

Benefits of Being a Multi-Sport Goaltender

The season has ended, and I'm sure most of us are enjoying a bit of a breather away from the arena. A hockey season is a demanding time for players, coaches, and parents alike, spending anywhere from 4 to 7 days a week at the arena, and depending on the level of play it may mean extra team functions like workouts, yoga, study groups, power-skating, fundraising, hockey academy, skills sessions, mental training, dynavision, dryland training, the list goes on. In this article I would like to address three main topics: Goaltending is a technical position but it also requires a strong read of the play and ability to anticipate shots and recognize patterns unfold, in other words it is largely a conceptual position. The first point will look at the specifics of the goaltenders playing environment, and why we can't be so quick to apply empirical solutions to conceptual challenges with training. The second is encouraging kids to participate in several different sports aside from hockey, especially in the spring and summer months once the hockey season is over. Developing a robust athlete is a major focus, and the athletic goaltender is defined. The third point examines the research on Early Sport Specialization (ESS), and lists the perceived benefits as well as the actual detriments and issues with it, especially with regards to goaltending. Goaltenders must be able to move, and because of the dynamic nature of the game it is near-impossible to train for every potential situation that may occur in a game, which is where having the solid athletic foundation will allow for goaltenders to adapt and react most appropriately to new and rapidly changing situations.

The Goaltender's Environment

The movements that make up skills emerge from three interacting factors: the task, the individual, and the environment. The environment has regulatory features like the speed of the puck and shot origination, as well as non-regulatory features like crowd noise, distractions, circumstances surrounding the game, home or away, etc. In other words, features that may affect performance but *movement does not have to conform to these features* (if only it was as simple as that!).

The environmental context in which these skills are performed is a determining factor in how the skills are practiced. Is the environment predictable, like performing a gymnastics routine on a mat, or is it constantly changing and unpredictable like playing hockey? This question leads to the terms "open-skill" and "closed-skill" with regards to the predictability of the environmental context.

"Open" vs. "closed" skill sports & activities

Many activities we participate and compete in are referred to as “closed-skill” activities. Essentially, a closed-skill activity is one with a predictable environment where the response can be planned. The focus is largely on executing some skill or routine without reacting to a *changing* environment. Playing a musical instrument, executing a gymnastics or figure skating routine, are examples of closed-skill activities, where the instrument or ice surface is for the most part unchanging and success depends largely on how well a practiced routine is executed. That is not to say they are any less difficult to perform, when in fact the songs and routines are highly technical and complex, but the reactionary component and demand for use of a creative or novel movement pattern is not the same as in an open-skill activity.



(Photo from http://photos.oregonlive.com/photo-essay/2012/07/london_olympics_us_finishes_fi.html)

An “open-skill” activity is one performed in an unpredictable environment. Anything from chasing a butterfly, returning a punt, and of course goaltending are open-skill activities. The outcome is not dependant on how well an athlete is able to execute a set routine, instead it is largely dependent on how well an athlete is able to anticipate plays, read patterns, and react in often unorthodox ways to perform a task, like keeping a puck out of the net.

Hockey is a case where we can observe open and closed skills at work, sometimes occurring simultaneously. For example, a player coming in on a breakaway has a set move (the Datsyuk backhand toe-drag) they have practiced and plan to use. This is the closed-skill component, as all the shooter needs to practice the movement is a puck and sheet of ice, the move itself can be planned. However, if the goalie has managed to read the move somewhat, the shooter will have to react accordingly which might mean lifting the puck higher than usual to score. A shooter never knows exactly what the goaltender is going to do, which adds the open-skill component to something as seemingly routine and planned like a breakaway.



(Photo from www.hookedonhockeymagazine.com/frozen-memories-the-datsyukian-deke/)

Goaltending is almost exclusively an open-skill position. We're back there reading and reacting to what is happening in front of (and behind) us. That is not to say there is no room for proper technique, in fact the open-skill nature of the position is a large reason we practice technique so much. When our mental arousal rises because of a high-pressure game or situation, we want to be able to fall back on good habits and stay composed to do our jobs. Having the proper technique is absolutely important in many situations, like quickly executing a tight RVH for a sharp-angle shot, but the ability to read a play and disengage one aspect of "proper technique" when appropriate is also critical due to the open-skill nature of the position.

