideal performance state assessment.
- Emphasize the development of ‘The Big 2’ mental skills:
 - tension control.
 - technical cues.
- Introduce the mental skills of:
 - constructive self talk.
 - imagery.
 - confident behaviour.

Suggested material:

- *Better Golf Jr. Workbook.*



Train to Play

Ages: males 12 to 16 years; females 11 to 15 years

Objective:

- Understand how confidence is developed to improve performance.
- Understand personal specific mental skill needs.
- Be able to set realistic, specific, process goals for the season.

To-do list:

- Complete a mental skills self-assessment.
- Complete a performance plan for the season.
- Further development of specific mental skills:
 - ‘The Big 2’ – tension control and technical cues.
 - constructive self-talk.
 - imagery.
 - confident behaviour.
- Introduce to:
 - basic pre-game preparation.
 - on-course focus planning.
 - performance monitoring (i.e., evaluating competitive performances.)

Suggested material:

- *Better Golf Workbook and Player’s Planner.*



Learn to Compete

Ages: males 16 to 18 years; females 15 to 17 years

Objective:

- Increase self-awareness of personal psychological performance factors (e.g., confidence, competitiveness, mental toughness, work ethic, etc.) in order to identify personal performance needs.
- Learn to self-evaluate psychological performance – for both training and competitive situations.

To-do list:

- Assessment of individual behavioral strengths, weaknesses and motivations as related to competitive performances (a formal meeting with a licensed sport psychologist is appropriate for this task at this stage.)
- Refinement of pre-game preparation and on-course game plans.
- Identify potential on-course distractions (e.g., weather, slow play, unskilled caddie, poor shots, etc.) and create specific plans to manage each situation.
- Apply mental plans to practice sessions (range or on-course).
- Introduction to on-line performance monitoring for practice and competitive situations.

Suggested material:

- *Better Golf Workbook and Player's Planner*.
- *Golf Tracker* (on-line psychological performance management tool).



Train to Compete

Ages: males 18 to 23+ years; females 17 to 23+ years

Objective:

- Ongoing refinement of personalized practice and game plans.
- Increased attention to monitored psychological performance.

To-do list:

- Regular use of practice and game plans.
- Use of on-line performance monitoring for all competitive tournament rounds.

Suggested material:

- *Better Golf Workbook and Player's Planner*.
- *Golf Tracker – Advanced*.



Train to Excel

Ages: 23 to 29+ years

Objectives:

- Gain a comprehensive understanding of the critical factors that affect your ideal performance state.
- Have the ability to adjust emotions and focus to gain control over confidence and performance outcome.

To-do list:

- On-line monitoring of all competitive tournament rounds.
- Regular use of practice and game plans.
- Development of caddie interaction plan.

Suggested Materials:

- *Better Golf Workbook and Player's Planner.*
- *Golf Tracker Advanced.*



Excel

Ages 23+ years

Objectives:

- Demonstrate the ability to self-regulate and adjust focus when under pressure.
- Demonstrate the ability to perform successfully in stressful situations; become more focused and effective under pressure (that is, exhibit mental toughness.)
- Demonstrate superior decision accuracy so that on-course decisions are rarely flawed, and that errors are a consequence of conditions/situations beyond player control.

To-do list:

- Continued use of practice and game plans.
- Continued on-line monitoring of all competitive tournament rounds to determine if improvements are occurring.
- Total focus on golf performance.

Suggested Materials:

