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*Samantha Mewis #3 of the United States celebrates with her teammates after scoring a goal in Orlando, Florida.  
(Photo by Douglas P. DeFelice/Getty Images)*

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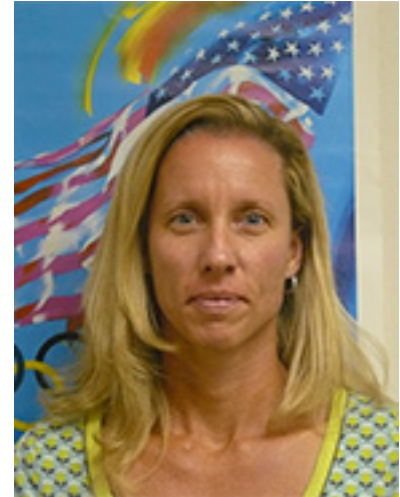
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Message from the  
**Interim Director of Coaching**  
**Christine Bolger**



Welcome back Olympic & Paralympic Coach Readers!

We hope that you are staying safe and healthy and are looking forward to an exciting summer! As Team USA athletes set their sights on Tokyo 2021 and Beijing 2022, we are excited for the next 10 months filled with some great action for our Team USA fans through qualification events and the Games themselves. We continue to be inspired by Team USA athletes and their grit, resilience, and patience as they prepare for a Games unlike any other.

As you can see from who is authoring this welcome message, we have had some transition within our USOPC Coaching Education Department. We're grateful to our teammates who have moved on, and we feel well-positioned to welcome new teammates to carry on the quality work on behalf of the NGBs and HPMOs. We are currently reviewing candidates for a new director of coaching who will help set a strategic direction as we continue to support Team USA athletes through Team USA coaches. In the meantime, we are excited to continue to provide meaningful coach development and learning opportunities, and to expand our offerings through the Coach Accelerator Program (CAP) and the National Team Coach Leadership Education Program (NTCLEP).

For this issue of *Olympic & Paralympic Coach Magazine*, we welcome back a few familiar expert contributors, including USOPC sport physiologist Tim Pelot, Jim Davis from The Good Athlete Project, and Phil Ferrar from People Academy. We're also excited to start a four-part feature with Andrea Becker and Lenny Wiersma who interviewed some of our national team coaches and will share what they learned about what makes them not only great coaches, but great humans. Throughout this issue, you will see some common themes around communication and connection, which are keys to any coach's success.

We hope you enjoy the read. As always, please let us know what you think!

Yours in sport,

Christine Bolger

## The Ultimate Life Lesson: Teaching Healthy Communication through Sport

### Jim Davis, The Good Athlete Project

Open, honest and thoughtful communication is the standard of successful organizations. Strong communication is all-enhancing; weak communication can lead to misunderstandings, poorly laid plans and toxic cultures. Coaches building strong cultures know that prioritizing healthy communication leads to heightened levels of performance. In doing so, those coaches impart one of sports' most transferrable life lessons.

Nick Saban, in his book "How Good Do You Want to Be?", heralds communication as an essential skill. He notices that all the "great coaches in sports" share something with "the grandest politicians, war generals, [and] entrepreneurs...none lacked the ability to send and receive messages," (p. 44). The point guard directing traffic, a coxswain steering a course and a CEO guiding her team through an economic downturn all practice the same core skill.

The Olympic and Paralympic coach hoping to teach life lessons will surely take note. They will also recognize that the skill of communication is not an automatic byproduct of the athletic environment. This work must be done intentionally. Communication built through sport depends on creating a culture of growth, identifying rules of engagement, and teaching for transfer.

#### A Culture of Growth

Ed Catmull, the visionary leader and former president of Pixar, urges professionals to create an "environment where people want to hear each other's notes even when those notes are challenging." In other words, a climate wherein the participants are able to maintain a growth mindset.

Growth mindset is a schema, or a mental construct, that has the power to influence our thoughts, decisions and behaviors. It plays a role in how an athlete prepares, how they engage, and how they respond to the feedback of competition. It influences their response to challenge and their ability to self-reflect in the face of setbacks.

Where some lose games and allow self-doubt to creep in, others lose and begin the process of self-reflection. They are able to calmly evaluate the situation. They see opportunities instead of setbacks. Self-reflection allows for the honest analysis of processes and methods of preparation. From there, an athlete has the opportunity to grow.

Where a fixed mindset might limit one to believing they are "good" at basketball or "bad" at basketball (believing that their talent is immobile), a growth mindset would allow one to be exactly where they are as a basketball player – neither good nor bad, necessarily – and evolve their skills as needed. A fixed mindset is limiting. The understanding that skills, states, and dispositions are malleable is empowering. This process occurs in communication as well. One does not have "bad" ideas. They might have an idea that does not fit the desired outcomes of the group, but a culture of

growth will allow them to address the concern and adapt.

Creating a culture of growth begins with the language coaches use to frame situations. Every practice, every drill, every film session is an opportunity to grow. Coaches should never suggest that an athlete is unable to perform a skill; instead, they will identify that the athlete has the opportunity to improve that skill, if they put in the work. Once again, this applies to communication.

Coaches should use growth-based language whenever they address the team. They should empower their leaders to communicate similarly. Many coaches we work with have identified leadership groups on their team (captains, leadership councils, or simply hand-picking a group of influential players). Within those leadership groups, coaches have the opportunity to discuss real-world situations which apply to their teams. Often, coaches will use case studies to give their athletes a chance to practice using the language of growth.

### Sample Case Study

*A basketball captain stays late after practice, shooting extra free throws to perfect his shot. When he returns to the locker room, he sees one of his teammates on the bench with a towel over his head – he is noticeably upset. When the captain asks what is wrong, his teammate says that he is upset that he has not cracked the starting lineup. He is frustrated, doesn't know why the coach isn't playing him more, and doesn't know what to do. As the captain, how might you respond?*

Coaches coach players through growth-based language just like they would coach a new defense. If done well, the culture of growth will allow athletes to engage in open, thoughtful, and often challenging discussions.

In the Fall 2019 edition of the *Olympic & Paralympic Coach*, we discussed the opportunity for a coach to incorporate lessons in growth in ways that aligned with developmental stages. During the period where much of the meaningful coach-athlete interactions occur (adolescence and early adulthood), leading psychologists suggest that great influence is possible (Davis, 2019).

Jean Piaget noted that, within these formative years, young people become capable of hypothetical thinking and inferential reasoning. This is a meaningful shift. For the first time in their lives, a young person can successfully imagine a future, and envision how their decisions and behaviors might impact that future (Mitchell, et al, 2007). The ability to infer, imagine and project into the future is essential to the development of a growth mindset.

In other words, coaches are uniquely positioned to create a culture which fosters positive relationships to growth. If that coach outlines rules of engagement and deliberately teaches for transfer, they will equip their athletes with a powerful life lesson.

### Rules of Engagement

In September of 2016, when Colin Kaepernick took a knee to call attention to racial inequality, people did not know how to respond. There seemed to be a global recognition that something

meaningful had occurred, but they could not quite identify how to name it. Some were outraged. Some were empathetic. Many were confused. Clearly, the situation needed to be thoughtfully unbraided. Thoughtful discussions can be incredibly difficult, especially when emotions are running high, though they can be made more effective by identifying specific rules of engagement.

I was coaching a football team just outside Chicago as the Kaepernick debate raged on television and social media. Although we had a game to prepare for, I decided to switch up the practice schedule to address the situation as a group. This was too important to slip into a quick post-practice comment.

We allowed the athletes to change into their practice pants and jerseys, then we met in a vacant classroom. Having the athletes wear their jerseys was important. We wanted to remind them that they were a team. We wanted this to feel like a discussion among a group of people with a shared purpose, not individuals defending positions against one another. So they all came in uniform.

We then set the rules of engagement. We told them that a sharing of ideas and perspectives was in order, that there were no winners or losers in this conversation. We would be respectful of our teammates' ideas and while we do not have to agree, we do have to be willing to learn. We outlined the Good Athlete Project's O.C.D. communication style. O: make Optimistic assumptions. C: Clarify as needed. D: Don't talk negatively about one another.

The coaches were not there to impose an opinion, but to moderate and assist with the shaping of ideas.

The way the conversation is labeled was essential. Specifically, by calling it a conversation instead of a *lecture*, acknowledging the potential for a debate instead of a disagreement, and being explicit about the intention to share ideas instead of trying to convince someone else to agree.

Framing the conversation in this way contributes to a sort of group-growth mindset. A 2016 study by Tsai and Bendersky shows that using the term debate instead of disagreement made participants "more receptive to dissenting opinions." Framing the conversation as a potential disagreement might put participants on defense, entrenching them in whatever opinion they brought to the table. Calling it a debate allows ideas to flow, barriers to come down and, through that vulnerability, the potential for innovation, creativity, and growth.

The conversation went on for the duration of our allotted practice time, but the young men could have gone on all night. Our staff was so impressed by their curiosity, their empathy, and the complicated but respectful questions they asked each other.

I could not tell you who we played that weekend or if we won or lost, but I remember how impressed I was by our team's ability to communicate, and I will always be proud of them for that.

The Kaepernick situation was on everyone's mind, so we had to address it, but the stakes do not always have to be so high. A coach can open a discussion about college football players opting out of bowl games. They can discuss whether or not players should demand trades or be able to wear

a different color shoe than their teammates. A coach should be on the lookout for conversation opportunities.

Now and then, we will open a debate regarding the best pizza topping or whether or not Lebron James could have been an All-Pro in the NFL. Have fun with it. Even light-hearted practice can set the stage for healthy communication down the road.

After all, the aim of any life lesson learned through sport is its application “down the road” when the stakes apply to real-life situations, rather than points on a scoreboard. The lessons learned about healthy communication have to be transferrable.

Teaching for Transfer

Teaching for transfer is easier that it sounds, but too often overlooked. The lessons learned through sport do not automatically become the “life lessons” some might assume. The distribution of life lessons depends on coaches being explicit about transfer.

Physical toughness built through two-a-day practices in the August heat will not necessarily transfer to resilience in a professional endeavor. Shooting extra baskets after practice might show a desire to improve, but it is not always clear how that will transfer to other areas of an athletes’ life. What is the professional equivalent of a made basket? How does additional practice transfer to a romantic partnership?

To ensure the transfer of lessons learned through sport, include these three essential keys: **identification**, **reflection** and **projection**.

First, a coach will work with the athlete to **identify** the quality they have demonstrated or are working toward. Explicit identification of the quality improves one’s ability to intentionally apply it elsewhere. After identifying the capacity, coaches and athletes engage in the two-step process of reflecting on previous use of the quality then projecting into the future to envision how and where it can elsewhere be applied.

| On transferring character qualities from sport to life |  |   |
|--|--|---|
| 1) Identify  | 2) Reflect   | 3) Projects                                   |
| Name the quality used                                  | Reflect on previous times if you have used the quality | Imagine the next time the quality can be used |

Regular examples of this style of framing occur at the powerlifting meets we host, where we are highly intentional about these keys. After the athletes have completed the squat flight, we address the crowd and the athletes and ask them to do a brief mental exercise. We ask the athletes to return to their mindset just a few minutes prior; we ask them to imagine themselves at the bottom of a squat. We guide them through a mindful moment: “there, at the sticking point, when the work is hardest and it would be easy to give up, to let the spotters grab the bar and take the strain off of your body, you kept going... you chose the harder route. Why?” we ask them. And, “when you did

so, what was the character quality in play? Was it grit? Was it resilience? Name that quality.” Naming is the first key.

The second key is **reflection**. We encourage athletes to recall a moment in their lives when they could have used more of the quality they just named. Take grit, for example. “When, in your life, could you have used more grit? Now, think of a moment that makes you proud of how much grit you demonstrated in order to push through.” Athletes identify this as a powerful moment in the exercise. We have heard some inspiring stories. There have been tears.

The final step in teaching for transfer is **projection**. We ask athletes to think of some of the goals they have for themselves. Goals can be athletic, professional, relational, or anything of value that they are inspired to work toward. We ask them to envision a moment where, in their pursuit of those goals, they might need to once again enlist grit. “Know two things,” we say, “first, you are building a reservoir of that capacity by being here today and working hard, so congratulate yourself for that.” We then remind them to “be empowered by the fact that you have done it before, you’ve used that quality to push forward and pick yourself up, and you can certainly do it again.”