The fact that goaltenders play in an unpredictable environment is not groundbreaking information for anyone. The purpose of the above section was to define and describe the nature of open and closed skill activities, and highlight how they can co-exist. Goaltending is not simply a technical routine to be planned and followed as is the definition of a closed-skill. Goaltenders are reactive, adaptive, always adjusting, reading the play and patterns, and optimally reacting to perform the task of stopping the puck. Practicing the optimal parameters of the movement is important but given that it's impossible to replicate each and every possible situation we'll see in a game, we can't be so quick to label "unorthodox" as "improper". There is no doubt a technical component to the position, but goalies aren't robots and in the advent of another equipment downsizing, the block-mode robotic style is more easily exposed than ever before.

Given the unpredictable and open-nature of the position, **I don't believe we can totally address the conceptual challenge of "stopping the puck" with empirical solutions, like conforming to set "save algorithm" or technique alone. The solution itself must also largely be conceptual in nature, which can call for unorthodox movements never before practiced, and which also may not ever be replicated in the future.** But how does a young athlete train

for this? It starts in the younger developmental years, anywhere from 5 to 12 (and beyond) years old. Athletes at younger ages will benefit more from participating in several different sports to better develop their ability to react to an environment while developing a wider range of motor skills complimentary but not specific to goaltending. Encouraging exclusive participation in a single sport or single position from early ages may actually be limiting the motor skill development to the narrow window of skills and movement used for that particular position, and may put the child at a disadvantage later on especially if they're participating in an open-skill position like goaltending that calls for a high degree of athletic, creative, novel, and unconventional movement.



(Photo from <http://ftw.usatoday.com/2014/04/penguins-red-wings-shootout-nhl>)

Develop an Athlete

So why is it important to have a **robust athlete** under the goalie equipment? Because it's impossible to replicate all of the situations a goaltender will face in a game. Some situations are more common and should be practiced, like the mechanics of executing RVH for a sharp angle shot or tactical guidelines for movement to new angles, just to name a few. But there are going to be scrambles, rebounds, rushes, deflections, weird bounces, or any number of things that calls for a reaction and a novel movement sequence that has never been done before. Establishing and strictly relying on an exact technique is not ideal in an open-skill sport or position as goaltenders may be feel they've done something wrong if unconventional movement had to be used to get a piece of a shot. Practicing the parameters of a save or movement is probably more ideal, where good habits are established but there is also room for deviation if the situation requires it. Having an athlete under the goalie equipment rather than a goalie robot under the equipment will allow for better adaptability if and when unconventional movement has to be used.



(Photo from <http://thepinkpuck.com/wp-content/uploads/2015/02/CGY-VS-LAK-416.jpg>)

Anytime we see someone take a free-throw shot they are using a very specific and practiced motor movement, one that is likely to look almost identical with each shot as there is no reason to deviate from the conventional movement if that technique works for them. There is no reason for a basketball player to suddenly use an unconventional arm movement during their free-throw as their environment is not changing at that time. The ball, the distances, the heights all stay the same with each free-throw situation (the changes that we would see would likely be due to increased tension or arousal if it is an important shot, in which case the player would try to use psychological tactics to reduce their tension and allow them to use the movement they have practiced and that they know works for them).