- *Player's Planner.*
- *Golf Tracker Advanced.*



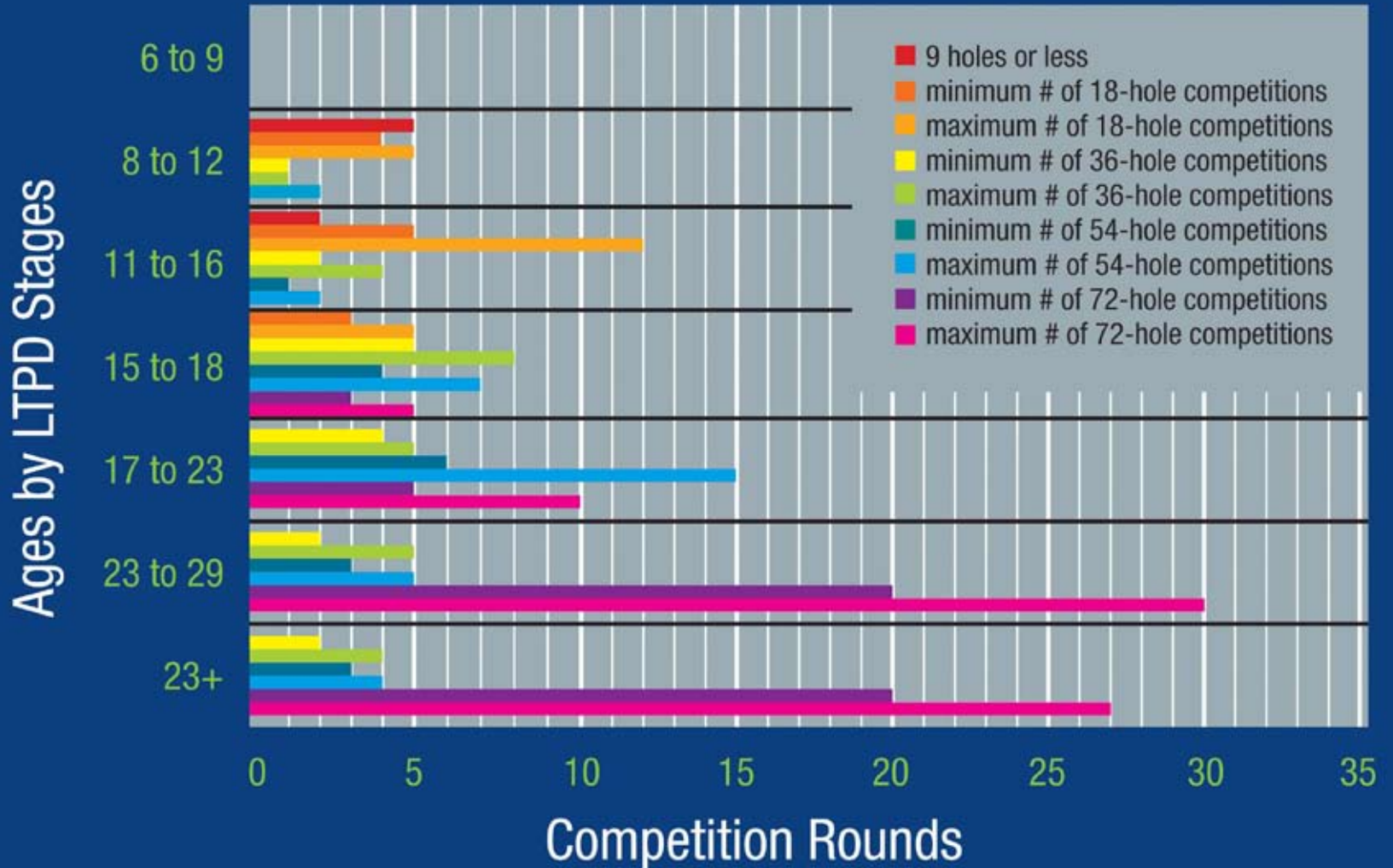
Ancillary:

There is a smorgasbord of holistic elements that the aspiring golfer and competitive golfer must be aware of and adept at executing such as health, nutrition and fitness maintenance, time management, career planning, and logistical strategies (travel, equipment, clothing, communication etc), as well as very specific aspects such as warm-up/preparation routines or choices around competition calendar and schooling. These aspects support the technical, tactical, physical and psychological elements.