It is important to know that this three-step method was built through research in the neuroscience of memory encoding and memory retrieval. To avoid going heavily into the science, it is easiest to picture the wildly complicated pathways sprawling across the brain – from the frontal cortex to the amygdala to the hippocampus and everywhere in between – as a forest. Imagine the brain as a dense forest.

Originally, there are no pathways in the forest. Paths must be intentionally carved out. To serve the metaphor, imagine that an athlete’s memories are stored in one area of the forest. The longer they sit alone in that corner of the forest, without being accessed by the conscious mind, the pathways leading to it will grow over. Neural pathways, like paths through a forest, are dependent on electrical and chemical travel which, if not regularly used, will slowly become more difficult to navigate. But if they intentionally walk the path (during the reflection stage of this process), they keep it clear, easy to travel, and improve future access to those memories.

To empower an athlete, it is important to provide them a clear path to those things they might be empowered by, like their own previous demonstrations of grit. Those moments can become clouded by other emotions or simply forgotten over time. Reflection brings them back. Projection taps into the psychology of imagery, which has been identified as a tool to positively influence future performance in situations similar to the ones which were imagined.

So if reflection clears the path to accessing previous demonstrations of grit and projection begins to clear the path for future use, then naming the quality is like packing a bag. The athlete can now take the contents of that bag (a bag full of grit, in this case) to their next destination.

(Note: for those who might not think there is time or space to do this work, consider that these meets are as large as 200 athletes, with hundreds more spectators in attendance. There is time, if one makes time.)

## Life Lesson

When George Floyd was murdered in the summer of 2020, I had recently hired one of my former athletes as a coach. After one of the training sessions, we hung back to debrief, as usual. This time, we moved quickly from training to the conversation moving like a wildfire across the U.S. and the world.

“It’s like people don’t know how to talk to each other,” he said. That weekend, he was with a group of friends when the Minneapolis murder became the topic conversation. He said it was contentious and people were not truly listening to one another. He said it felt like people had an agenda they were trying to uphold instead of engaging in an actual conversation. “It’s like they forgot the rules of engagement,” he said.

I could hardly believe it. He had used the exact term we used together nearly four years prior. I was encouraged to see that the lesson had stuck. It was serving him in life beyond sports. Though the skill of communication is not an automatic byproduct of an athletic environment, it was clear that this young man had picked up some meaningful tools along the way.

The long term development of high quality human beings might be the most satisfying pursuit one can imagine. The reward of that pursuit will last far beyond the podium.

To all who have taken up the charge of coaching, thank you. And if you ever need support, or just want to talk through ideas, feel free to reach out to us on [goodathleteproject.com](http://goodathleteproject.com).

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*Jim Davis is the Director of the Good Athlete Project, the Director of the Illinois High School Powerlifting Association, and the Staff and Student Wellness Coordinator at New Trier High School. Davis is a former professional football player, a nationally recognized coach, and sought after speaker. He graduated from Harvard University, Northwestern University, and Knox College, where he was recently inducted into the Athletics Hall of Fame. In 2019, Davis was named NASA Powerlifting National Coach of the Year, and led his teams to National Championships in the Boys and Girls divisions. His keynote and invited speeches have taken him to the national stage at NSCA, ACSM, SHAPE America and other national conferences, as well as high school, college, and professional engagements. Check out more of his writing at [BeyondStrength.net](http://BeyondStrength.net) - to schedule a workshop or speaking engagement, find him on social media @ [coach4kindness](https://www.instagram.com/coach4kindness) or at [goodathleteproject.com](http://goodathleteproject.com).*

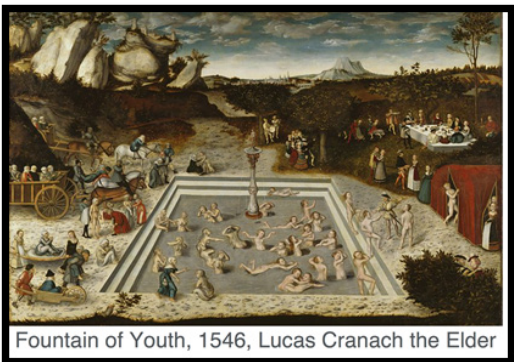
## Age and Performance: Fighting and Uphill Battle

**Dan Ostberg, MS, CSCS**

**Tim Pelot, MS RSCC\*E, USOPC**

### Overview

Remedies to reduce the signs and symptoms of age have been sought after since the beginning of time. Hundreds of years ago, tales of a special water coming from a legendary fountain were told around the world. This magical fountain became known as the Fountain of Youth. It was believed this fountain possessed the magical ability to cure sickness, reverse the signs of age and restore youth to anyone who drank from it or who bathed in it. People devoted their lives to searching for its' existence. In 1513, a Spanish explorer by the name of Ponce de Leon devoted his life to exploring and searching for this fountain. His quest brought him to Florida, but similar to the mythical tales of leprechauns and pots of gold sitting at the end of rainbow, the fountain of youth continues to remain as a figment of the human imagination.



Fountain of Youth, 1546, Lucas Cranach the Elder

Reversing the effects of age has become big business. Many companies have cashed in on the human fascination to reduce the visual changes that coincide with aging. This is evident within television commercials. While watching a sporting event on tv, during a commercial break, it is common to witness at least one commercial related to some magical substance claiming to reduce the signs and symptoms of aging.

### Age and Elite Competition

Getting older is inevitable for everyone. Older athletes tend to be more disciplined in how they care for themselves, for this reason, older athletes are often described as being more professional. This describes how they approach their daily discipline toward eating, training and recovering. Most older athletes professionalized their approach out of necessity. At some point, they got injured, they felt as if they weren't recovering as fast as they used to, or their performance began to slip. Eventually, with the change in their daily approach, they found they were able to prevent or even reverse their performance and improve their tolerance to injury. Although younger athletes may feel the effects of getting older less than older athletes, it's never too late for younger athletes to adopt strategies and behaviors that can have an influence on long-term performance. Yet many younger athletes choose to put their heads in the sand on this topic or they get to point where age eventually catches up with them and performance begins to suffer prior to taking more ownership of their physical abilities.

In modern day sport, athletes are reenacting efforts similar to the late Ponce de Leon. They are on the hunt for the mythical Fountain of Youth as well. They are in pursuit of information, strategies, technologies and tools to help them ward off the impacts of age and help them train and compete later on in their athletic careers. Decades ago, competing for a national team was something

someone did prior to hanging up their sport hat to pursue a professional career outside of sport. Athletes today are competing much later in their years. With smarter training strategies, factoring in athlete feedback and the implementation of good sport science, national team athletes are now making a career out of competing in their sport.

Within professional sports, there are many more athletes competing into their late 30s and even into their 40s. Take these athletes for example: NFL Hall of Fame Quarterback, Brett Favre. Brett Favre retired at the age of 45. NFL quarterback and seven-time Super Bowl champion, Tom Brady, who is still competing at the age of 43, and Vince Carter, shooting guard for the Atlanta Hawks retired in 2020 at the age 43.

Specific to the realm of Olympic sports national team competition, the average age of Olympians has been on a steady rise since 1988. The average age of Olympians is up from 25 years old in 1988 to 27 years old in 2012. Here are a few examples from Olympic sport:

- Dara Torres, five-time Olympian in Swimming, who competed in her in last Olympics at the age of 41 years young in Olympic Games Beijing 2008.
- Anthony Ervin, who won a gold medal in swimming at the Olympic Games Rio 2016 at the age of 35.
- Kristen Armstrong, a four-time Olympian and three-time Olympic gold medalist in cycling, who won her last Olympic appearance at the age of 43 in 2016.
- Sue Bird, a point guard for the women's basketball national team and four-time Olympic gold medalist, who competed in the 2016 Olympic Games at the age of 36.
- Danielle Scott- Arruda, a five-time Olympian in women's indoor volleyball and a two-time silver medalist, who competed at the age of 40 in her last Olympic Games London in 2012.
- Jake Gibb, a three-time beach volleyball Olympian who competed in the 2016 Olympic Games at the age of 40.

In recent years sports such as gymnastics are showing a rise in athletes who are competing at younger ages, while other sports including track and field, swimming and team sports are seeing an increase in athletes who are having longer athletic careers. The 2016 Olympic Games displayed these trends. There were more athletes over 40-years-old competing than any previous Olympic Games. This paper is going to take an in-depth look as to how the aging process affects the human body and discuss potential strategies older athletes can consider as they extend their time in sport.

### Rookies and Veterans



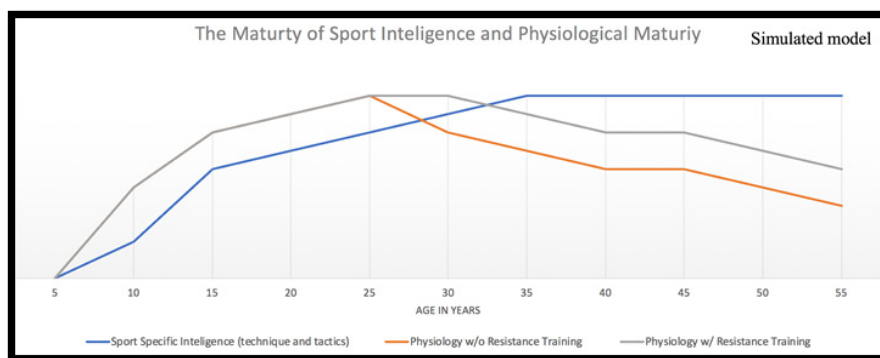
The competition between veterans and rookies has always peaked human interest. People are drawn to watching the potential for a young challenger to take down a reigning champ. While simultaneously, people love watching old dogs teach an up-and-comer a lesson or two.

In sport, rookies are known as the young guns. The young guns are hungry, athletic, resilient, and they seem to possess never-ending amounts of energy. Veterans, on the other hand, have invested more years in sport and in some cases, athletes have devoted decades

toward honing their craft. Rookies may have the upper hand when it comes to the physical skills of speed, power and ability to recover quickly. On the other hand, the professional journey of veterans has taught them many more lessons than their counterparts. A veteran's sport intelligence will give them the advantage when rookies and veterans go head-to-head.

This has become more evident over recent years with the use of technology. The integration of GPS on field-based sports such as soccer has provided the ability to measure and track the distances that athlete's cover during a practice or within a game. Lindon 2017 investigated American college football players at the University of Kentucky. The author measured heart rate as a method for detecting fitness status in players. The author identified a unique trend –older players had lower heart rate values than younger players. Based solely on heart rate data, it was immediately assumed that older players must have been more fit than younger ones. However, after further review, it was discovered that during games and practices the older players were covering less distances and were better reserving their energy. Essentially, the older players were playing smarter, than the younger players. Similar trends are also common in the sport of soccer. The recent insights from GPS tracking has been educational for players, coaches and other staff. This technology has shown coaches that younger players tend to expend more energy in practices and games. GPS technology has shown younger players covering more ground in their positions on the field in comparison to seasoned veterans. This difference in player strategy is attributed to the wisdom of veteran athletes. A veteran's experience provides them with an ability to read game scenarios and predict the decisions of their opponent better.

In summary, the years that veterans have put into their sport have given them an intellectual capacity that is superior, while rookies lack the same years of experience, but then tend to make up for this lack of experience by relying more upon their physical abilities.



