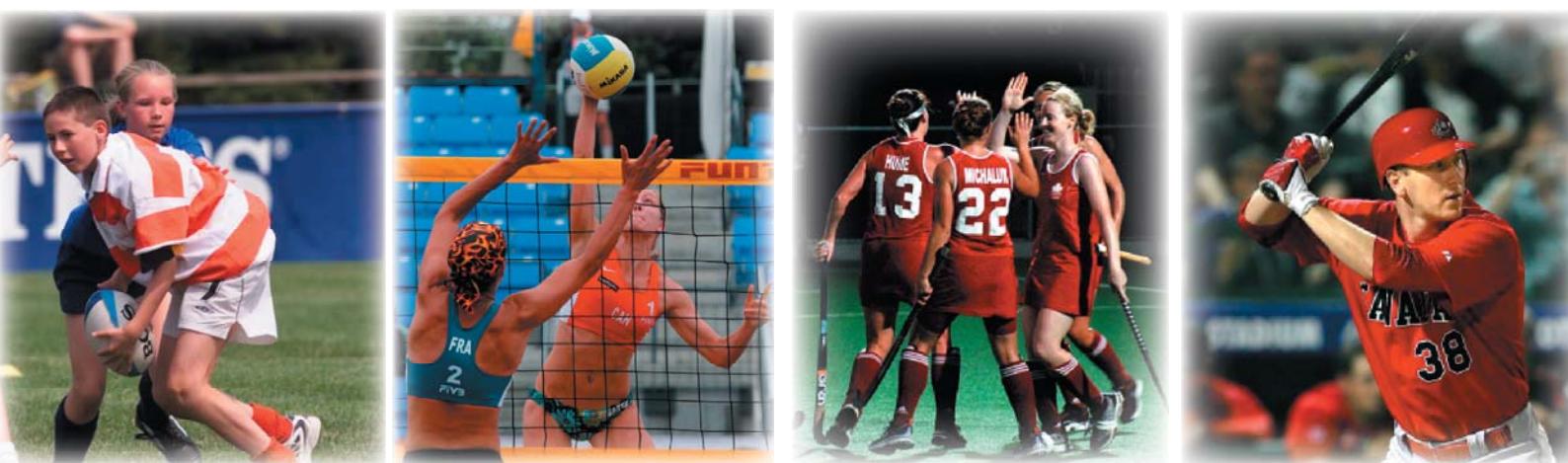


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“Competition¹ is a Good Servant², but a Poor Master”

As the Long-Term Athlete Development (LTAD) process evolves for sports, it raises as many questions as it answers. One issue that repeatedly surfaces is the need to address ‘competition’.

Competition is a critical issue in all sports, especially team sports. Unfortunately, the system of competition in many sports was never properly designed; it simply ‘evolved’ on an improvised basis without consideration for the sport science of athlete development. Now many competition schedules are considered part of the tradition of certain sports, and these habitual patterns are passionately adhered to. “*This is the way we have always done it!*”

One of the most common problems is that adult competition schedules have often been superimposed on young athletes.

According to LTAD, sport organizations need to:

- Ensure competition scheduling is balanced to consider the development of abilities required in the technical matrix developed by each sport.
- Determine the training and competition environment required for the development of top international performers.
- Identify the optimal training to competition ratio at each stage.
- Design competition schedules to ensure optimal periodization occurs.

Excluding Talent

There are many ways in which the sport system excludes talent from the playground to podium; some issues are within the control of sport and some are outside sport’s control. Income, culture, social environment, and geographic proximity to facilities are primarily beyond the control of sport governing bodies; however, other factors such as relative age and maturation can be addressed.

Various research has shown there is a significant bias towards players born in the first third of the year versus the last third. When winning is given priority at a young age, this bias is more pronounced as the younger athletes are ‘cut’.

While there has not been a lot of research regarding exclusion based on maturation, the limited research and anecdotal evidence suggest a similar impact on late maturers as late birth month children.

Therefore, limiting numbers during early stages excludes talent in the long-term.

¹ For this article, competition is defined as sanctioned, scheduled competition which contributes to standings or a ranking or qualification and / or leads to a championship. This would not include exhibition games or competitions of less importance which do not affect ranking, standings or qualifying.