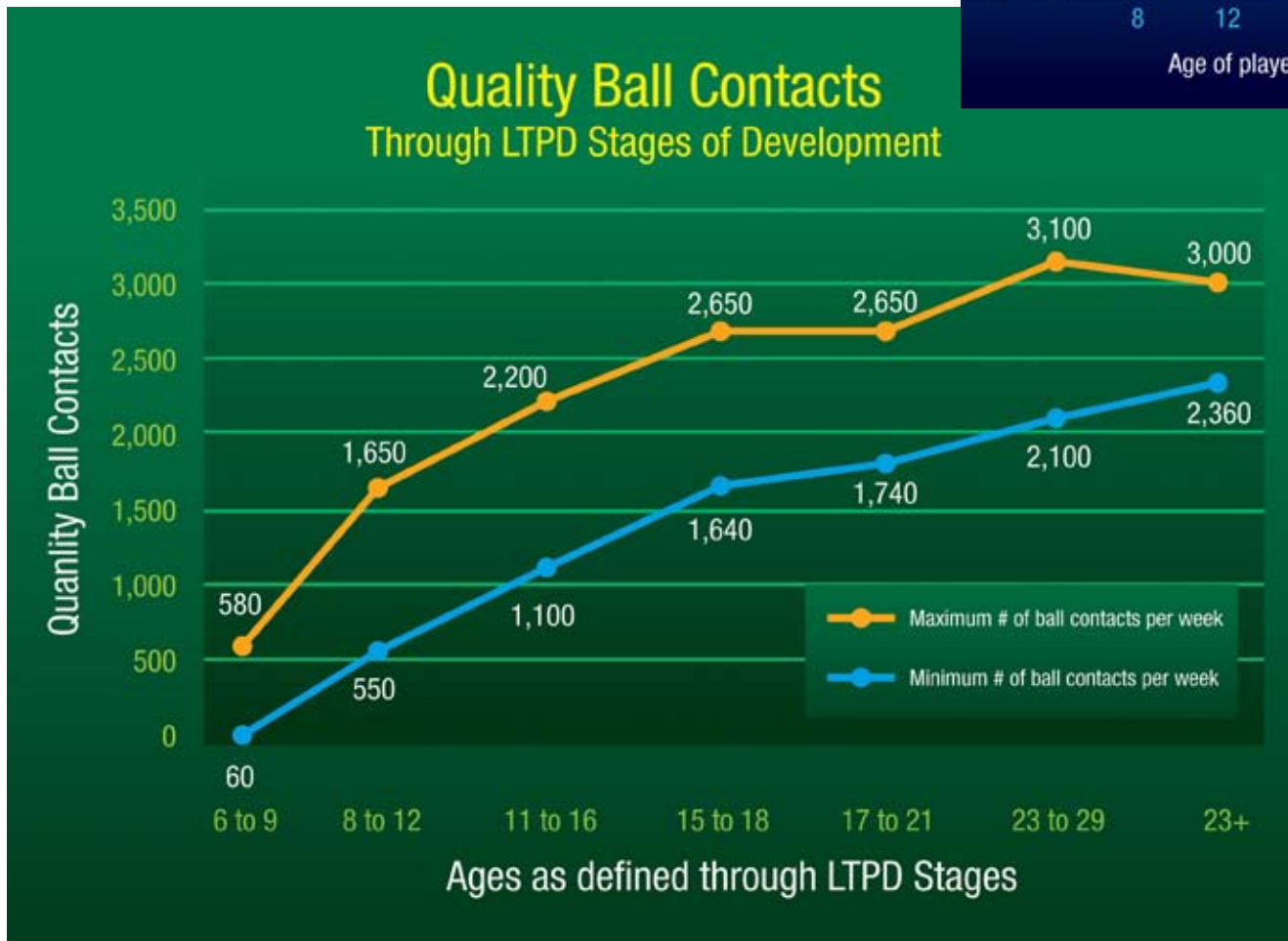


Appendix 1.

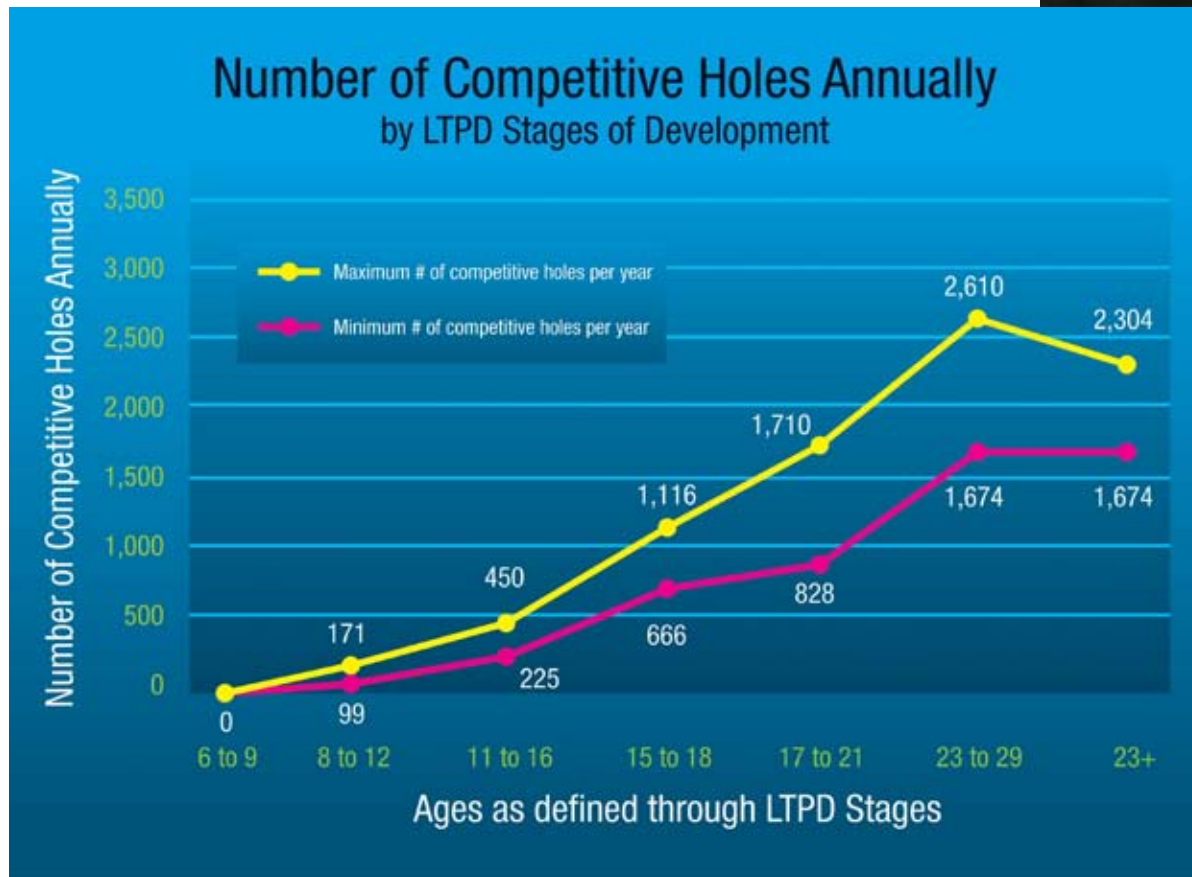
Recommended Length of Competition as Defined by Number of Holes



The diagrams relating to the number of ball contacts, below, (weekly by stage and cumulatively over the course of several years) are provided as general guides to the overall technical expectation as well as emphasizing the need to set 'performance' or 'outcome' goals during technical practice (as denoted by the wording 'quality ball contacts'). The 'cumulative total' figure, right, clearly shows that a player should build a substantial history or 'critical mass' of quality balls strikes over several years in order to provide a solid technical platform for the primary competitive years and that there is likely to be a range to this history rather than it being some actual fixed number depending upon several different factors (i.e., underlying ability, facilities, environment, instruction and coaching etc).