## Endocrine Profiles as People Age

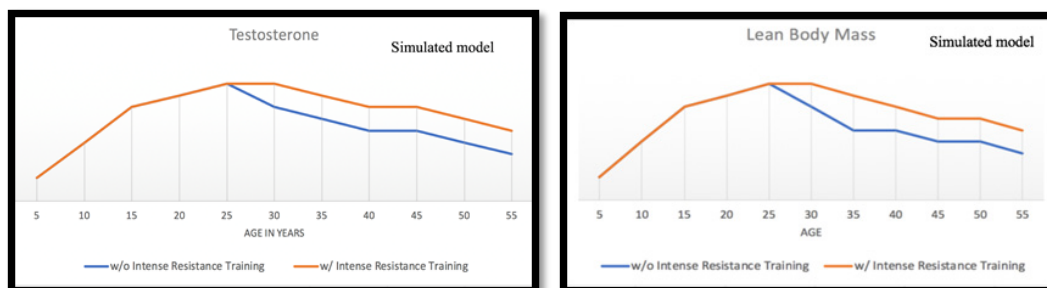
### **Men vs Women**

There are many unique biological differences between males and females. Each gender has its own rate of growth and maturity. Much of these differences can be attributed to hormonal differences between the two genders. Hormones promote the development of reproductive function, changes in body size, body composition and they become more active during a transitional period known as puberty (Perroni, et al.). Research shows pubertal growth spurts begin around age 10 for girls and around age 12 for boys (Toon, et al.). During these periods, girls grow taller than boys of the same

age (Flanagan, et al.). Prior to puberty, boys and girls will display similar qualities of strength, however, once puberty begins boys begin to demonstrate significantly higher values of strength than girls (Toong, et al.).

Hormones are not only responsible for major changes at younger ages, but they play a significant role in physiological function during adulthood. Jones & Boelaert, 2015, has discovered there are complex alterations in hormonal networks that occur in later years. These alterations can predispose men and women to higher risk of bone fracture. Testosterone is a naturally occurring hormone in both males and females. Females have 3-6% of the amount of this hormone as males do. This hormone plays a major role in the development and the maintenance of muscle mass and muscle strength in both genders. Naturally occurring testosterone levels in humans decreases by 1% every year after 30 or 40 years of age and can decrease by 25-30% over the course of adulthood. Unfortunately, healthy men start to experience a slow and progressive decline in testosterone concentrations at the age of 25. In elderly populations, low testosterone levels can lead to reduced quality of life and can be used as a biomarker to indicate poor health and has even been linked to an increased risk of death (van den Beld, et al.).

For athletic populations, low testosterone will result in reduced muscle mass, increased body fat and poor tissue healing. Kraemer et al., 2005 found testosterone to be slightly elevated in response to resistance training, and Beaven, Cook, & Gill, 2008 found resistance-training programs to instigate positive gains in strength and increased in body mass in athletes. In an attempt to ward off age-related declines, these studies provide strong evidence to suggest the use of resistance training for the aging athlete.



### Strength

Strength is dependent upon the role and the function of a joint. Therefore, maximum external force developed by muscles corresponds directly to a specific joint angle (Verhoshansky & Charniga). Regarding human strength, there are many questions that can be raised such as: what happens to an individual's strength as they get older? Is there a common age that people reach a peak level of strength? At what rate do people typically lose their strength? What can be done to delay the loss of muscle? And lastly, is there anything that can reverse the reduction in strength that comes with age?

As previously stated, young boys and girls perform similarly in tests of strength until the beginning of puberty, in which boys' strength levels increase substantially. However, there is an abundance of research showing increased age is associated with severe declines in both muscle mass and muscle function (Borzuola, et al.; Brook, et al.; Kallman, et al.; Piasecki, et al.; Tringali

& Wilkinson, et al.). Weakness is associated with impairments in gait speed, balance, muscle coordination, and delayed time of completion for functional tasks (Tringali) so for aging athletes, age-related losses in strength becomes critically important.

Investigations done by Jones & Boelaert (2015) and van den Beld et al. (2018) reveal changes in muscular function through changes of an individual's hormonal response when aging. Whereas research provided by Piasecki et al. (2016) and Quinn et al. (2011) stress changes in muscular strength due to a decrease in motor unit available to stimulate the muscle fibers. It is estimated that at 70 years old, individuals have around 40% fewer motor units than they did previously (Piasecki, et al.). This would explain why older subjects demonstrate a slower contractile rate and exhibit lower strength values.

The saying "what goes up, must come down" applies well to many of the physiological functions, including strength. Studies have shown muscle strength continues to increase until an individual is in their fourth decade (Kallman, et al.; Su, et al.). Strength has been found to decrease between 30-40% between the ages of 30 to 80 (Kallman, et al.). More up-to-date research has shown muscular strength can deteriorate by as much as 25% between the ages of 30 to 65 years old (Tringali).

Overall, according to a number of studies, exercise and resistance training continues to remain the most effective strategy for increasing muscular strength and function. Specifically, McKinnon, et al., 2016 suggested utilizing variations of power training over conventional strength training methods for improving the function of muscle in older adults. Additionally, De Souza Bezerra, et al., 2018 suggests using a mix of various styles of training (strength, hypertrophy, power) within a single session. As it relates to specific types of strength, Campos, et al. 2017 found greater deficiencies in eccentric strength as people age. Regardless of which modality of resistance training used, there is significant evidence showing the positive influence resistance training has on combating and counteracting the effects of getting older.

### Power

For the athletic population, being powerful means many things. In some sports, it means having the ability to practically jump through the ceiling, rapidly out maneuvering an opponent and for other sports it can mean bursting out of the starting blocks. Muscular power can even be beneficial ability in preventing and reducing accidental falls. Regardless of age, tripping and falling can be very dangerous. To help prevent such mishaps, the body must rapidly make corrections and adjustments in balance and postures (Aagaard, et al.; & McKinnon, et al.).

In sport, the majority of non-contact injuries typically happen when athletes are decelerating. During deceleration actions, muscles contract eccentrically and as mentioned previously, with age, eccentric strength is negatively impacted. In an effort to improve injury tolerance, muscles must have good eccentric performance, while simultaneously being able to contract rapidly for stability.

Nearly all athletes are required to express feats of explosiveness to be successful in their sport. Similar to the long-term changes in muscular strength, aging also takes a toll on qualities of explosiveness in maturing athletes. Research has associated aging with losses in explosive power (Wu, et al.). The work done by researchers Piasecki et al. (2016) and Quinn et al. (2011) have found older individuals possess a reduced number of motor units, this change leads to decrements

in neuromuscular function. In addition to a reduced number of fast twitch motor unit availability, Macaluso 2004, found older muscles to have a reduced muscle shortening velocity in comparison to younger muscle. The investigations by Wu et al. (2016), continue to affirm age related losses in power. Wu et al, (2016) found losses in maximal power and explosive force in older adults.

The sport of weightlifting requires the need to exhibit strength, control and balance during rapid and highly coordinated tasks under load. Additionally, the sport of powerlifting requires the ability to exert high levels of strength and balance. In comparison, weightlifting demands a greater need for higher levels of coordination and balance at high velocities than powerlifting. In an attempt to investigate age-related declines in performance in powerlifters and weightlifters, Anton 2004 performed a retrospective analysis of top age-group weightlifting and powerlifting. The researchers found that peak anaerobic performances demonstrated a greater decline at an earlier age than previously thought. Additionally, age-related declines in muscular power are greater in women than in men only in weightlifting events. This finding suggests that women may experience a greater age-related reduction in performance during explosive or complex tasks.

These results affirm the results by Teimoori 2012. Teimoori investigated if age reduces changes in muscle contraction velocity, balance and agility with a sample of 928 healthy females ranging from 20 to 60 years of age. The findings show little changes in muscle contraction velocity, balance and agility between the ages of 20-30 years of age, but provided evidence showing decline in these abilities as individuals reach their 40s.

It is suggested these losses are attributed to an age-related reduction in the firing frequency of motor units. Fortunately for older athletes, the majority of these age-related changes can be attenuated. Narici 2006 has found muscle loading through resistance training and ballistic strength training can reverse many of these physiological changes.

Aagaard, et al., 2002 has found the use of intense and heavy resistance training to be an effective way to not only improve muscle strength, but also increase the speed at which muscles can produce force. Additionally, the use of contrast training (going from a heavy strength movement to a light or non-weighted explosive movement) has been cited as a method to improve the force and power of an individual (Gonzalez-Rove, et al.). Ultimately, athletes who wish to maintain muscle power and maintain the speed of their athletic actions as they extend their careers should emphasize maximal force efforts. Maximal force efforts have been shown to preserve high performance within muscle function.

### Endurance

Endurance can be defined as the ability to effectively maintain overall functioning under work conditions of long duration (Verhoshansky & Charniga). As it has been extensively covered thus far, human physiology changes over time, and muscle endurance is one more factor influenced by age. The changes that take place with muscle recruitment patterns in older populations has already been discussed, but in review; as humans age there are increases in slow twitch muscle utilization and decreases in fast twitch fiber utilization.

Endurance in the form of non-maximal repetitive actions may not be as impacted as much as

strength and power (Lawton). This evidence provides rationale to why endurance sports see peak performances later on in their athletic careers. Such sports include distance swimming, cycling, running, triathlon and distance rowing. Between the ages of 30-65 years old, muscular strength and endurance can deteriorate by up to 25%. Additionally, endurance athletes who train aerobically may experience increases in the aerobic performance into the 30s. However, without specific training, aerobic capacity can decline as much as 40% (Tringali).

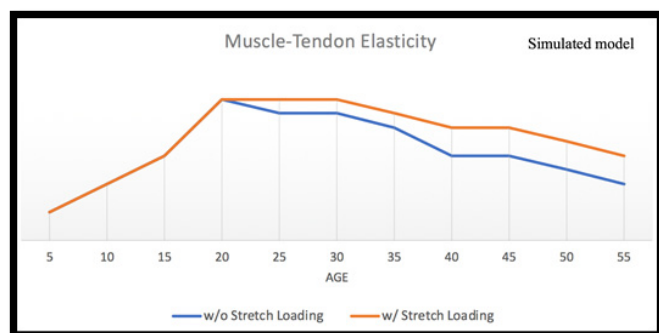
Hormonal changes, motor unit availability, and the activation of different muscle fiber types are a few variables that lead to the decline in strength and endurance (Honorato, et al.; Jones & Boelaert; Piasecki, et al.; Quinn, et al.; & van den Beld, et al.).

### Soft Tissue Changes

As much of the research has shown, the human body makes drastic changes in adults as individuals get older. Primarily, studies indicate losses in muscle mass as individuals get older. However, are muscles the only soft tissues effected by aging?

Age-related muscle atrophy is called sarcopenia. Sarcopenia starts gradually soon after the age of 30 and rapidly declines after the age of 60 (Bonewald). This reduction in muscle mass has been found to be greater for the muscles of the lower body (Narici, et al.). Additionally, as humans age, there is a progressive loss of motoneurons within the fast twitch fibres, simultaneously, there is an increase in activity with slow-twitch motor units (Macaluso). Moreover, sarcopenia is result of multitude of factors which can include insulin sensitivity, increased fat, and reduced hormone levels (Bonewald).

Additionally, the muscular system is not the only system impacted with age. Specifically, tendons lose their elasticity with age (Karamanidis & Arampatzis; Karamanidis & Arampatzis; & Powell & Blaise-Williams). This loss in tendon elasticity in combination with myriad of other changes can negatively impact the generation of power and the speed of reactive-based movement.



The mechanics of how muscles and tendons work can be similar to the mechanics of how engines and drivetrains work in automobiles. Engines generate the horsepower, but if the horsepower is not effectively transferred to the wheels, via a strong drive train, horsepower will not transfer to the wheels. Muscles contract to generate force while tendons are not an actively metabolic tissue. This means tendons are not controlled by the nervous system and are unable to voluntarily or involuntarily contract.

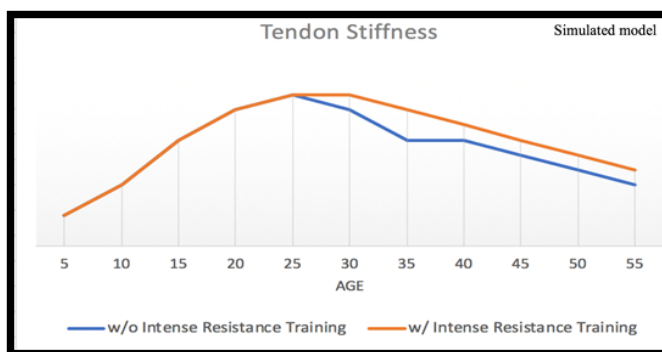
A tendon's job is to stay stiff and rigid under tension. When a tendon displays good stiffness, as a muscle contracts, the force generated from the muscle can be effectively transferred through a joint, ultimately creating joint positional change. A tendon with high stiffness has the protentional to transfer greater energy than a looser one. Athletes who compete in sports that require the need to be fast and highly reactive, having stiffer tendons becomes more important because when energy can be transferred from muscles more efficiently, joints have the capacity to

move through ranges of motion with more speed.