² Colin Wilson, Former Consultant for High Performance Coaching, *sportscoach* UK, 2004.

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As the LTAD Expert Group works through the process of developing LTAD models, we often see ‘competition’ in the role of ‘master’; thus, not serving the athlete in their long-term development. Coaches often feel pressured to win, and the results work contrary to the factors behind LTAD. Problems include:

- Training time for Learning to Train athletes is used for tactical preparations for games rather than skill development. E.g. 8 year olds being taught how to ‘break out of the zone’ rather than fundamental running or skating and ball or stick handling skills.
- Limited player rotations and substitutions are made in an effort to win, retarding the development of all players.
- Pressure to win is often augmented by tournament structures which use goals for and against as a tie breaker, encouraging coaches to leave in starters to run up scores. LTAD recommends skill competitions be used as



Excluded Talent

In many team sports during the LTAD process there has been a frustration expressed at the lack of physical, technical and tactical abilities demonstrated by athletes entering national team programs. In some sports the response has been to create national programs (i.e. U15 national teams) for younger age athletes giving them the much needed international level expertise national coaches bring as well as exposing them to international level competition to address their development needs. The end result is a dramatic narrowing the player development pool resulting in limited top level players in later stages.

tiebreakers. E.g. the Briar in Curling.

- Overemphasis on defensive systems to limit ‘mistakes’ and win games, at the expense of offence and creativity, as every point in the standings counts toward making the playoffs!
- Selective use of substitutions and play selection to ‘hide weaknesses’, rather than developing a training plan to strengthen weaknesses. (Sooner or later, ‘weak’ players are cut because the next level of competition cannot hide their weaknesses any longer.)
- Senior competition structures are superimposed on junior and youth.
- This list goes on and on...

Competition Paradigms

The above examples focus on the format of the field of play, but the actual competition structures in Canada must also be reviewed. Again, according to the LTAD process, some current paradigms are simply not rational; therefore, they should be questioned to determine if there is a better solution. Examples include:

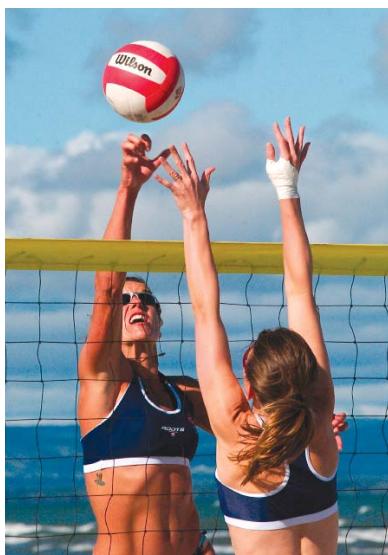
- Existing Canadian competition is inequitable
In Canada, the disproportionate size and

Talent Identification

Sport scientists are of two minds: 50% believe in talent identification, while the other half do not.

³ Team sports tactical training is often creating ‘systems’ of play to strategize to win. e.g. using a particular system to move out of the defensive zone (the X and 0s).

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population of different provinces and territories results in a massive inequality in our National Championships. In the existing paradigm, most team sports are represented by one team per province or territory, creating a competitive situation where one team draws from a population of 30,000, while another team draws from 12.1 million.

- **Existing Canadian competition structures are costly**

Canada is one of the largest countries in the World with a width wider than the continent of Europe. Traveling across Canada for National Championships is costly as well as damaging to the environment! While National Championships are exciting and necessary at some stages of development, they are not a cost effective investment in our children's athletic development. For example, the cost of an Alberta youth soccer team to compete in a National Championships in Québec is approximately \$26.000 - roughly the equivalent of a full-time coach for 6 months!

- **Existing Canadian competitions narrow the pool of athletes too early**

Another issue with the traditional National Championships is the dramatic narrowing of the pool of athletes, especially in our larger provinces. When National Championships are held for 13 or 14 year olds, provincial sport organizations tend to prepare one representative team. While larger provinces try to draw from a pool of athletes, the number of players in a high-quality training environment inevitably becomes very limited.

Periodization Issues

Canadian climate complicates competitive schedules

- Due to different regional climates, the principles of periodization are often poorly applied in BC (lower mainland). There are two competition schedules for BC: a traditional one utilizing the temperate climate, and a second, serving the schedule of the rest of Canada. The dual competition schedules create friction as decisions are made at the national governing tables to try to master different competition schedules.