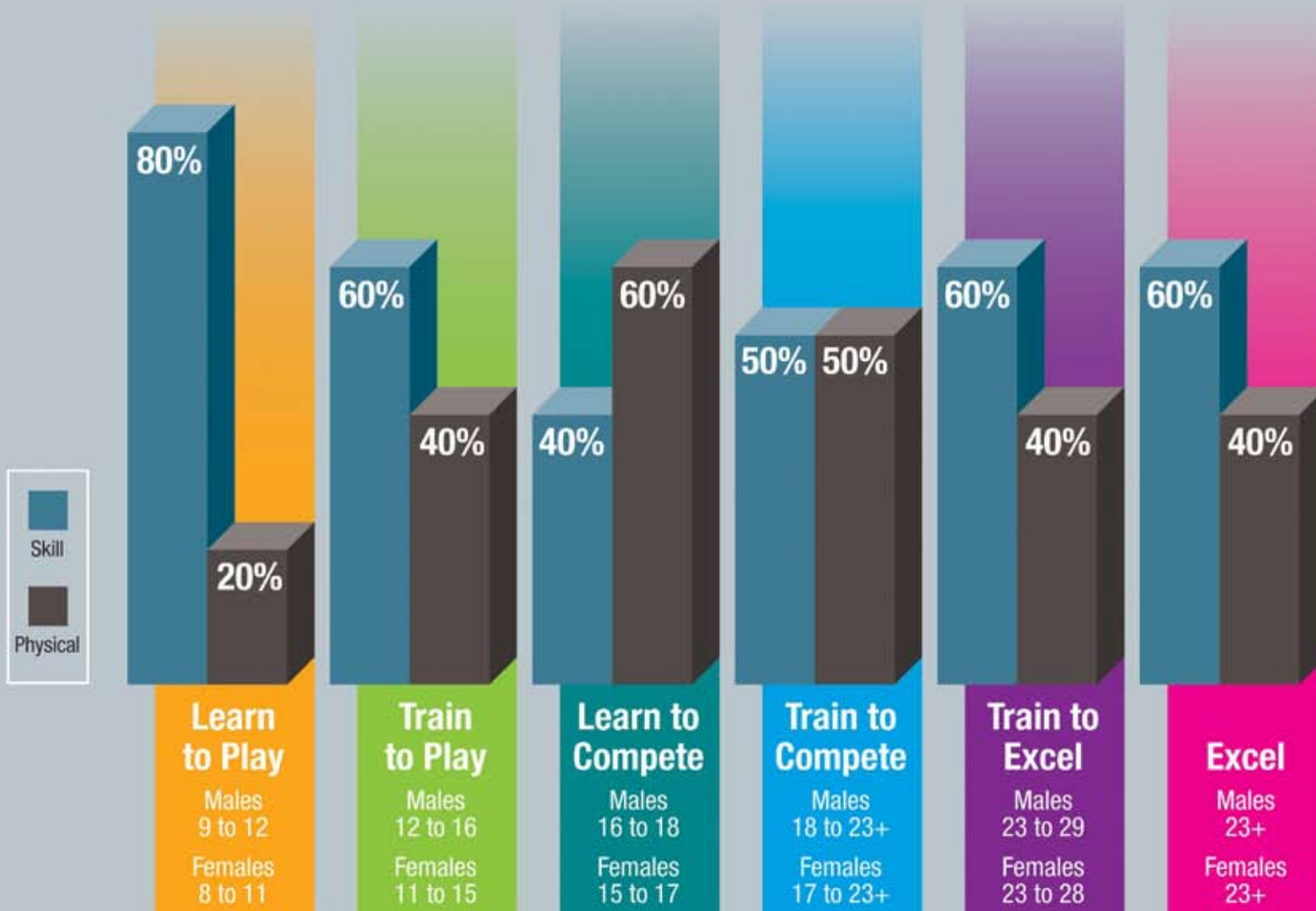


Appendix 3.