Although the term “stiffness” is often used loosely and interchanged between muscle stiffness and tendon stiffness, they are VERY different. Tendon stiffness is determined by how much load a tendon can withstand prior to losing its form. While muscle stiffness may be described as a muscle feeling tight or when a muscle has a reduced ability to elongate. Muscles tightness may be identified with muscle tone. For example, individuals with stiff muscles may experience or feel extra resistance during movement. This additional friction limits range of motion and limits speed of motion. While stiff tendons can increase and enhance an athlete’s ability to perform, as athlete’s age tendon stiffness decreases and muscles stiffness increases. A tendon can become stiffer without changing its size. Metal cables have a higher tensile strength than rope of the same diameter. As tendons adapt and become stiffer through training, it can be similar to changing out a rope for a metal cable of the same diameter.

Elasticity describes the snap-back nature of the muscle-tendon complex. Muscle tendon complexes act like springs, and with good elasticity, athletes feel “light on their feet” and “springy”. Additionally, similar to the mechanics of a sling shot, as muscles and tendons are stretched under load, they can promote increases in speed and power and increase movement efficiency (Bohm).

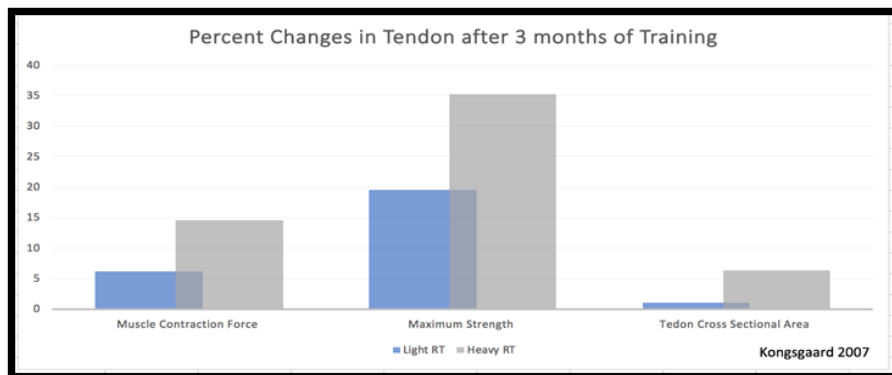
For athletes who must react quickly and display bursts of speed, stretch loading becomes an important factor to address. In fast and reactive sports having a higher tolerance to stretch loads is a high training priority, however as athletes age, this variable becomes even more important. Sheppard 2012 monitored many physiological performance metrics in volleyball players for two years. The study tracked many biometrics as athletes transitioned from sub-elite status to elite status and found the stretch-load tolerance variable to be significant. Athlete’s ability to stretch-load increased as they became more elite. Unfortunately, as humans age, the elastic component of the muscle tendon complex is reduced. This awareness provides evidence to suggest as athletes age it is strongly suggested for athletes to perform methods that serve to preserve stretch-loading ability.



Exercise can stimulate the production of several growth factors. There is evidence suggesting exercise can lead to hypertrophy of the whole tendon and increase its ability to tolerate loads. This in turn can help yield increased stiffness of tendons as one gets older and decreases the chances of an injury (Svensson, et al.). As a result, high performance professionals should focus on resistance training methods, as well as the mobility and flexibility of specific joints.

In an effort to investigate the morphology of tendons, Kongsgaard et al 2007 investigated differences in tendon response between two separate resistance training protocols over the course of three months. This study was unique because the researchers used two different training protocols on two different legs on the same subject. One leg performed heavy resistance training (HRT) three times per week and used resistances that were greater than 70% of maximum ability, while the other leg on the same subject performed light resistance training (LRT) three times per week, using resistances

that were less than 40% of maximum ability. After the three months of training, the results were significant. There were significant differences in tendon responses between the two legs. The LRT leg showed an average of 1.1% change in tendon cross-sectional area, while the HRT leg showed an average tendon cross-sectional area change of 6.3%. Across all subjects, maximum strength in the LRT leg went up 19.5% while the maximum strength in the HRT leg went up 35.3%. Lastly, muscle contraction force went up in the LRT leg by 6.1% and within the HRT leg, contraction force values went up by 14.6%.



### Bone Changes

Aging effects the body in many ways. As a person gets older, an individual’s ability to function normally diminishes slowly. Similar to how muscle sarcopenia occurs in adults, so does bone loss and osteoporosis (Bonewald). Other than resistance training, there are other factors involved with bone demineralization. Some of these

variables include age, sex, bodyweight, dietary considerations, and exercise participation. In fact, calcium and vitamin D have been identified as good predictors of bone mineral density in the elderly (McCory, et al.). Exercise will assist older populations by delaying the degenerating effects of bone demineralization, but nutritional strategies should be viewed as a high priority.

In a review of 138 scientific articles related to knee joint biomechanics by Zhang et al 2020, it was concluded that the biomechanics properties of the knee joint are significantly affected by knee musculoskeletal or neurological disorders. Such disorders are directly related to an individual’s lifestyle and genetic disposition. As individuals age, movement quality and joint capacity are highly unique per individual, leading to joint mechanics that are individually specific. In short, although everyone has a knee and a shoulder, the mechanical function and properties of specific joints are highly specific to each individual.

### Potential Cartilage Changes

For most individuals, getting older is associated with an increase in more of a sedentary lifestyle. However, a sedentary lifestyle can be extremely detrimental for an aging adult. According to researchers, Luria and Chu (2014) “The greatest threat to the health of the aging athlete is not the aging process itself, but rather it is inactivity.” The statement, “Use it or lose it,” describes this same sentiment well. A lack of activity will accelerate the decline in tendon integrity, muscle loss, strength, motor control and endurance that all arise from the aging process, but how does age effect joint cartilage?

As it has been previously stated, the aging process effects all parts of the human body, including tissues and organs, but process of aging effects each one on different levels. Studies have found that inactivity and age-related changes lead to reduced thickness of cartilage, compromised joint function, and alterations to synovial tissue composition (Luria & Chu). For example, tissue degeneration is

affected by alterations at the cellular level, such as reduced cell density, impaired cellular defense mechanisms, and anabolic responses (Lotz & Loeser).

Adult athletes are going to be affected by injuries. An aging athlete's worst fear may be degenerative tissue. Degenerative tissue may be a result of an individual's genetic disposition and/or could be a result from the repetition in sport. Chronic joint use or trauma is common in athletes and the accrued exposures to these conditions can lead to additional challenges for the aging athlete. For example, middle-aged athletes who participate in repetitive, high-impact loading are 8.5 times more likely to develop osteoarthritis of the hip due to cartilage micro-trauma's and degeneration of the weight-bearing joints (Luria & Chu). These high impact loads require a significant amount of strength to support and stabilize the joint structures involved. Slemenda 1997 investigated individuals with osteoarthritis in the knee and found a correlation between quadriceps weakness and osteoarthritic conditions. It could be argued, the pain associated with arthritis is a result of weakened quadriceps, however the author does suggest that weaker muscles are ill-equipped to provide the proper joint support, thus leading to further joint degradation.

These high impact loads are present when landing from a jump or decelerating from a sprint. When muscle lacks the strength to keep joints safe, joints become more exposed to these forces. When muscles are properly prepared, they can support and stabilize joint structures better.

In a race car, the roll cage protects the driver from getting crushed, if the vehicle were to flip upside down. Muscle strength plays a similar role as a roll cage in a race car. If the cage was not present, there would be nothing to stop the forces from crushing the driver. Similarly, strong muscles help displace the impact forces involved in sport and reduces the forces placed on the joint and repositions these forces onto the muscles.

Managing and monitoring these stresses becomes more important with age and it would be assumed it may be in an older athlete's best interest to stay clear of such conditions, however taking these stresses away all together lead to a cascading series of even more complications. It is suggested that the application of constant compressive loading is important in the maintenance of normal structure and function of articular cartilage because "there is less risk in activity than in continuous inactivity" (Luria & Chu). Inactivity would only accelerate the decline of the human body and again; if you don't use it, you lose it.

#### Changes in Synovium Responses with Age

Synovium tissue is lining all of the joints, tendon sheaths, and bursae in a human body. The synovium's job is to protect the joint space and assist in keep joints lubricated to provide friction-free motion (Luria & Chu). From the infamous movie *The Wizard of Oz*, a character by the name of "the tin man", is made of metal. Without frequent lubrication to the tin man's joints, his body locks up and is unable to move. This example is fictional, but it does set the stage for understanding the importance involved with good joint lubrication. Between the ages of 40 to 70 years old, an individual will see a decrease in that lubrication fluid somewhere in the range of 35% to 50%. Additionally, in athletes that have spent years in sport and have experienced joint changes as a result, these decreases in synovial fluid may be even more extensive. Synovial fluid also assists in inflammatory responses by assisting in the removal of harmful mediators during healing processes (Luria & Chu).

### Accumulation of Wear and Tear

Sport requires the need to display speed power and efficiency. Years of intense sport participation does not come without a few dents and dings. In most cases, these high velocity actions place a great deal of wear and tear on the body. Muscles get tired, they can ache, they become sore, they can even be strained when pushed too far. Joints on the other hand can become stressed as well, they are subject to becoming sprained, feelings of not being stable and being vulnerable. Older athletes are all too familiar with these conditions. Unfortunately, many of these conditions create a number of other unique challenges, such as movement compensations or altered biomechanics.

In many sports, athletes must perform rapid movement and often do so in uncontrolled conditions. Take for example an awkward position an athlete must get into to make a play or when reacting to a sport situation. Usually these unusual feats of great athleticism tend to determine an athlete's level of athletic ability. However, these awkward positions require an athlete to display strength or control in a not-so-common position and these "unordinary" moves tend put muscles into inefficient positions or require joints to be near an end range of motion i.e., deep flexion or terminally extended. These positions create conditions that comprise an athlete's ability to withstand the internal loads. Unfortunately, injury is part of sport at a high level and even the most prepared athletes are still susceptible to getting hurt. Injuries can come from a number of sources. Fatigue could be a culprit of injury, awkward positioning while decelerating can be another culprit of injury, and lastly contact with a foreign object can be another culprit of injury. As athletes age, they become exposed to more of these awkward positions, more of these high velocity actions, be more likely to re-injure a previous injury.

Some injuries are more intense than others, but with injury also comes pain. To avoid positions that cause pain, changes take place in how individuals move. This is called movement compensation. Years of accrued sport strain and accrued injuries are responsible for making older athletes more susceptible to injury.

Age-related muscle loss causes impairments in gait speed, balance, motor coordination, and delayed reaction (McKinnon, et al.; Piasecki, et al.; Tracy & Enoka; & Tringali). Additionally, the aging process decreases one's mobility and flexibility a higher degree of stiffness (McKinnon, et al.; Powell & Blaise-Williams; Quinn, et al.; Wu, et al.; & Wu, et al.). For example, walking is affected by reduced flexibility in ankle plantar flexion promoting increased postural instability as people get older. (Cabell, et al.). According to research, running mechanics are affected considerably from decreased flexibility, particularly in regard to step length and step frequency which are major factors of running velocity (Quinn, et al.). Also, older endurance runners run in more upright and stiffer positions (Karamanidis & Arampatzis; & Powell & Blaise-Williams). As discussed, muscle weakness can create changes in movement strategies, these compensations can be detrimental to joints.

Posture is defined as the position in which individuals hold their bodies while standing, sitting, or lying down. Good posture is the correct alignment of body parts supported by the right amount of muscle tension against gravity. Without posture and the muscles that control it, we would simply fall to the ground. An individual's resting posture influenced by resting positions, physical activity and heredity. An athlete's resting posture can be heavily influenced by the movements they perform in sport.

In sport, the muscles that are used most are most impacted by a neurological reflexive response called "Adaptive Shortening". The anterior musculature seems to be most commonly impacted by

adaptive shortening, while the muscles of the posterior are left in over stretched and in a mechanically weakened position. As anterior muscles chains increase in tightness and the muscles in the posterior chain are set in a weakened position, joints become more unstable. Take for example a cyclist who sits in a hunched over position on a bike for hours a day. This sport posture will likely lead an athlete to have a resting posture where muscles of the back are lengthened and frontside musculature becomes tighter. This muscle response promotes more rounded over shoulders and a rounded back.