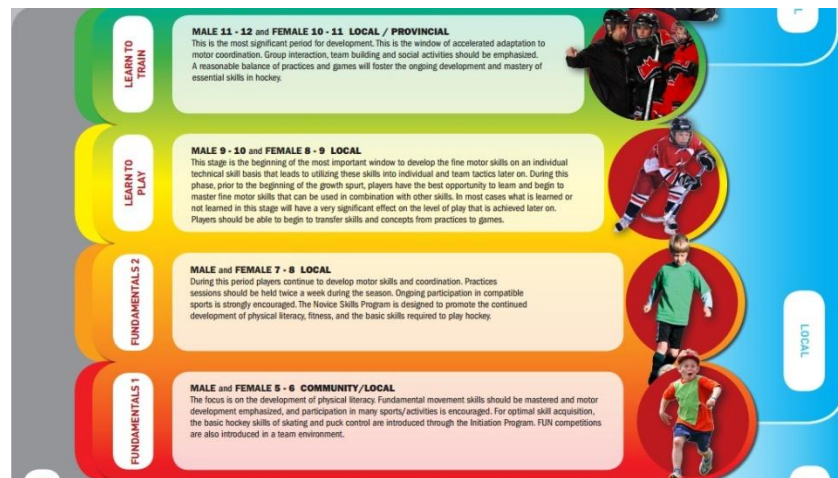


(Photo from <http://www.kusports.net/boards/viewtopic.php?id=8954>)

Given the unorthodox and unpredictable nature of the goaltenders environment, having a solid athletic base underneath the equipment is proving to be more and more valuable. Hockey Canada

has done an excellent job with recognizing the importance of developing a robust athlete instead of having hockey as the sole focus from the kid's inception to the sport.

From ages 5 to 8 the focus is on developing physical literacy, motor skills and coordination. Physical literacy is defined as “the mastering of fundamental movement skills and fundamental sport skills that permit a child to *read their environment* and make appropriate decisions, allowing them to move confidently and with control in a wide range of **physical** activity situations”. The Long Term Player Development (LTPD) model encourages mastering fundamental movement skills through participation in many sports and activities, with an emphasis on motor development.



(Photo from <http://www.hockeyeasternontario.ca/pages/players/ltpd.htm>)

Many factors are involved with learning a new skill. The skill that is learned is typically performed in a specific environment, some environments stay constant and predictable like hitting a ball when playing T-ball, and some environments are always changing and unpredictable like playing hockey. When first learning a new skill, the environment it will be performed in has to be a huge consideration when training. Some skills are more technical and precise and require a narrow training focus, and others are more dependent on reacting to the environmental context.

Skills and movements all lead to a more general term, **Motor Control**. *Motor control* is a general overview of how our neuromuscular system functions to activate and coordinate the muscles and limbs involved in the performance of a motor *skill*. But with 650 skeletal muscles in the human body, the central nervous system is faced with the monster task of organizing our joints in to coordinated functional movement.

For goaltenders, physical literacy and motor development are major factors in skill development, as the ability to read the environment and emerging patterns leads to anticipation, which allows for quicker, more efficient processing, and more efficient movement. This is where we see

goaltenders developing their tactical game with less emphasis on the technical. As goaltenders get older and start to play at higher levels, the differences between elite and near-elite are more to do with how well the goaltender understands the game and is able to anticipate plays. This is even evidenced in Hockey Canada's approach to training for different age groups in their pyramid diagram that shows how strategy and team play are major focuses of training in the older age groups, when the younger groups are almost exclusively focused on developing technical skills and individual tactics. The priorities of training change as the athlete gets older, but like any hierarchy progression to the next level is not possible without becoming proficient at the lower levels first. It is difficult to teach/learn the technical skills of goaltending if the fundamental skills of skating and puck-handling aren't developed first.



Goaltending obviously requires a huge amount of dedication and investment physically, psychologically, financially, and socially to reach elite status. But careful consideration to the type of practice should be a primary focus during the early years. Canada Sport for Life has a training model that highlights the appropriate training habits of Canadian youth called the Long Term Athlete Development (LTAD) model, based on the same principle as Hockey Canada's LTPD model. It proposes six stages of athlete development:

- 1) FUNdamental stage
- 2) Learning to train
- 3) Training to train
- 4) Training to compete
- 5) Training to win
- 6) Retirement

Hockey Canada's LTPD model aligns the age of the players to these 6 stages:

- 1) 5-10 years old
- 2) 11-12 years old
- 3) 12-16 years old
- 4) 16-17 years old
- 5) 18+
- 6) Retirement

To become an elite athlete, specialized sport training is absolutely necessary, but it has to be at the right stage in an athlete's development. In other words, the *athlete* has to be developed *before* specialization should occur. The focus of the early stages is encouraging activity in many sports in a fun, stimulating, challenging, and engaging manner. The later stages focus on the more sport and position specific skills, and the training gets more intense. Understanding *when* to specialize is imperative to promote long-term success for the athlete. **The “training to train” stage is about the time when training becomes more specific to the position, and specific muscle groups, skills, and neural recruitment are becoming a major focus. This type of training starts at 12 years old, with training at earlier ages being thought of not so much as training, but physical activity.** I am completely on board with the thought that reaching elite status requires intense specific training at some point and a willingness to do so, but the athletes overall motor-skill development must not be hindered because specific training started too early.



(Photo from <http://thehockeywriters.com/nhl-offseason-training-so-much-for-summer/>)

Ingoalmag.com published an article this past July just after Braden Holtby of the Washington Capitals signed a 5 year, \$30.5 million contract. The title of the article was *Braden Holtby Wasn't Full-time Goalie Until Age 12*, and the author Kevin Woodley pointed out a few very important points. Goalie guru Mitch Korn (current goaltending coach of the Washington

Capitals) believes that no kid should commit to playing goal full-time until at least peewee, the 11-12 year old range. Korn points out that there's nothing wrong with the kids trying the position out for a week at a time throughout the season, but it's important to learn how to skate first. Kids confined to the crease at an early age simply don't cover the area and distance to practice the fundamental skating skills required to build off when they learn to skate like a goalie. The article then goes on to discuss developing the motor skills and physical literacy before learning the specialized technical skills of goaltending. (Article at <http://ingoalmag.com/general/braden-holtby-wasnt-a-full-time-goalie-until-age-12/>)



(Photo from <http://goaliestore.com/board/forum/equipment/equipment-forum/108969-official-2013-2014-gear-sittings-thread/page136>)

The Athletic Goaltender

Ingoalmag.com published another terrific article in December 2015 where Clare Austin and Dan Stewart define the “athletic” goaltender. To many, a goaltender is athletic if they are constantly making saves sprawled out or desperately reaching for a puck. While these situations are inevitable in a game, this is probably a description of a goaltender who often misreads the play and is out of position, or has poor core strength, balance, or mobility. The term athleticism with goaltenders is not so much a descriptor of a perceived Hasek-style of play anymore (Hasek was actually incredibly calculated with his movement, as unconventional as it may have appeared), but more in line with robust athletic fundamentals like skating ability, core strength, balance, agility, anticipation, play reading ability, even psychological attributes like staying relaxed under pressure, and play-reading ability. As Dan Stewart describes, a goaltenders athleticism is “a combination of speed, power, balance, eye/hand coordination, control of body and each of its parts, and the ability to combine these things while playing the position. Being a great skater takes athleticism, as does the ability to sprawl across the net to make a save in desperation.”

(Link to article: <http://ingoalmag.com/features/goalies-101-athleticism-isnt-what-you-think-it-is/>)



(Photo from <http://o.canada.com/sports/stanley-cup-new-york-rangers-vs-los-angeles-kings-game-3>)

It takes more athletic ability to move around in control and react appropriately to shots and make saves look easy, not to mention recovering quicker when things do get “unconventional”. A better developed set of motor skills and physical literacy will allow goaltenders to use their more developed coordination and auxiliary muscles to add control to the ever-changing and unpredictable environment. The point is, goaltenders are not relying on a specific muscle group that drives a specific movement the same way a closed-skill sport or activity would. It’s full-body involvement from the toes to the eyes, and the types of situations we can potentially face in a game are limitless. There is no such thing as “if situation “A” happens, just use this save and you’ll be successful 100% of the time”, goaltenders don’t have that luxury. Goaltenders have to be ready to react in a way that’s as controlled as possible, putting the goaltender in the best position to make the save and recover afterwards. This makes the athletic components described earlier so important to develop at early ages, and somewhat paradoxically, attempting to develop these components (muscle strength, balance, coordination, agility, power, etc.) by exclusively relying on goaltender-specific training is actually doing the young athlete a disservice and limiting overall athletic development.