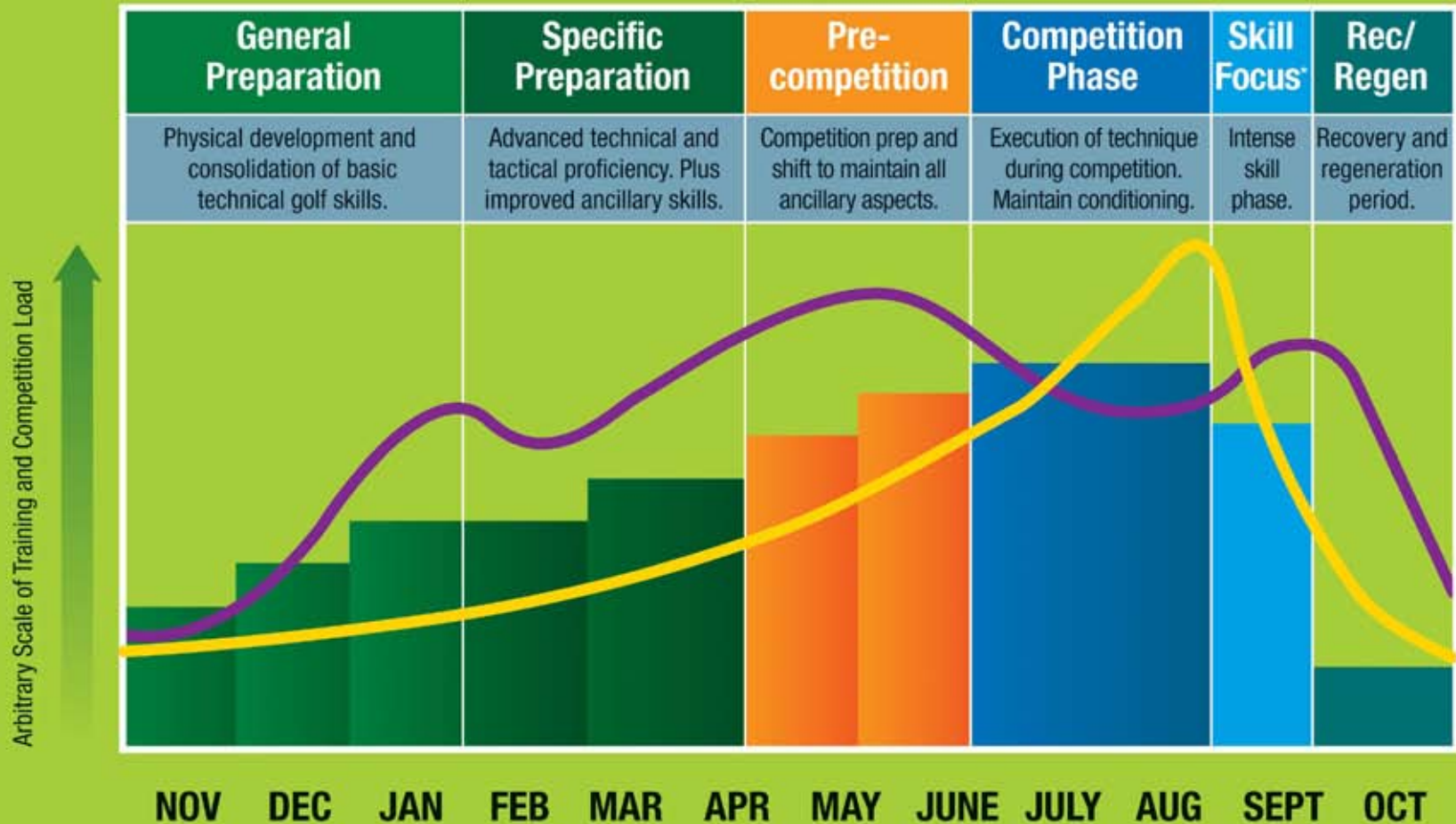
Suggested Guide for Ratio of Golf-Specific Skill Development / Physical Training

(% = overall bias of training time / resources)



Suggested Yearly Training Plan During the 'Train to Play' Phase

(blocks denote overall volume / intensity load)