As athletes spend more years in sport participation, their muscles are more likely to exhibit increases adaptive shortening responses. Vařeková 2011 evaluated the postures of 62 elite women's volleyball players at ages  $20.7 \pm 2.03$  years and found 81% of the evaluated athletes possessed frontal plane asymmetry. Overtime, when such symmetries exist and go unaddressed, these asymmetries grow and can ultimately lead to joint damage. This provides strong evidence for athletes to strengthen their posture by targeting the posterior musculature.

A camping tent requires a number of tethers to be anchored to the ground to stay upright. To maximize form and function, each of these tethers must be under equal tension. If one side of a tent has more or less tension, the tent loses its shape and its structural integrity in the elements. Similar to camping tent, joints have similar properties regarding balance and stability. The resting postures of joints such as the shoulder and the hip are highly influenced by muscles being either short or long and or when muscles are either weak or strong. When a joint is unable to maintain proper position during movement which can be detrimental on the joint in the long-term.

### Performance and the Parent Athlete

Many people like to categorize athletes into two bucket "athlete populations and non-athlete populations", but all athletes are not the same, just as all sports are not the same. Take for example the sport comparison between basketball and track and field, comparing these two sports cannot be associated with trying to compare an apple to another apple. The difference between these two sports is so drastic, it would be like comparing a fruit to a vegetable. To take this another step further, even when comparing two athletes who compete in the same sport, but who are separated by a decade or more in age, the difference can be more like comparing an apple to an orange. Yes, an apple and an orange are both are fruits, however, there are a number of other factors that still differentiate the two.

As athletes age, not only must they fight the daily aches and pains brought on by the years of training



Team USA Para Powerlifter Garrison Redd has competed in Wheelchair Racing, and Adaptive Field sports. In 2018 he turned his attention to Para Powerlifting and hopes to compete in the 2021 Tokyo Paralympic Games this summer. (Photo by Al Bello/Getty Images)

and competing. A handful of other factors are introduced that were previously not present in an athlete's younger years. Outside of the training and competition environments, younger athletes have the free time and freedoms in their daily schedule. Younger athletes have the liberty to choose how they want to spend their free time. In hindsight, as athletes age, their lives outside of sport become more complicated. Older athletes usually have a spouse and many of them have children. These variables bring monumental change and challenge. As a result, older athletes are tough.

Essentially, older athletes are not only battling against father time and the accrued aches and pains of being an athlete, older athletes are trying to maintain a healthy relationship with a spouse, which also requires time, effort and non-distracted attention. Parent athletes, on the other hand, are not only battling against low energy levels from exhaustive training, they are battling a lack of energy from getting only a couple hours of sleep caused by a newborn who isn't sleeping or is sick. With the rise in age of athletes who are competing at the highest level, there are more and more athletes who are parents. For example, nearly 50% of the roster at the 2019 World Cup for the U.S. Men's Indoor Volleyball team were parents. Not only are the major differences between parent athletes and non-parent athletes, there is even a strong disparity between male parent athletes and female parent athletes.

Parent athletes must not only manage their daily schedule which requires getting to practice on time, being present, eating well and putting forth good effort in their practice reps, they are also responsible for being a good parent and being a good parent is not easy. It requires taking even more time and spending more attention and putting forth more effort to make sure their children's needs are met before their own. Managing a child's schedule in today's world may be more stressful than managing an adult athlete's schedule. Parents must make sure their children are ready for school, are eating their meals, are completing their homework and are absorbing the information they are being taught. Parents must make sure their children's clothes are clean, sports gear is ready, snacks are available, kids are bathed, their teeth are brushed, they go to bed on time and most importantly, parents need find time to have high quality interactions with their children. As a result, parent athletes don't get good sleep, they struggle to find extra time for more training or recovery efforts. They are at a severe loss of personal time or time they previously have had for themselves. These are the challenges for the parent athlete, it is real life, but they find a way to do it, they persist, and they get stronger because of it. The parent athlete would seem to be a prime target for the integration of tracking and monitoring of factors such as sleep variables and nutrition intake, however, even with the best intentions, for this specific population many of these variables are not as controllable as they once were. Increasing an emphasis on such variables may also bring another layer of added stress and strain to the athlete. Parents will tell you raising a young child has taught them how to operate in adverse conditions. The lack of sleep, the lack of energy, and the increased patience has raised their threshold, has taught them how to be resilient and has proven they can still perform at a high level even during unfavorable conditions. Again, parent athletes are tough.

### The Great Debate

It's hard to argue against father time and father time's impact on physiology and performance. How older athletes should care for themselves as they age is always a hot topic and can spark debate. Unfortunately, there has not been a lot of strong evidence brought to the table in many of these discussions. Hopefully, the information covered here can help bring new light or provide new

awareness on this heavily opinionated topic. When older athletes can make educated decisions regarding their performance preservation, performance will not only be improved or maintained, but tolerance to injury will be improved.

### Training Priorities for Older Athletes

#### **Eccentric Muscle Strength**

To help muscles absorb load, weaker athletes have been shown to land in stiffer and more upright positions. Such positions expose joints to increased impact forces. When muscles are strong, they can preserve joints, by taking on high impact loads, thereby reducing the amount force that are acting on a joint structure. Lastly, muscle weakness has been shown to be a potential cause for osteoarthritic conditions.

#### **Consistent Resistance Training with Heavy Loads**

The participation of infrequent or inconsistent strength training may provide benefits to the neuromuscular system, but when resistance training is frequent and consistent, over-time, muscle architecture and tendon integrity change to be more favorable for the athlete. Additionally, heavier resistances have been shown to be more advantageous for tendon integrity in comparison to lower resistances. Lastly, heavier resistances have been shown to help curb the losses in hormones that help preserve muscle mass and strength in comparison to lighter resistances.

#### **Elasticity of Muscle Tendon Complexes**

As previously mentioned, muscle-tendon elasticity plays a vital role in the performance of fast and responsive movement. Unfortunately, elasticity degrades with age. Strategies that induce stretch-loading such as low and high intensity plyometric or ballistic training methods may preserve and/or stimulate the elastic characteristics of the muscle-tendon complex.

#### **End Range Motor Control and Load Tolerance**

Due to the adaptive shortening response from the acquired years and the thousands of repetitions in sport, it is important to both strengthen and lengthen the muscles of the anterior muscle chains. When the muscles of the anterior chain lack the ability to lengthen under load, resting posture and dynamic postures can be compromised. Extra load on poor postures can compound negative conditions. Isometric resistance training when joints are in end range positions and eccentric training through full joint ranges of motion are both good strategies to keep older athletes feeling strong and stable.

### Conclusion

The changes older athletes face can be overwhelming. Similar to Ponce de Leon's pursuit for the fountain of youth, some athletes try to battle the influence of time by leveraging a scientific approach, while others strive on as their physical abilities slowly depreciate. As athletes age, they experience many changes that are pivotal to their performance, such as reduced muscle mass, loss in muscle strength, lessened muscle power, hormonal changes and increases in muscle stiffness. Fortunately, older athletes can preserve their performance later on in their career when they are properly equipped. With the awareness of evidence-based insights, athletes can make the best decisions specific to their performance goals. In many situations, more of something does not always equal a better result. As it pertains to the aging athlete, when more energy and attention can be directed toward the care of their physical infrastructure, they may be able to compete with higher

performances later on in their sport career. Many may see this as adding additional wear and tear to an already stressed system, but “there is less risk in activity, than there is in continuous inactivity”.

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## National Team Coaches' Approach to Cultivating Team Culture - Part 1: An Interview with USA Men's Volleyball National Team Head Coach, John Speraw

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Olympic coaches work with some of the most physically talented athletes in the world, but that doesn't ensure that their teams will be successful. Many factors contribute to team success and may include, for example, the coach's philosophies and communication patterns, the organization of practices, offensive and defensive systems, the athletes' psychological qualities, and the level of cohesion between members. All of these factors relate to team culture, which is broadly recognized to play a crucial role in the development and maintenance of prolonged performance success. While team culture is often discussed anecdotally as an important aspect of both program performance and career satisfaction, it represents a factor that is comparatively understudied in the coaching literature (Cole & Martin; Cruickshank & Collins; Cruickshank, Collins & Minten; Fletcher & Arnold; Schroeder). With the popularity of top selling books on organizational culture (Coyle; Sinek) as well as the number of presentations devoted to team culture at national coaching conventions, it is clear that many individuals in leadership positions understand the importance of team culture and want to learn more (Krause; Pim).

One challenge to further developing this line of inquiry is a lack of agreement as to what constitutes a team's culture. Due to its complex nature, the definition of team culture is not well established. The most widely accepted definition refers to culture as "a dynamic process characterized by shared values, beliefs, expectations and practices across the members and generations of a defined group" (Cruickshank, Collins & Mintens, p. 340). While organizational factors and player personnel may contribute (positively or negatively) to a team's culture, research suggests that the role of the head coach is paramount (Cruickshank & Collins; Schroeder; McDougall).



Until more research is available, however, coaches work hard to influence and shape the culture of their teams on a daily basis with limited resources within the coaching literature on how to do so. While best-selling books such as *Sacred Hoops* (Jackson and Delehanty), *Legacy* (Kerr), and *The Score Takes Care of Itself* (Walsh, Jamison & Walsh) may help coaches develop a successful team culture, hearing the perspectives of current head coaches with a record of success at the international level is a much-needed resource.

This is the first of three articles in *Olympic & Paralympic Coach Magazine* in which successful national team coaches reflect on the importance and development of a successful team culture. These USA national team coaches are John Speraw (USA Men's Volleyball), Karch Kiraly (USA

Women's Volleyball), and Adam Krikorian (USA Women's Water Polo). Interviews were conducted to provide coaches an opportunity to reflect on a) their conception of team culture; b) their perceptions of their current team culture; c) how their team culture evolved into what it is today; and d) the strategies they implement to maintain or modify their team culture over time.

### **Coach's Profile – John Speraw**

John Speraw is currently the head coach of the United States Men's Volleyball Team as well as the UCLA Men's Volleyball Team. At the collegiate level, Speraw has been a part of eight NCAA national championships as a player (1993, 1995), assistant coach (1996, 1998, 2000), and head coach (2007, 2009, 2012). In 2007, Speraw took his first position as an assistant coach with the USA Men's National Team, and went on to capture a gold medal at the Olympic Games Beijing 2008. In 2013, he was named head coach. His team's major accomplishments include gold medals at the world cup (2015), World League Finals (2014), and NORCECA championships (2013, 2017), a silver medal at the Nations League Finals (2019), and bronze medals at the Olympic Games (2016), Nations League Finals (2018), and world championships (2018).

#### *Speraw's Definition of Team Culture*

When Speraw was asked to define team culture, he immediately identified Values and Behaviors, Self-Perceptions and Beliefs, and having a Common Language as prominent components.

#### *Values and Behaviors*

"I think team culture is about values and behaviors. The values are what's most important to the group, and the behaviors are how those values are acted out on a daily basis. It's almost like the personality of the organization. It's a self-fulfilling personality because once it's developed, the values and behaviors are communicated and passed down to new members over time. You continually tell them who they are or who they need to be, and eventually they become what you tell them. But I think culture has an internal component too. It's not just what the coaches are telling the players to do, it's also what the players are telling other players to do in terms of how to act and how to behave."

#### *Self-Perceptions and Beliefs*

"I think the culture is also a little bit about what the players perceive themselves to be, which is a great team with a great interpersonal dynamic. Certainly, this is how they perceive themselves comparatively to other teams in the world... and that they train and work really hard. So as they look around the world and see how other teams act and behave, they feel like they have great interpersonal dynamics and they work harder than anybody else."

#### *Common Language*

"Another part of the culture is probably the language and verbiage that we use. For example, we are constantly preaching 'tough' and 'together,' and the guys need to know what that means. They need to know what that looks like. They need to know how to change their behaviors when we aren't sticking to those values. When a new player enters our program, we can't assume that they know what that means, either. The vocabulary needs to be taught, and that's just one example."