(Screenshot from <https://www.youtube.com/watch?v=ikeCcQg6sf4>)

If a young goaltender seeks the expertise of a goalie coach, they are going to be taught the fundamentals of the position from the stance, T-pushes, shuffles, c-cuts and rotations, butterfly technique, tracking pucks, recoveries, etc. They will not likely be instructed to practice saves like the one Jonathan Quick (or Carey Price) is using in the above photograph, and for good reason. That is just one of countless situations faced where Quick had to get something in front of the puck and in that case it worked, and we witnessed a highlight-reel save. The technique he used probably wouldn't be considered proper form by many, so logically as a goalie coach it makes little sense to teach that particular save whenever a rebound comes off the blocker side pad. In that particular situation, the puck was deflected right in front of Quick which led to him kicking a rebound out to Brassard on the doorstep. If the "conventional" save selection was used, probably a back-side push to the middle to get a blocker on the shot, even someone as robust in his skating ability and leg strength like Jonathan Quick probably wouldn't have made it in time to make the save. Brassard's shot came so fast that Quick was forced to rely on his reflexes and athleticism. Without the core strength to reach with the paddle while extending his legs and keeping his upper body upright, or the flexibility to reach as far as he did, or the coordination to get a piece of the puck with the back of his stick, or the balance to stay tall instead of falling back, or the quickness to get his pad and stick over, or any number of other athletic attributes, that save would not have been made. Being an extremely talented athlete with highly developed motor skills allows goaltenders like Jonathan Quick to make those saves where others wouldn't, and I highly doubt Quick routinely practices that particular save or any number of incredible unconventional saves he regularly makes. Likewise, highly developed athletic ability will allow goaltenders to learn new skills and techniques more efficiently, and to apply them in control in the right situations.

This is why a multi-sport component in a young athlete's life is so important to their development and performance in a sport or position they may choose to specialize in later on. Along with the limited range of motor skill development for a physically demanding open-skill position, there are other drawbacks to early sport or position specialization like psychological burnout and overuse injuries.

Early Sport Specialization (ESS)

Early sport specialization or ESS is defined as intense year-round training in a specific sport, to the exclusion of other sports at a young age. Rest or time off is minimal, there's a high amount of structured training with a misguided emphasis on physical development. There are some extreme examples as seen in the Netflix documentary *Trophy Kids*, and although that might be perceived as the parents simply seeking bragging rights for raising an elite athlete, it would be at the extreme end of the ESS continuum. ESS does have a time and a place, however it is with highly technical and closed-skill activities, not so much with goaltending. Thankfully, there is accumulating research that argues against early sport specialization, especially considering the common negative effects like overuse injuries and psychological burnout.



Participating in many sports at an early age does far more to develop a wide variety of motor skills that simply cannot be developed if one sport or position is committed to too early. Specializing at a young age is actually more likely to stall athletic development as the motor skills required for any one sport or position are repeatedly practiced, essentially only focusing on a thin sliver of all of the athletic components like balance, muscle strength, muscle endurance, agility, coordination, etc. at the expense of the wide range of all others.

Early specialization, The 10,000 hour “rule”, and goaltender development

A lot of the arguments in favor of early sport specialization are actually based on a misinterpretation of a theory made popular by Malcolm Gladwell in his book *Outliers*. In it he talks about the “10,000 hour rule”, where expert performance is achieved only after starting deliberate practice at an early age and accumulating close to ten-thousand hours of practice and competition. This was actually an earlier theory put forth by Swedish psychologist Anders Ericsson, where he investigated what factors helped predict expert performance. His results showed that a huge investment of time dedicated to deliberate practice (deliberate practice

defined as specific, focused, skill-based practice) starting from a very young age (he estimated 5-7 years old) was the strongest predictor of achieving expert or professional performance. This led him to form the 10,000 hour rule, since it was after this amount of time where performance was at or near expert levels. However, the original studies were **NOT** performed on athletes, especially those involved in open-skill sports or positions like goaltending. Ericsson's studies were focused on musicians, mathematicians, and chess players, all of which perform (largely) closed-skill, non-athletic activities.