The difficulties can be further compounded when either of the competition schedules are not aligned with the international schedule. Throughout this process, the result is over-competition.

Further complicating this situation is the fact that many athletes actually end up playing in both competition schedules, resulting in year-round competition. This double demand becomes physically and mentally overwhelming, resulting in injury and burnout.

Individual vs. team sport - selected vs. dictated competition schedule

- In individual sports, the coach and athlete can select which

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competitions are optimal for the athlete's development. In team sport, the schedule is dictated by the competition calendar, which is often not in the best interest of athlete development. In the case of international sports, their competition schedules cannot be changed; however, in the earlier stages of LTAD, the NSOs and PSOs have power to change scheduling. The possibility therefore exists to create training and competition ratios which will better develop athletes during the early LTAD stages.

How to figure it out?

Obviously, re-scheduling competition formats presents significant challenges, so change will only occur if a very strong case is presented to governors of NSOs and PSOs

International, national and provincial normative data should be taken into consideration. The following is a deductive analysis:

Step One

Identify the following three factors:

1. Determine the level at which your athletes need to compete for Canada to be a top nation internationally. (E.g. *What top pro leagues in the world?*)
2. Determine how many athletes your sport needs to be playing in the top leagues in the world to

be successful internationally. (*Generally, this is double the number of players you need for a team: for example, volleyball requires 12 players when they play a match, so optimally they would have 24 playing in top leagues to ensure they have 12 released and ready to compete since injury, contract disputes, and other issues will always limit the available pool.*)

3. Determine current participation rates among your early stages (i.e. FUNdamentals and Learning to Train). How many young players do you have or need entering the sport to feed into a future playing pool?

Step Two

1. Determine the average length of an athletes career in the top competition leagues.
2. Determine how many professional players you need overall to have the necessary number in the top leagues (E.g. *25% of Canadian Soccer professionals play in top leagues*).
3. Determine the attrition rate in the Training to Compete stage (E.g. *UEFA determined that only 15% of 16 years olds that sign a professional contract still have pro contracts at the age of 21*).

Step Three

Do some basic math: take the number of pro players needed in top leagues, divided by length of career,

UEFA (Soccer)

"Those of us who are involved in youth development or in soccer academies, must bear in mind that, of the 16-year-olds who sign a professional contract, 85% are out of the professional game by the age of 21." - Higgins, T. Laying the foundations. The Technician - UEFA (Jan. 2007), Vol. 35, P. 12-13.

This is consistent with the data for the Canadian Soccer team: among the 29 players in the senior national team pool, only 3 played previously on the U17 national team (~10%).

LTPD Excellence Pathway to World Cups
Recommended numbers of players and their training and competition environment

	Males #s	Age	Stage	Age	Females #s	
Top 10 pro leagues inc MLS	40		T2W 2		40	Top 10 leagues plus top NCAA
Professional	150		T2W 1		150	Professional plus top colleges
Pro Team Academies (PTA) or national training centres (NTC)	150 160	18 17	T2C	18 17	150 160	Pro team academies (PTA) or national training centres (NTC)
PTA or NTC with Sport School (SS)	320	16		16	320	PTA or NTC with Sport School (SS)
Prov. TC (PTC) or NTC w/SS	550	15	T2T	15	550	Prov. TC (PTC) or NTC w/SS
PTC w/SS	1,100	14		14	1,100	PTC w/SS
PTC w/SS	2,222	13		13	2,222	PTC w/SS
Quality Club Teams	14,400	12		12	14,400	Quality Club Teams
Quality Club Teams	14,400	11		11	14,400	Quality Club Teams
Quality Club Programs	35,000	10	L2T	10	25,000	Quality Club Programs
Quality Club Programs	39,000	9		9	25,000	Quality Club Programs
Quality Club Programs	~40,000	8	FUN	8	~25,000	Quality Club Programs
Quality Club Programs	~40,000	7		7	~25,000	Quality Club Programs

This means on an annual basis 27 Can. players need to make professional club debuts, of which 6 in top pro leagues.

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divided by percentage of pros that make it to top leagues, divided by attrition rate of players making it to the next LTAD stage.