### **Speraw's Description of the USA Men's Volleyball Team Culture**

When asked to describe the culture that is representative of the USA Men's Volleyball Team, Speraw discussed four major values and behaviors including: Strong Work Ethic, Positive Interpersonal

Dynamic, Service-Oriented Leadership, Competitive Behavior, and Toughness. However, prior to discussing those values, he also acknowledged the challenges that come with shaping a team's culture when he only has them in the gym for 3-4 months each summer with the majority of that time consisting of international travel and competition. "I think that the national team culture is significantly challenged by the fact that those guys are gone for such a significant amount of time and have such a diverse belief system and set of personalities. They play overseas on teams that all have very different cultures. The most striking difference between their professional teams and the USA team is how we treat each other. Most of them come from a culture of blame. If they make a mistake, their teammates are yelling at them or snubbing them with their body language. We don't do that here. We're not about holding each other accountable for mistakes, we're about holding each other up... taking care of one another. Helping each other get past those mistakes so that we can move on to the next point rather than dwell on the last point. That's the goal... to play 'next point volleyball.' If we're going to do that successfully, then we have to do that together."



USA Head COACH John Speraw talks to his players during TIME OUT in the match during the FIVB Men's Volleyball World Cup in Osaka, Japan. (Photo by Koki Nagahama/Getty Images for FIVB)

### *Strong Work Ethic*

"At the end of the day, to me, the most important thing about culture is work ethic. I think we train really hard. If you look at how other teams train, I think we train just as hard (if not harder) than anybody else in the world. So I think there's some of that American work ethic that we don't even think about, and maybe that is what also contributes to culture... what is happening automatically without being said is a really important part of culture. And hopefully you instill in them behaviors that become such a way of acting and thinking that it happens automatically. That is certainly true here in terms of how we compare ourselves to the rest of the world. I think we have a sense of work ethic that far exceeds everybody else. So I think it would probably start there."

### *Positive Interpersonal Dynamic*

"I think the interpersonal dynamic has become an area of greater strength for us over the last eight years, and I think that was something that we discussed quite a bit after our experiences in 2008 and 2012, and the fact that the group didn't get along very well. We've had to really encourage getting along and playing well together because it makes it more enjoyable. It's not fun to play with guys who are jerks or treat each other really harshly. So we've really encouraged our team's ability to get along and play well together, and I think it's also a function of random personalities on the team. We just happen to have a group of really good guys who get along really well with one another. And it's a lot more fun if we're with people we want to be with and work with and treat each other well so that we have good relationships. I think it makes the whole experience better."

"It also makes sense because the rest of the world is really, really good, and our guys know that some of these teams are more physically talented than we are. So in order to win, we need to stay together. We can out-team anybody in the world and there is a bit of a repetitive nature to, 'Hey, we have to be in this together to win.' The idea of espousing the value of togetherness and collective effort in order to make the team better, I think the guys get that. I think they understand that we're better when we work together, and more likely to succeed when we're all pulling on the same rope. So just to finish up my thought, I think the guys cognitively understand that and buy into it because the rest of the world is so good. So I think that leveraging our strength of collective effort and collective teamwork is well received. I think they understand it because it makes sense."

### *Service-Oriented Leadership*

In the context of discussing the team's interpersonal dynamic, Speraw shared one of his philosophies on leadership. More specifically, he does not believe in having a hierarchy in which the younger players are expected to perform menial tasks such as carrying equipment, doing laundry, or taking on an unpleasant luggage assignment on the road. Instead, he believes the new members should be taken care of by the team's veterans just as a parent would take care of his or her children. Then when younger members become the parent or the more experienced player on the team, they work to take care of the less experienced. While discussing his beliefs, Speraw diagramed a model of his beliefs on a white board (See Figure 1) which included three levels: 1) Being cared for (like a child or new member of the team), 2) Taking care of oneself (like a teenager, young adult, or less experienced member of the team), and 3) Taking care of others (like a mature adult or leader on the team).

Thus, Speraw relies on the veterans to share their knowledge of, for example, the team's systems of play, how to take care of oneself on the road, who to talk to if they need extra help, or any other issue related to becoming a true professional.

"When you're talking about real leadership, which is what you're trying to do your best to develop, the idea of service in leadership is really an important and critical element that people may not talk enough about. What are the foundational purposes of leadership? What drives the demand for leadership? It's really got to be about service to one another. And over the years, I've evaluated the development of young men and their progression through club volleyball to the collegiate ranks and then into post-graduate professional careers, and I've always felt that the missing component in their progression is not accelerating that shift from being dependent on your parents to gaining independence but recognizing that the next step is from independence to taking care of others. They need to be competent in the skills that are necessary to take care of oneself in order to take care of

others. Most people think of the collegiate experience as learning about how to take care of yourself, but that's incomplete. If you're really trying to help young boys become men in my perspective, that's really about them becoming someone who can take of the people around them. That's the component of maturity that I think is lacking."

"You may think that people will show up at the national team and they're older and therefore more mature, but that's not always the case. In most situations, they haven't been taught that taking care of other people is where they need to be in life, and they're just expected to figure that out on their own. And they're supposed to be these mature people who've figured out their lives emotionally and mentally, but we all know that throughout college, many of them basically ignore all the issues they had growing up as a kid. Then they show up on our doorstep. So, we have to continue to have conversations that you might think are only appropriate for the collegiate level players, but they are just as appropriate for the young professional men in our organization. Then we can influence the culture to be more in line with natural human nature where older and more mature individuals take care of the newer and less experienced guys."



Figure 1: Speraw's Model of Service-Oriented Leadership

### *Competitive Behavior*

"The third thing is our ability to compete and play well when it matters. I think people have felt that way about America for a long time and it certainly was augmented by the fact that we won gold in the 2008 Olympics and we really shouldn't have. We ended up beating Brazil and Russia in meaningful matches even though they beat us all quad long. We beat them in the end when it mattered. So that competitive behavior is probably a third component of our culture that's been passed down, and it still exists today.

"I think one of the differences between our current team's competitive behavior compared to past teams is how we exhibit it. We want the guys to be competitive, but we don't want their competitiveness to get in the way of their performance. So, we have to train them to exhibit that competitiveness in a way that is functional. In the past, it was not always functional. If someone made a mistake or we lost several points in a row, the primary emotions on the court were usually anger or frustration, and you could see it. You could see it in their behaviors. They would hang their heads. They would shake their heads. They would avoid eye contact. They would yell at each other. They would stop communicating or shut down all together. They were so competitive that it resulted in what I believed to be dysfunctional emotional and social responses. Our current team is just as competitive, but they are able to maintain their focus and control their emotional responses, particularly under pressure, and that is the epitome of toughness to me. So our current guys are not only competitive, they're competitive and tough, and that's another one of our values."

### *Toughness*

“I think our ability to play well when it matters has been very strong, and that’s been intentional. You have to teach them how to play well when it matters. You have to teach them how to play point-by-point volleyball and the strategies involved in making that happen. You have to teach them how to control their emotional responses. And I think toughness is about how you manage the ups and downs of the competitive experience and how you prepare yourself for things not to go so great. You’re putting strategies and techniques in place so that you’re ready for when things aren’t going very well and you’re figuring out a way to win under those conditions. So it’s important how we frame those scenarios, and how we manage our emotional responses... and that, to me, is toughness. It’s how you respond when things are difficult. It’s how you respond when under pressure. It’s how you move to the next point when you lost the last point. We talk about that a lot, especially in terms of ‘next point’ behavior.”

“I strongly believe that we have to have conversations that revolve around toughness and how we handle those difficult moments mentally. The mental side of the game is very important to me and that is a direction that I went with my own coaching philosophy over the years. And when you tell people, ‘Hey, this is important to me and this is how we’re going to deal with it’ and you’re talking about it and you’re dialoging about it, it becomes a vocabulary and a verbiage that you’re using in the locker room on a consistent basis. Then when people understand that it’s important to the coach, they’ll be more likely to buy in it. Especially when you can talk about it and articulate it and teach it. It’s like anything in volleyball. It would be like saying that passing is super important in volleyball, but I have no idea how to teach it, then guys aren’t going to buy into what you are trying to do. If you never talk about passing and it never becomes part of the dialogue, then you’re probably never going to become a great passing team. So we constantly preached the importance of tough and together, defined what that meant, and tried to correct behaviors when they didn’t fall in line with those values. And maybe you don’t know that language, but you don’t have to know it. You can bring in an assistant coach or somebody who does know it. You can do that as a coach and then say, ‘Hey, I’m going to bring in a sport psych and we’re going to get better at the mental side of the game because it’s super important to me and I’m intellectually curious and I want you to be too.’ So you don’t have to have all the answers, but part of your job as a leader is to leverage all of the resources you can for your organization.”

“So competitiveness and work ethic were already kind of built into the culture, and we probably brought in the emphasis on how we treat one another and how to be tough. We professed those values early on, you know, we needed to be tough and together.”

### **Speraw’s Perceptions of how the USA Men’s Volleyball Team Culture Evolved**

When asked how his team’s culture evolved, Speraw distinguished between those values and behaviors that were ingrained prior to his arrival and those that required modification. “I think the competitiveness and work ethic have been around as long as I’ve been around. The interpersonal dynamic is something that I think we’ve had an impact on and made decisions about in terms of who’s in the organization and who’s not in the organization based upon some of those behaviors and how they get along with others. And certainly we professed toughness early on. I think in some respects the team culture is built in and in some respects, it’s built. And it’s important to understand that if it’s not built in, you really have to build it. So we preached tough and together right from the start and I

think that was a big deal.”

He also suggested that “culture has an internal component and that’s how it’s influenced from within the team and coaching staff, and an external component and that’s how it’s influenced by environmental factors outside the team.” Within the context of his interview, the only external factor he described to influence his team’s culture was the larger influence of American culture.

### *American Culture*

“I think the competitiveness and work ethic are the built-in aspects of our culture that have been passed down for years. And maybe it’s because those qualities are passed down in American culture. Maybe being the coach of the American team makes it easier to sell some of these behaviors. I don’t know whether it’s capitalism or whether it’s just the culture of sport in the U.S. and how pervasive it is, or maybe it’s just our history and general American values, but they seem to be built in. So I highlight the competitive behavior and the work ethic because they are already there. It’s not only part of being an American but I think the guys go overseas and they realize, wait a minute, that’s a very valuable thing. They see players in other countries who aren’t those things and they take great pride in the fact that they are those things, which actually helps develop and continually perpetuate those behaviors because they actually have pride in that.”

Aside from being externally influenced by American culture, Speraw described five major internal factors that have influenced his team’s culture. These included Hiring a Competent Coaching Staff, Selling the Team Values, Having Critical Conversations (team-talks, one-on-one, one-off), Making Tough Decisions, and Developing Pride in What You Do.



USA's coach John Speraw (center), during the FIVB World Championships match between Australia and USA. (Photo by Adam Nocon/Getty Images for FIVB)

### *Hire a Competent Coaching Staff*

“When I think back to previous quads, there wasn’t a full-time staff, so I think that created some holes. So early on, I knew we needed to put some resources into getting a full-time staff. Then we hired a really competent staff of mature, professional, contributing, authentic people. Everyone is serious and professional, and I think that probably made a big difference. For me, I think it’s about having other people around you who understand the importance of culture, too, and understand how to identify when things are going off the rails. I think you have to have some people around you who are also intuitive. I feel like I’ve been at my best when I have some staff members who are attuned to that level of importance. We also brought in a full-time sport psych, and the administration came in big time budgetarily there, which was a pretty big move. Then we allocated resources for clinical psych too so players could work on other aspects of their life in addition to performance.”

In addition to surrounding himself with a competent staff, Speraw described the staff as showing great commitment to the team and being very coordinated in their efforts. These emerged as two-subthemes that served to also influence the team’s culture.