There are some areas of athletics where the 10,000 hour rule is more appropriate. Highly technical sports like rhythmic gymnastics, diving, and figure skating are examples since the nature of these sports require peak performance at a young age. Something to note is these are largely closed-skill sports where performance is judged based on how well the athlete executes a set routine on a fixed, predictable playing surface. Again, not to take anything away from the athletes that perform these highly complex sports, but the characteristics of the performing environment is significantly different from that of goaltenders. *[As an aside, this may be a reason for the high frequency of more evolved pre-game routines that goaltenders are known to have. A gymnast has far more control over the outcome of their performance than a goaltender does, much of it has to do with how well they execute their routine during competition. Goaltenders are arguably the least in control of the outcome of a hockey game as there's nothing they can do when the puck is in the other end, and everything that happens up until the puck is actually released is largely out of the control of goaltenders as well. One way to relieve some anxiety and pre-game jitters is to become involved in a set game-day, pre-game, or pre-shot routine, something the goaltender has complete control over executing, and something that has some functional value built-in to increase the chances of being successful.]*

The 10,000 hour theory is a neat-and-tidy idea of what it takes to become an expert at something, which is what led to the over-application of it as it made its way to the sports training world. This is not to say that being an expert at math, guitar, or chess is easier than developing an elite goaltender, instead I'm saying we **can't attempt to solve conceptual challenges with empirical solutions**. Encouraging a young child that has never played goal before to commit to the position at an early age, and relying on the number of accumulated hours spent with pads on to develop the athletic abilities necessary for elite goaltending in an unpredictable, always changing environment may be putting the child at a disadvantage. The empirical "solution" of accumulating 10,000 hours alone will not work in a position governed by pattern recognition and understanding novel concepts of the game to read the play, and that requires a wide range of athletic abilities to react.

The evidence also supports the idea that high levels of training for a single sport or position during childhood and adolescence will **not** improve overall achievement and will increase the athletes risk for injury compared to those who participate in several different sports (Feeley, Agel, & LaPrade, 2015). Take a look at this comparison:

TABLE 1
Evidence Regarding Early Sport Specialization to Achieve Elite Status^a

Study	Sport	Athletes	Study Conclusions
Barynina and Vaitsekhovskii ⁵	Swimming	Elite Russian swimmers	Swimmers who specialized before 11 years of age spent less time on a national team and retired earlier than late specialists.
Carlson ⁹	Tennis	10 elite, 10 near-elite	Elite players began intense training and specialized later than near-elites (after 13 years vs 11 years).
Lidor and Lavyan ³⁰	Multiple sports	63 elite, 78 near-elite	Elite athletes were more likely than near-elites to begin intense training after age 12 and were more likely to have played more than 1 sport in their developmental years.
Moesch et al ³⁸	Multiple sports	148 elite, 95 near elite	Elite athletes began intense training at a later age vs near-elites. Near-elites has more hours of training at a young age (9-15 years).
Gullich and Emrich ²⁰	Olympic sports	1558 German athletes, elite and near-elite	Elite athletes began intense training and competition in their sport later than did near-elites. More elites participated in more than 1 sport from age 11 years than did near-elites.