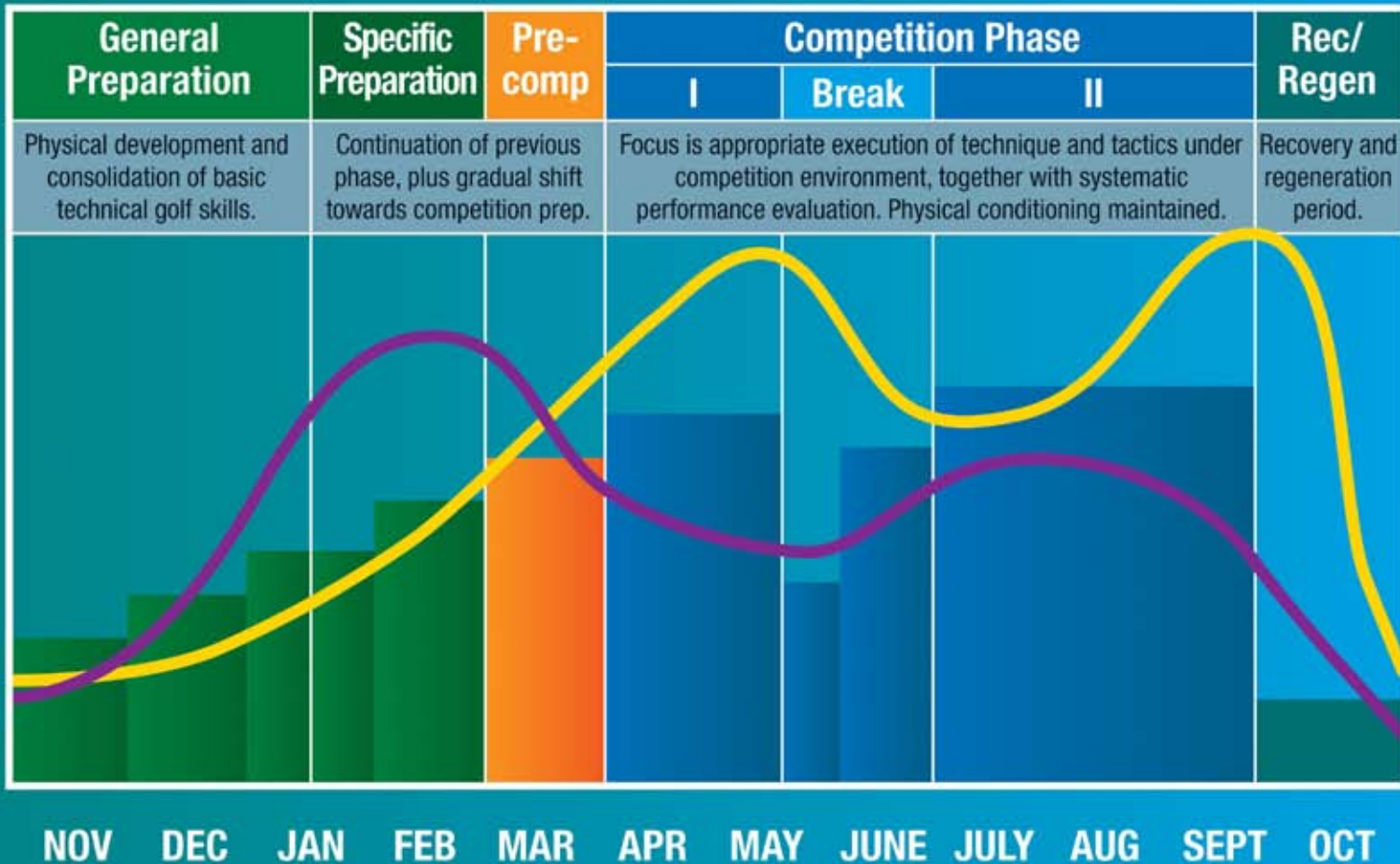
*Note 'Skill Focus' in immediate post competition phase
Terminology based upon Bompa, 1999

— Volume of training / competition guide
— Intensity of training / competition guide



Suggested Yearly Training Plan During the 'To Compete' Phase

(blocks denote overall volume / intensity load)