- **Staff Commitment.** “I think there was just a real concerted effort from early on that people really recognized that there was an increase in effort and commitment to the team, commitment to individual growth, and a commitment to values. We hired a really competent staff; we upped our budget in performance and clinical psychology and got people the help that they needed. We weren’t only saying that the guys needed to take care of one another, but I think we made a really concerted effort to take care of them as well. So if you’re taking care of them, they can say, there is value there, so I need to take care of the people around me.”
- **Coordinated Staff Effort.** “I think if we want to win, we have to be really coordinated. This is how we are going to do it, and this requires a ton of communication on the part of the staff. Then on day one with the team, we were watching video, we were talking systems, we were very organized, and there was a demand in terms of values. And I’d say that extends to the utilization of the sport psychs too. You have to have some trust in your staff (your assistant coaches and your sport psychs) that you’re all talking the same language and have staff meetings about how to manage each individual player, and then you can make assignments about who is going to talk to that player and what they are going to talk about. It’s a big collaborative effort to try and move the team along.”

### *Sell the Team Values*

“You have to have such a level of buy-in from so many people for such a period of time. If you want to perpetuate success, then everyone has to believe in what you’re doing and I think you have to sell it. You have to have a pretty definitive understanding of why you want to do things the way you’re doing them, and you have to be able to explain what that is because especially at the professional level, you’re inevitably going to deal with people who feel differently. They may have a different belief system about how to pass the ball or how to serve the ball or why you’re blocking a certain way. So you better have a real good understanding of why you do the things that you do, and be able to articulate that to the team.”

### *Have Critical Conversations: Team Talks*

“If we’re really specific about how we play the game from a volleyball perspective, a systems

perspective, a tactical and technical perspective and then we're also equally specific about interpersonal dynamics and the mental side of the game, how we treat one another, and how we leverage all of our strengths, and this requires a lot of team dialogue. We have a ton of team talks in the locker room, in the hotel lobby, in the gym, or in a restaurant here and there. We are constantly dealing with work ethic issues, interpersonal issues, emotional control issues, perfectionism issues, drug issues, ego issues... I guess that's tied to emotional responses, but clearly how people operate with heavy ego protections and insecurities. There are also agendas. People are obviously manipulative in some ways toward agendas. So we are constantly talking as a team so that we can deal with these types of issues."

When discussing the importance of team talks, Speraw shared three examples on various topics, including *The Older and Younger Player Dynamic*, *The Importance of Vulnerability*, and *Changing Body Language*.

- The Older and Younger Player Dynamic. "Just recently we talked about the older and younger player dynamic. That's something that came up recently and it also came up in 2012. It didn't really come up in the last quad because of the way that things worked out, but how you frame that experience for some of the older players who view some of the young players who are coming in as either a threat or as entitled. So I have to help and encourage a dialogue that it's about really trying to take care of the young guys and to teach them a little bit about how we act, how we behave, how we're professionals, and how hard we work. Some of the guys don't know how to deliver those messages or maybe they don't always recognize when one of the younger guys is lost or going off the rails. And when they do recognize it, they don't always know how to process their own emotions about it and convey a message that would help the younger player become better and more integrated into the program. So there are just a lot of gaps there and we have to address those types of gaps."
- The Importance of Vulnerability. "I think there is a whole language of sport psychology and the mental side of the game that just requires an element of study. We talk about things like the ten ways to win. We talk about what happens when you go 'big picture.' We talk a lot about playing point-by-point volleyball and what prevents you from being point by point. And that requires talking about how individual guys respond to pressure. It's not the same for everybody and that's why it requires so many individual conversations and honesty, and I think in particular with men and maybe women, too, you need to say, 'Hey, we didn't win. Why not?'. I think we've been very good at communicating the need for vulnerability and honesty and how that is a real sign of strength. I think we have to be vulnerable as coaches, too. I mean, I've cried in front of the team before and I think that helps the players feel free to cry. So when we've really needed to get to the heart of a matter, we've asked them to be vulnerable because we don't have time to waste. 'We have to understand everything that we can about the experience that we just had, and that means that somebody is going to have to speak up and talk honestly about how they were feeling and be vulnerable' and they've actually answered that call. It's about getting down to the root of the matter of what causes somebody not to perform well when it matters and they actually have to be honest and say this is essentially why this didn't work. This is why I was weak. This is why I choked. This is why... whatever the case may be. If everybody puts up a front and denies the fact that it happened or won't admit where they really were mentally, then you're not actually going to understand or be able to teach the appropriate mental side of the game or mental techniques to make a difference in the future."

- Changing Body Language. “Even body language, for example, if you’re a guy who is just gruff and tough and you come from a bad background and nobody has ever given you feedback about body language, you have to be able to say hey, here is some science. Here is some research. Here’s how emotions are contagious. Here’s how it is affecting others. Then you watch video and you point out how others are responding to that player. You highlight how the behaviors are inappropriate and explain what we expect of the player. If he doesn’t do it, then he’s not going to be on the court. And it’s hard for a lot of people to really understand how to change behaviors. So it just requires tons and tons of teaching.”

#### *Have Critical Conversations: One-on-One*

“The team has established values and when individuals are not displaying behaviors consistent with those values, then it’s important to address them on an individual basis. If you’re trying to increase competitive behavior and improve emotional responses, for example, but you have a guy who’s a perfectionist and he goes internal and he has poor body language, you can’t just talk to the team all day long and expect it to make a difference in the way that specific guy behaves. You’re going to have to talk to that guy individually. The more I think about it, the more I realize the importance of having one-on-one conversations and one-on-two conversations and small group conversations. It just seems like you have to break it down, which takes an enormous amount of time.”

#### *Have Critical Conversations: One-Off*

“I also think one of the most critical elements of influencing the culture is when you do one-off conversations, meaning one-on-one in front of the group. At some point the team needs to see that you are addressing the issues of the player who is hurting the team culture in front of the team. That is an important moment in the locker room. I had one of those moments in a recent playoff run. The playoffs are really interesting to me. I love it. We had this guy who was having all these emotional behaviors and I was having all these one-on-one meetings with him, but the whole team doesn’t know I’m having those conversations. So do they trust that I’m taking care of the issue, especially when they see that his behaviors are not changing as quickly as they’d like? Is their ultimate trust in the coaching staff when they see that these things are not occurring? So, we got in the playoffs and he had a total melt down in our first match and I was lighting him up in front of the whole team and it was a big moment because the whole team needed to know that I was holding him accountable, and saying, ‘Hey, this is exactly what we’ve been talking about for two years. That is why you behave the way that you do. And if we want to win, we cannot have that anymore. Here you are, you’re in the playoffs and you said it wasn’t going to happen when it matters and it did happen and that is why we’ve been talking about this.’ And everybody on the team was locked in. You’re having a one-to-one in front of the group, and when those things happen, I think they can be pretty powerful in terms of effecting the behaviors that drive team culture.”

#### *Make Tough Decisions*

“We tell them what’s important to us and if it doesn’t become important to them, we sometimes have to make decisions to get rid of people. I don’t know if you call it an inflexion point or whatever, but this is it, we’re not going to do this anymore. There are going to be significant consequences for not adhering to these values and behaviors and there needs to be a level of risk involved, meaning that you have to sacrifice potential short-term wins for long-term gain. This might mean I have to cut my best player who’s not going to subscribe to these behaviors. If that means that we’re not going to win

this year, then I have to still be willing to do that even if it potentially sacrifices my own job and the short-term success of the organization. You just can't care. I mean, at the end of the day, you have to do what you ask your athletes to do and not get big picture and do the right thing and act with integrity and say to yourself that you can only control the controllables."

"You can't control the CEO of USA Volleyball or the athletic director at UCLA. If we don't win this particular year and he thinks I'm not doing the job, is he going to fire me? Probably, but all I can do is act with integrity and do the right thing the way I believe it needs to be done. I have to just say to myself, 'If they fire me, I'm just going to move on.' I just keep telling myself that. I went through that last week. I kept telling myself that if we don't win and I don't make it through the next quad, I'll just do other things. It'll open up other doors for me. I'll spend more time with my family. I'll have more time to start a business. If I don't make it, it's going to be fine. You have to have your own self-talk too. If you're going to be a coach and worry about what other people think about you, then you're not in this for the long haul."

### *Develop Pride in What You Do*

"Maybe that's another answer to building culture... try to develop some sense of pride in whatever it is that you do so that people will self-perpetuate it. In order to do that, you need to tug at their heart strings. It's about connecting with their emotional system by emphasizing that good feeling that underlies what they are doing. Being on this team is a total sacrifice. They live overseas most of the year. They never have an off-season. They are either away from their families most of the year or are starting new families while living on the road. It's hard enough starting a new family in the comfort of a stable home here in the United States. They are working hard in the gym or in the weight room day in and day out to someday make the Olympic team and it's a really tough lifestyle. They are also a group of really, really good human beings. So you have to talk about the hard work that they're putting in and connect that good feeling with what they've done. They should absolutely be proud of what they do."

### **How Speraw Works to Maintain or Modify the USA Men's Volleyball Team Culture**

Some of the themes that helped Speraw and his coaching staff build their team culture are also relevant to how they maintain and/or modify the culture over time. Three additional themes that emerged when asked how he maintains and/or modifies the culture include: Understand That it's a Process, Model Your Values – Explain Why, and Keep Teaching.

### *Understand That It's A Process*

"I think how you maintain or modify it over time is an interesting one because I think that's the hardest part because there are always going to be challenges to it, and sometimes you don't get it right the first time. Or sometimes you don't get it all the way to where you want it to be and it can be improved a little more or you realize that you missed something. I don't believe you achieve a good culture just because of time or individual personalities. There have been many times where I've felt like we were right where we needed to be, and all the negative personalities were finally out the door, and I'd be thinking it's going to be our year. Then we would get into the season, and wait a minute, there are other issues. There are other players who aren't there for the right reasons. There are dynamics between some of the new guys and the returners. There are trust issues. And all of the sudden, you look around and you're nowhere near where you thought you'd be."

“So I think molding the culture is a never-ending process. It’s always a challenge. It’s never perfect. It’s always going to need refinement. It’s always going to need more conversations. It’s always going to need another team talk. You could probably get it right and then a guy is going to graduate or a guy is going to move on and two new people are going to come in from different programs or different backgrounds or different professional organizations, and from completely different experiences and they need to be integrated. And that process is about reinforcing the values, figuring out where changes need to be made, influencing the guys to change their behaviors, having constant conversations with individual guys or the team as a whole, being super coordinated as a staff, and making really tough and sometimes heartbreaking decisions.”

### *Model Your Values – Explain Why*

“If you want your culture to be about work ethic, you have to work hard. If you want your culture to be about emotional control, then you have to control yourself emotionally. If you want it to be about competitive behavior, it’s okay to be competitive and have a couple of days where you’re lighting the guys up and you’re letting them know that you’re in this to win it. If you want guys to act tactically and intellectually, then you probably ought to be a tactical and intellectual coach. If you are consistent in those things, then I think your players will have some amount of grace, particularly when it comes to work ethic. If they feel that their coach is working and he’s all in and working really hard, then they’ll give you some grace when they disagree with the direction of how things are going whether it’s subtle or maybe not so subtle.”

### *Keep Teaching*

“I think our ability to play well when it matters has been very strong and I think it’s been intentional. And I think the guys understand that. Even if they don’t understand it, I think if you talk about it enough how to go through those things and keep flushing out their experiences and have post locker room debriefs about this moment and this moment and this moment and keep teaching and keep teaching and keep teaching... even for the guys who aren’t the brightest players, you’d like to think that it absorbs at some point or it absorbs in enough players that it can’t help but get the 5th or 6th guy on the court integrated into what you’re trying to do.”

### **Final Thoughts**

“It’s hard. You know, it’s really hard. As a coach, I feel as though I have a pretty strong understanding of culture. I’m aware of culture. I’ve taught culture and I’ve created good cultures in the past. Yet, I go into another environment and it’s not nearly as easy as I thought it would be just because I have some experience with it or some awareness about it. It’s just hard. I always have these visions of having a full team of guys who are totally into it. They buy into the values and do every behavior that we ask of them. How come I just can’t have 12 of those guys and go to war with them? And you think to yourself, that’s just not the world we live in. It’s not going to happen... ever. And if it were to happen, congratulations, lightning struck! But for the rest of us who have to build teams, we have to deal with a lot of people who have a lot of stuff going on... perfectionism, emotional baggage from childhoods, broken homes, alcohol problems, insecurities, and the list is going to be long. So at the end of the day, you just have to try to put all those people together and it’s really really hard. Sometimes if you have a culture that’s built in, you can sometimes mitigate some of those things but at the end of the day, you have to be so attentive to it because if two or three or four people go off a little bit from where you want to be, it can pull on the program. So you just have to be constantly aware and constantly deal with it. Trying to achieve a good culture is a never-ending process.”