^aAdapted from Jayanthi et al.²⁷

Notice the findings listed under the *Study Conclusions* heading. The common theme is that elite athletes in several different sports began their specialized training after age 11, and participated in multiple sports (or multiple positions) up until that time. The exact nature of the training is not the important factor in the early developmental years (11 and younger). We're finding that if the willingness to be active, participate in many sports, and train for different sports carries over to the specialization training once that stage is reached. Studies looking at elite athletes found that during their younger developmental years, they actually spent less time with intense specialized training than non-elites did, but by the time they hit 21 years of age, the elites had accumulated more time training in their main sport. As mentioned before, to reach elite status absolutely requires intense and specialized training, but before the age of 12 is probably not the time to specialize.

Conclusion

I'm not saying don't play goal and don't see a goalie coach. I am suggesting that before the athlete commits to goaltending full-time that they have spent some early developmental years (between 5 and 11 years old) learning the basics of hockey like skating, stopping, puck-handling, turning, passing, shooting, etc. There is a reason why the progression starts with skating, then basic hockey skills before introducing the kids to specific positions, especially goaltending. Skating is hard enough to learn on without the bulky goalie pads on, especially when kids are still learning the fundamentals. A common concern I get from parents is that their young hockey player has committed to goaltending full-time too late in the later atom or early peewee years. A later commitment to the position is actually more likely to benefit the athlete later on, although I understand the concern. A robust athletic skill-set is required to be a good hockey player, and solid fundamental skating and other hockey skills are required to be an elite goaltender.

If you are a parent of a young goaltender (below age 12) who has committed to the position for a couple of years already, I would suggest encouraging different positions in the spring and summer months, and even throughout the regular season, as well as a wide variety of sports during the spring and summer months. Easier said than done, but the reasons why are all listed above. These early years on the ice are so important for a child's motor skill development, and we should be encouraging a wide range of activity rather than narrowing in too early. Specializing too early with structured training limits the motor skill development that goaltenders need in the open-skill, unpredictable nature of the position.

Thanks for reading,

Evan Kurylo

For any questions, comments, or concerns, feel free to contact me at ek.coretexgoaltending@gmail.com

Works Cited

- Epstein, D. (2013). *The Sports Gene: Inside the Science of Extraordinary Athletic Performance*. Westminster: Penguin.
- Feeley, B. T., Agel, J., & LaPrade, R. F. (2015). When Is It Too Early for Single Sport Specialization? *American Journal of Sports Medicine* , 234-241.
- Ferguson, B., & Stern, P. J. (2014). A case of early sports specialization in an adolescent athlete. *Canadian Chiropractic Association* , 377-383.
- Myer, G. D., Jayanthi, N., Difiori, J. P., Faigenbaum, A. D., Kiefer, A. W., Logerstedt, D., et al. (2015). Sport Specialization, Part 1: Does Early Sports Specialization Increase Negative Outcomes and Reduce the Opportunity for Success in Young Athletes? *Sports Health* , 437-442.
- Myer, G. D., Jayanthi, N., DiFiori, J. P., Faigenbaum, A. D., Kiefer, A. W., Logerstedt, D., et al. (2015). Sports Specialization, Part 2: Alternative Solutions to Early Sport Specialization in Youth Athletes. *Sports Health* , 65-73.
- Siebenrock, K., Kaschka, I., Frauchiger, L., Werlen, S., & Schwab, J. (2013). Prevalence of cam-type deformity and hip pain in elite ice hockey players before and after the end of growth . *Sports Medicine* , 2308-2313.

Recommended & supplementary reading

Between Two Worlds: Discovering new realms of goalie development by Justin Goldman

Justin travels all over Europe and North America to the goaltending “hotspots” to learn and describe the development culture in other parts of the world. A notable finding was in Finland, where he noticed goaltenders receive qualified training at every practice during the season which freed up the summers and allowed the young athletes to participate in different sports, and spend some time away from the arena. They found this broader athletic development was greatly beneficial for the goaltenders, especially with regards to having more active hands.

Beating Hockey Burnout by Mike Toth

A short article that highlights the fact that many of the top players and goalies in the NHL grew up playing different sports that actually helped them on the ice. The multi-sport childhood is also a prophylactic measure against overuse injuries and psychological burnout. Article can be read at <http://hockeynow.ca/major-junior/beating-hockey-burnout>