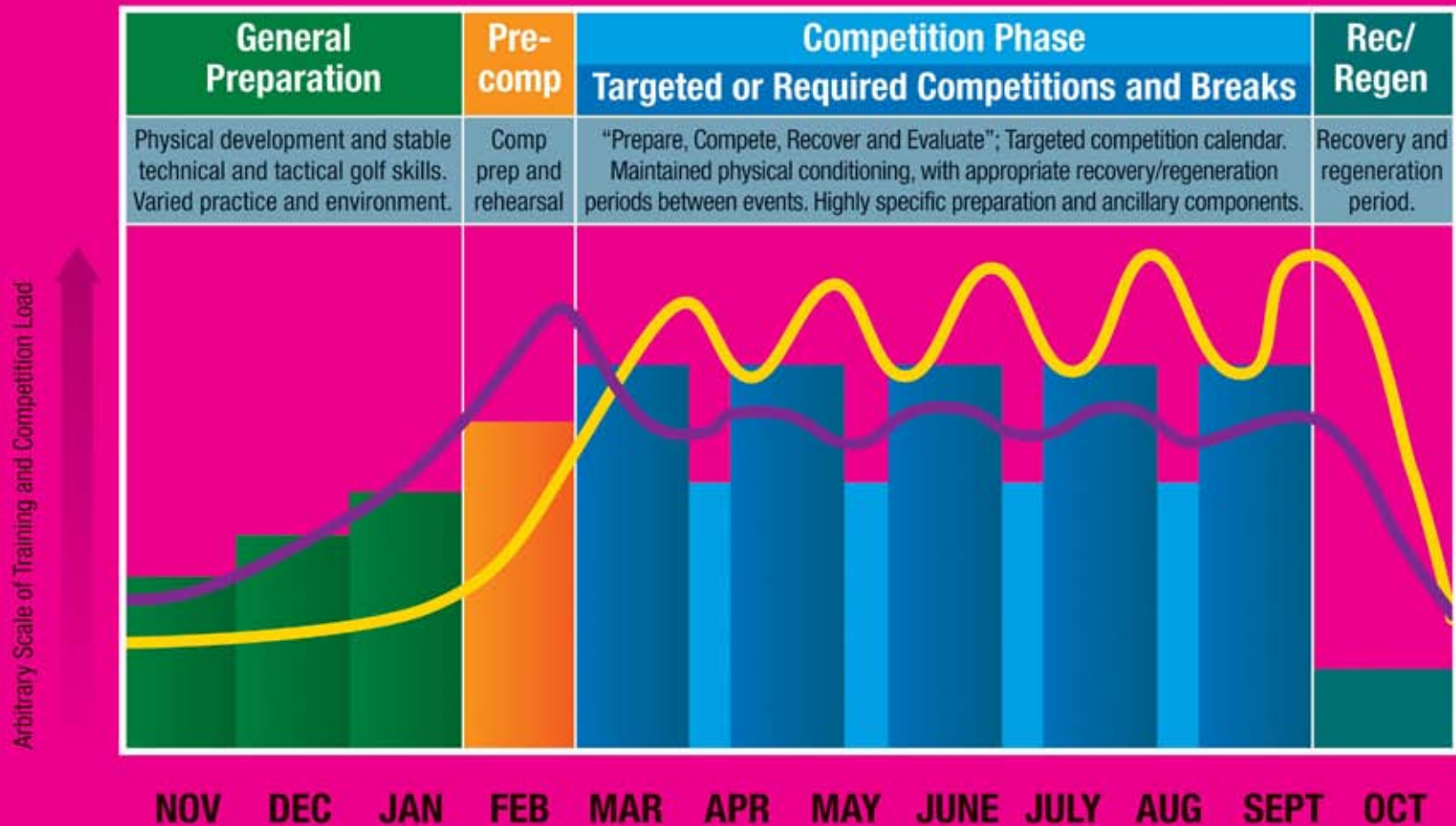
Terminology based upon Bompa, 1999

— Volume of training / competition guide
— Intensity of training / competition guide



Example Yearly Training Plan During the **Excel** Phase

(blocks denote overall volume / intensity load)



Terminology based upon Bompa, 1999

— Volume of training / competition guide
 — Intensity of training / competition guide



Player Pathway for Competitive Junior Golfers in Canada



Player Progression

RCGA-sanctioned International Junior Events

RCGA National Championships

Provincial Championships • Future Links Championships

RCGA-sanctioned National Junior Tours

Regional Mini Junior Tours

Local Club Competitions



A tale of three nations

Sweden, Scotland and England

In order for Canada to become a world leader, it is important to benchmark ourselves and our programs with what other countries (our competition) are doing. Three examples of nations who have adopted innovative LTPD strategies are Sweden, Scotland and England.



SWEDEN: In a document released in 2000 entitled *Girls and Golf*, the country's governing golf body established some lofty goals, particularly given the country's population, which at the time was only around 8.75 million. They included having 30,000 girls playing by 2004, improving the knowledge about girls and their individual needs for all who work within golf both on a voluntary basis or professionally, and increasing the elite player on a long-term basis.

In a section entitled *Fundamental Frame of Values*, its authors wrote the following, which was directed at golf instructors and counselors: "Girls often value relationships more than performance. When forming training groups this should be taken into consideration; let best friends be in the same training groups regardless of handicap. Let girls of the same age be in the same group as it enables everyone to contribute. Distribute tasks within the group; do not do everything yourself as a leader. Let the girls participate in performing a given task. This will help the girls to develop responsibility and unity. To try your very best is the most important. Encouraging them to attempt something rather than focus on a "result".

SCOTLAND: The brand name of Scotland's Junior Golf Strategy is called *Clubgolf*, developed under the direction and leadership of the Scottish Golf Union, the Scottish Ladies' Golfing Association, sportscotland and the Professional Golfers Association. The primary goal is to "create a development pathway from entry level to the sport through to the highest levels of achievement, enabling increased access to the game, higher participation levels, improved standards of performance, and a sustained growth in all of these areas in the future.

"The approach to delivering the strategy will be characterized by the following ambitions, where every child will have the opportunity to experience golf, every child who chooses golf will be welcomed into a sport that they can play for life, and every child who steps up to the first tee will be encouraged to reach for their full potential."

A national program is being rolled out, which will eventually see every 9-year-old in primary education having the opportunity to access an entry level/modified golf program at school. The reason for all of this is twofold: The Scottish population is ageing and the country wants to be well represented when it hosts the Ryder Cup in 2014 at GlenEagles.

A by-product of the new program occurred with the opening of the Hermitage Family Golf Course in Edinburgh, the U.K.'s first purpose-built children's course in Edinburgh.



ENGLAND: *England Golf: Whole Sport Plan, 2005-2009* is a document that highlights the “work the sport needs to do from 2005 to 2009 towards becoming the Leading Golf Nation in the World by 2020.” There are 11 recommendations including the following: A golfer-centered, not an organization-centered, approach to the sport’s development; a sport that is continually encouraging its golf clubs to be more community aware and family friendly in their approach; a more systematic approach to achieving English successes in world golf – both in the amateur and the professional game; and the effective delivery via a new *One Voice* structure that embraces men, women, professional, amateur, the able bodied and disabled.

The document notes that the starting point for the plan was to assess the game’s current areas for improvement, benchmark England against other leading golf nations and design future programs in an innovative way that responds to changes in the game both nationally and globally: “Initial work in LTPD has identified that golf is a 20-year sport where talented players now need to be identified as young as 9 or 10 years old. The implementation of a Long-Term Player Development player pathway within golf backed up by appropriate coach education and competition structures is seen as the backbone of this Whole Sport Plan 2005-2009.