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Nina O'Brien of USA in action during the Audi FIS Alpine Ski World Cup Team Parallel Slalom on March 19, 2021 in Lenzerheide, Switzerland. (Photo by Christophe Pallot/Agence Zoom/Getty Images)

## Communication Coverage: Using Strategic Repetition for Athlete Groups

**Christy Halbert, Boxing Resource Center**  
**Phil Ferrar, The People Academy**

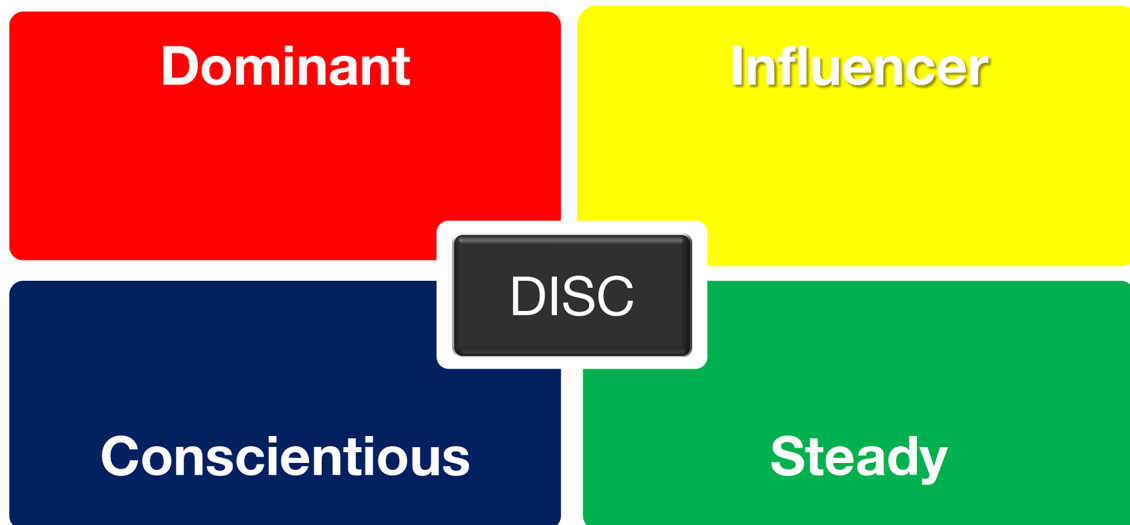
Competent coaches use a variety of teaching methods to reach athletes. For example, when teaching a new skill, coaches who follow the mnemonic device of EDIP (Explain, Demonstrate, Imitate, and Practice) can reach athletes with various learning styles, from athletes who best learn by hearing information in context, to those who best learn by imitating, thereby facilitating a more effective practice of the skill and allowing all athletes access to the various dimensions of learning.

In the same way, communication is multidimensional and flows along different frequencies. Rather than conveying information in only one way, and hoping that everyone in the group understands, coaches can engage everyone in the group at once. *Communication Coverage* is a strategic way to repeat information in distinct and meaningful ways, effectively tailoring the message for each listener. In essence, the coach translates information into multiple communication styles. Each listener is considered and prioritized, thus ensuring each individual athlete is placed at the center of the desired outcome.

*Communication Coverage* helps coaches crack the code of messaging simultaneously to each individual in any given group. Whether giving instructions, cues, logistical information, or points on group culture, coaches can personalize the same message for the benefit of each member of the audience. No longer will athletes need to translate for themselves or each other. The coach can deliver a consistent and clear message to all.

A lot of coaches deliver information in their own preferred style, and they see looks and nods from people in the group that they then interpret as understanding. A disconnect can then prove confusing, frustrating, or even offensive to the coach. Experienced coaches may then repeat information to belabor the point. However, sometimes an athlete is simply unable to fully comprehend even the most eloquent message because the message doesn't resonate with them. When considering the behavioral traits of an athlete, it's likely the case that the athlete desires understanding, but the message is getting lost in its transmission. Essentially, it doesn't matter what a coach says, it's how the message is perceived that counts. An athlete's perception is based on their organization of understanding, a clue of which we can get through their psychometric (DISC) profile. In a group context, the audience of athletes may be comprised of athletes who hear and process information in very different ways.

Awareness of our own communication style, coupled with our understanding of the preferred communication style of the person with whom we're communicating, is the first step in adapting our message so it is best received. The USOPC's coaching course, *People Dimension: The Key to Coach-Athlete Communication*, uses the DISC-profile to provide insight into an individual's behavioral patterns and preferences for interaction with others. (DISC questionnaires are a self-assessment, and free and paid versions can be found readily on the internet.)



The basic theory of DISC is that, based on previous life experiences, people behave across four key modes of interaction and orientation to others, scoring in varying amounts as Dominant, Influencer, Steady, and/or Conscientious (DISC). This is best likened to a “gravitational pull” for habits of behavior. While everyone possesses a combination of the four key characteristics, each person differs in their proportion of orientation towards tasks or people, as well as in their preferred pace of action. Knowing the personality pattern of an athlete, and crafting our message accordingly, can help us more effectively communicate with that athlete in one-on-one sessions of goal-setting, training, cueing, critiquing performance, and even when passing along seemingly mundane information. Expertise in DISC is not a prerequisite to benefitting from a basic understanding of its organizational concepts. In fact, often the coach must communicate without benefit of knowing an athlete’s DISC profile. Many coaches also find the majority of their training time is spent with groups of athletes, whether in teams or grouped individuals. Groups are diverse in their composition of individual personalities and preferences for interaction.

Communication Coverage uses strategic repetition to reiterate a message, thus providing consistency as the message is reinforced repeatedly to everyone in the group. In the case of DISC-based theory, the same message is rephrased in four different ways, to cover all four key personality types. The phrasing for Dominant (D) personalities would be efficient, decisive, and focused on the result. Wording for Influencer (I) is best when it’s optimistic and persuasive. Styling for Steady (S) orients toward support and cooperation with others. Language for the Conscientious (C) uses logic and emphasizes process.

**General Keys for Communicating with an Individual, based on their DISC-profile**

|                 |  |
|-----------------|--|
| Phrasing for D: | Keep it simple and to the point.   |
| Phrasing for I: | Persuade and personalize. Element of fun underlined by serious points.                   |
| Phrasing for S: | Use clear, succinct summary statements. Give them a chance to ask questions for clarity. |
| Phrasing for C: | Emphasize logic. Explain why. Prepare to provide details, so know your stuff.            |



Below are general examples of different types of information that a coach may need to share with a group of athletes, along with four phrasing options that, when combined with each other, cover various communication styles among individuals in the group.

**Logistical Information: The bus leaves at 11am on Saturday.**

|                 |  |
|-----------------|--|
| Phrasing for D: | Be on time for an 11:00 departure on Saturday. The bus rolls out at 11:00!   |
| Phrasing for I: | Please be on the bus and seated by 11. If you're late, we're late. If you have problems, text coach early. [Send a text reminder the night before to everyone.]  |
| Phrasing for S: | We're leaving at 11:00 so we have enough time to check-in, set up our prep area, and get warmed up. Any questions or concerns? [If there's a change of plan, let them know as soon as possible, and what they need to do.] |
| Phrasing for C: | Any questions about the schedule? [Pass out and/or send an email with a detailed itinerary for reference.]   |

**Instructions: Everyone find 6' of space for the next exercise.**

|                 |   |
|-----------------|---|
| Phrasing for D: | Get into space, give yourself about 6' to work.                                     |
| Phrasing for I: | Imagine you're in the spotlight on stage... you want to stand out, right?!          |
| Phrasing for S: | For this drill it's important there's no chance of making contact with anyone else. |
| Phrasing for C: | Everyone needs to be 6' apart so you have enough room to properly execute.          |

**Coaching Cues: Increase the intensity in the drill.**

|                 |   |
|-----------------|---|
| Phrasing for D: | Pump it up! Dig deep! Higher output!  |
| Phrasing for I: | Go! Go! Go! Wow the crowd!  |
| Phrasing for S: | Dial it up a notch. Shift into a higher gear and go for a personal best here. |
| Phrasing for C: | By "intensity" I mean I want faster, stronger, and more responsive movements. |

**Culture: Tidy up after yourselves before leaving.**

|                 |   |
|-----------------|---|
| Phrasing for D: | How we do anything is how we do everything — that includes cleaning up.                             |
| Phrasing for I: | The sooner we get done, sooner we go home. or If you'd stop moaning about it you'd be done already! |
| Phrasing for S: | Leave the space cleaner than we found it. We want people to be impressed with our team.             |
| Phrasing for C: | Everything in its place. I want to see everyone doing their part to clean up.                       |



**Logistical Information: Paperwork is due by end of day on Friday.**

|                 |   |
|-----------------|---|
| Phrasing for D: | Just do it! It's necessary and you aren't able to play without clearance.                       |
| Phrasing for I: | Please get this done. Don't let me down.  |
| Phrasing for S: | All paperwork must be in by close of business on Friday so we meet the deadline of eligibility. |
| Phrasing for C: | All three forms signed, sealed, and delivered to my office by Friday. Any questions?            |

**Instructions: Put away the equipment.**

|                 |   |
|-----------------|---|
| Phrasing for D: | Be disciplined! It's not all about you!   |
| Phrasing for I: | Come on, do it for the team!  |
| Phrasing for S: | Put all equipment back where it belongs. Consider the next people who are using this space. |
| Phrasing for C: | I want the space looking show-room ready. I expect every single one of you to pitch in!     |

**Coaching Cues: Move to the right.**

|                 |  |
|-----------------|--|
| Phrasing for D: | Go right!  |
| Phrasing for I: | The other right!   |
| Phrasing for S: | Go to the right side to maximize your position.                            |
| Phrasing for C: | We go right here to limit the opponent's options and advance our position. |

**Culture: Support your training partner(s).**

|                 |   |
|-----------------|---|
| Phrasing for D: | Get in there and show them how it's done.   |
| Phrasing for I: | Be a good teammate here.  |
| Phrasing for S: | Make each other better today!   |
| Phrasing for C: | Use this as an opportunity to learn and improve. You get better as they get better. |

Steps to implement Communication Coverage:

1. seamlessly repeat information in one style after another, in paragraph form
2. use the same order for delivery, and stick with it as you become comfortable with the differences in styles, for example, D-I-S-C, C-S-I-D, or any other order that makes sense
3. confirm understanding by asking open-ended questions, and be prepared for an athlete's question to likely reflect their own DISC profile (and therefore they will expect a similarly crafted response)

The strategy works as a subtle undercurrent, targeting each athlete as you click through the various communication channels. A word of caution, however. Never single out individuals based on their personality traits, such as, "Now I'm going to say it this way for you, Alex, because you probably didn't hear this the other three times I said it." Instead, maintain confidentiality, and allow Communication Coverage to work subconsciously for each athlete, so each can have their own "aha" moment of understanding and appreciation that you are finally speaking their language. The most self-aware



athletes will be amused when they figure out the process. Share the strategy (and DISC) with other coaches, but be careful not to label people. DISC and other inventories offer insights, they are not fixed nor deterministic.

While a complete understanding of DISC isn't a prerequisite for using Communication Coverage, the method does require practice to deliver its quadraphonic message. Like any new skill, developing the agility for this new approach will require a bit of patience and intentional practice.

## Summary

Efficient communication is critical for success. While coaches may be accustomed to repeating themselves in practice and competition, using the strategy of Communication Coverage is a more efficient and effective way to strategically repeat information that reaches and resonates with more athletes more of the time.

The practice of Communication Coverage signals a commitment to ethical practices, including integration of learning styles into training. Communication Coverage ensures equitable access to information as the coach becomes more adept at adapting their message across the whole spectrum of communication styles. Doing so can save time, and make the coach seem smarter to those stakeholders who suddenly get their message.

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Simeon Hamilton of the USA sends his team mate Gus Schumacher of the USA off on the final leg of the Men's Cross Country 4x10 km Relay at the FIS Nordic World Ski Championships Oberstdorf at on March 05, 2021 in Oberstdorf, Germany.

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