E.g. If 30 players are needed in top leagues, a career is 6 years, 25% of your pros are in top leagues, and 15% of the 16-year-olds turn full-time pros, your sport needs 20 players making pro debuts each year, 5 of which are in the top pro leagues. To reach this figure, your sport needs to have 133 16-year-olds in a high-quality training environment.

Formula:

$$30 / 6 = 5$$

$$5 / 25\% = 20$$

$$20 / 15\% = 133$$

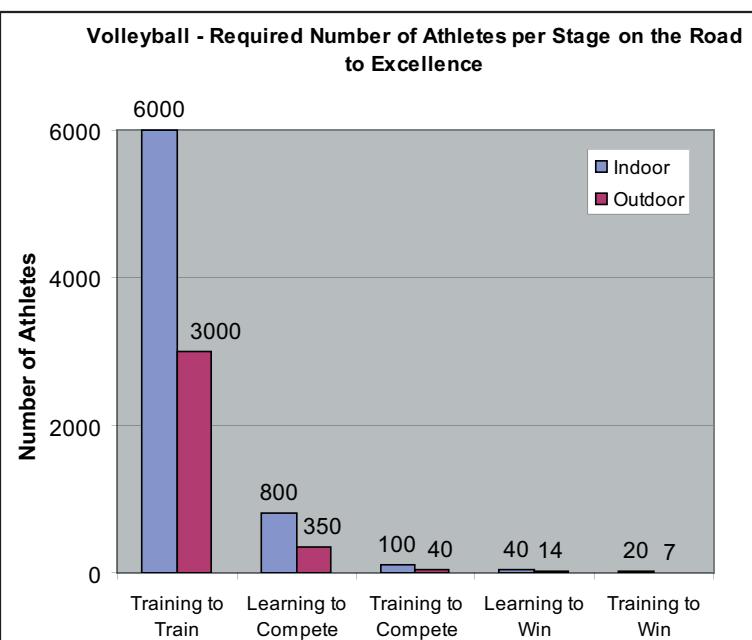
Therefore, to produce 30 top pros, a sport needs 133 16-year-olds in training and competition environments which provide those players with an optimal road to excellence.

Each sport must determine a number appropriate for their sport, then ‘do the math’. The numbers will define the competition structures.

Relating this to Canada Games age...

The Canada Games allows 13 provinces and territories to participate, and therefore dictates a limited number of athletes who are still on the road to excellence at those ages. The answer to the Canada Games age is to match the number of athletes invited to the Games with the number needed at a particular stage of LTAD. For example: Volleyball has 12 teams of 12 players attending the Games, equaling 144 players, not all of whom would be in training environments on the road to excellence. To be successful internationally, Volleyball needs: 20+ @ T2W; 40+ @ L2W; 100+ T2C and 600-800 @ L2C.

Given the numbers, the age for Volleyball should be the age for Training to Compete (20-21 for males and 19-20 for females) to ensure enough athletes are in the proper training environment. If Volleyball had a younger age, they would prematurely narrow their pool and the result would be a limited number of athletes reaching the Training to Win stage. This is precisely what is happening presently.



Relating this to National Championships...

In their most common form, National Championships are competitions between provinces and territories. In this format, the field is inevitably limited and inequitable. While from an organizational perspective this format seems logical, from an athlete development perspective it has limited value due to the numbers attending and the quality and equality of competition. For example, continuing with the Volleyball example, athletes should number 20+ @ T2W, 40+ @ L2W, 100+ T2C, 600-800 @ L2C and 6000 @ T2T in an optimal training and competition environment. According to these numbers, a National Championship in a traditional format for T2C makes sense; however, at all other stages the traditional format is not the most effective use of competition to develop those stages.

Training to Competition Ratios

The principles of periodization and fitness are the same for individual and team sports, yet the ratio in athletics, swimming and gymnastics is 95 to 5, while the ratio in our team sports is often 40 - 60! In team sports competition, scrimmaging and tactical training are often overemphasized versus physical, technical and mental preparation. Finding the correct training to competition ratio is critical to creating proper periodized plans for optimum training and performance.