“Delivery of the programs will be led by the England Golf Partnership (EGP) – a Limited Liability Partnership between the English Golf Union (EGU), the English Ladies Golf Association (ELGA) and the Professional Golfers’ Association (PGA) with the support of the Golf Foundation and Sport England.”



facts

Fast Facts and Figures

According to the *2006 PGA Tour Media Guide*, of the 301 members with playing privileges last year, 226 were American and 75 were international. Australia led the international pack with 23 followed by South Africa with eight, England with six, Japan with four and Canada, Ireland and New Zealand with three each. It is interesting to note that the average age that these players turned pro was 22.2 and the average age a PGA Tour card was obtained was 26.8

The average rookie age of players on the LPGA Tour last year, meanwhile, was 23.03 and the average age of all players 32.81. There were 101 active international players last year from 24 different countries. South Korea lead with 32 players followed by Sweden with 14, Australia with 22, Canada with six, England, Scotland, Japan and Thailand each with four, Italy with three and France, Germany, Brazil and Paraguay each with two.

Golf is a 20-year sport: An analysis by the PGA of the best male and female players going back to Bobby Jones revealed that it took 20 years from entry point to winning a major! The average starting age was 8.28 for males and 9.1 for females. The average age of turning pro was 22.73 for males and 22.43 for females. The average age of winning that first major? According to the study, it was 31.3 for males and 25.55 for females.

When jointly organized, the men's and women's games can learn and support one another more effectively.

Sources: *American Golf 20/20 Vision for the Future* published in 2000 and *Swedish Golf Federation Strategy 2004*.

CN Future Links

In 2006, 104,400 young Canadians participated in the CN Future Links program. Of these, more than 33,000 were through school programs.

- Over 700 sites across Canada were involved in the program including 418 golf facilities.
- More than 523,000 boys and girls have participated in Future Links since its inception in 1996.



Examples of the wide variety of movements and skills that underscore a competent physical literacy.

TRAVELING SKILLS

Climbing
Gallop
Gliding
Hopping
Jumping
Leaping
Poling
Running
Sculling
Skating
Skipping
Sliding
Swimming
Swinging
Wheeling

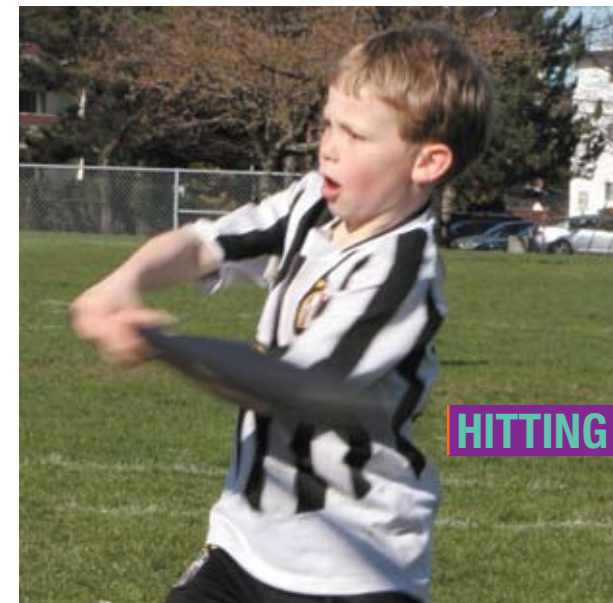
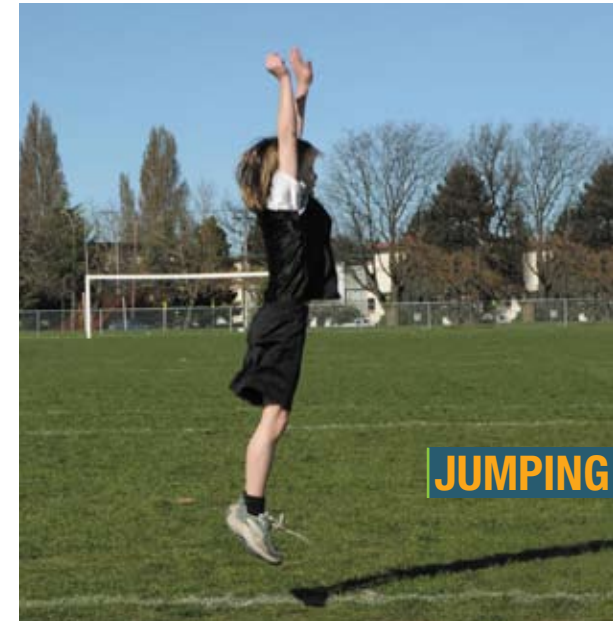
OBJECT CONTROL SKILLS

- Kicking
 - Punting
 - Rolling (ball)
 - Striking (ball, puck, etc)
 - Throwing
- Receiving:
- Catching
 - Stopping
 - Trapping
- Traveling with:
- Dribbling (feet)
 - Dribbling (hands)
 - Dribbling (stick)
- Receiving and sending:
- Striking (bat)
 - Striking (stick)
 - Volleying

BALANCE MOVEMENTS

Balancing/Centering
Body rolling
Dodging
Eggbeater
Floating
Landing
Ready position
Sinking/Falling
Spinning
Stopping
Stretching/Curling
Swinging
Twisting/Turning

Various sources;
see *Canadian Sport for Life*



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Canada