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Given these numbers (refer to figure 1), LTAD would suggest the following as the most effective competition format:

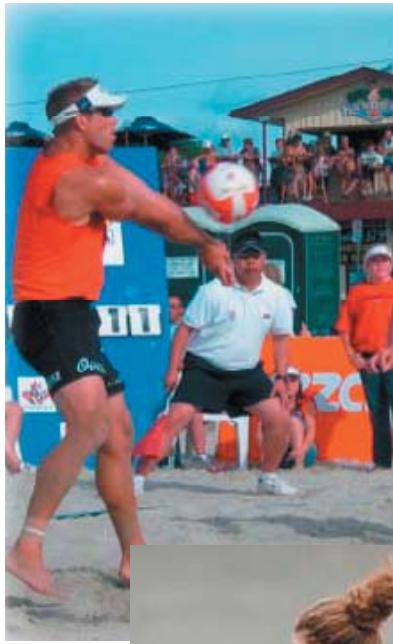
- T2W (20+) = International focus
 - invitational tourney with two Canadian teams entered
- L2W (40+) = International focus
 - invitational with three Canadian teams entered
- T2C (100+) = Traditional format
 - National Championships with tiered draw for equitable competition (possible extra entries for top 2 or 3 provinces based on previous performance; E.g. MB1 and MB2)
- L2C (700+/-) = 32 team East and West Nationals with proportional provincial representation
- T2T (6000) = Five Regional Championships with 100 teams each, including qualifying and main draw

The above format would provide competition to accommodate the number of athletes required at each LTAD stage.

Addressing the pressure on NSOs to attend International Federations (IFs) Junior Championships...

In most cases, IFs host World Junior Championships, which Canada enthusiastically participates in. NSOs generally prepare one team for these championships, and in doing so, create a quality training environment for that group of athletes. Usually the NSO doesn't have enough resources to train more than one team. This significantly narrows the pool of development athletes.

You might ask: why is this an issue? Don't all countries that engage in these international events face the same dilemma? The difference is that the



national junior teams of other sporting nations are often selected from the junior programs (academies) of professional clubs; therefore they already have multiple teams in quality training environments. In contrast, when Canada forms national senior teams, Canadian NSOs are typically drawing from just one competitive junior team, while other countries are drawing from many junior teams.

Addressing external pressures to compete...

In addition to IFs desire to host competitions at a variety of stages, there are a number of other pressures to compete. Some are economic: hosting of events drives sport tourism so event organizers need athletes to compete so they can generate a financial return. Governments seek to evaluate an organization's effectiveness through performance at competitions such as international events, Canada Games, representation at provincial games and hosting of National Championships. Another is that competition offers 'sponsor recognition'. This argument has validity at the later excellence stages; however, is not valid in most stages. While none of these pressures are debilitating, collectively they emphasize competition over training, which results in distracting the organization from the process of LTAD to measuring outcomes.

Addressing internal pressures to compete...

Underlying over-competition and under-training are the attitudes of parents and coaches. Coaches must 'raise their

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game' to overcome the desire to frequently measure themselves and their charges in the competitive arena. Making the excuse that "players like to compete, and are not motivated to train" is only a reflection on their inability to offer quality training. In training, intensity depends on the coach's ability.

Without understanding LTAD, parents expect 'competition or game play' when they register their children to a sport program. Their lack of appreciation for the long-term positive effect of a quality training programs needs to increase. No parent would expect their child to become literate by taking grammar tests most of the time with very few lessons. Parents must be educated to appreciate that physical literacy is obtained in the same way; lots of practice with the occasional testing of oneself in a competitive situation.

In Summary

This discussion paper is not saying competition is bad; however, it is acknowledging that too many competitions can inhibit athlete development. As well, not enough competition hinders development; therefore, each sport, through their LTAD, must find the optimal number of competitions at each stage. This will ensure competition is not overemphasized, and that training programs do not focus on tactics and decision making at the expense of developing the five S's of training (Speed, Stamina, Skill, Strength and Suppleness). By not developing these capacities at the Learning to Train and Training to Train stages, our athletes are short-changed; their long-term potential becomes limited and many of them are excluded and cut before they can reach their best performance levels. Being excluded or 'cut' from a team / sport is just not fun!

If sport in Canada is to excel internationally, and / or increase rates of physical activity, the importance of rationalizing the system of competition cannot be over-emphasized! It is our hope that this dialog will ensure that the focus on competition in Canada shifts, enabling it to become a powerful servant, rather than a poor master!

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