

Paralympics: A Firsthand View (Part 1)

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Good morning, everyone. Thank you so much for joining us this bright and early beautiful day. I am excited to share with you all of some information that I hope you'll find valuable and useful in your everyday lives as well as in your practice. And the main focus this morning is going to be Paralympic athletes, a.k.a. you may often hear terms such as para-athletes or challenged athletes. And we're going to look at the application of integrative sports medicine and what that means in the space of Paralympics and Paralympic athletes.

Super. I feel like I'm ready for my next.

And so this morning to help me get through the PowerPoint slides, I'm going to have Dr. Stark assist me with that. And we'll just take it-- take it as we go. So thanks again for being here.

Our agenda this morning is going to look at what is the Paralympics. What sports does that include? How are athletes classified as para-athletes, and then hopefully down the road that's Paralympians? We'll look at the different types of classifications. And we'll talk to those quite a bit.

And then we're going to look at integrative complementary medicine, and what that all means, chiropractic, acupuncture, massage therapy, energy work. We'll do a quick look at a case study. And then we'll talk about some things for you all to consider and keep in mind as you move forward in your practice. And then we'll do a quick, a short and sweet question and answers. And then we'll wrap things up.

So a bit about me, thank you Dr. Stark. That was a very genuine and humbling introduction. It's been fun working here at Northwestern.

But where things all got started, I was actually born in Colombia. And my parents emigrated to New York City when I was about 13 months old. So I was raised in New York City. And on occasion you may hear me say things like coffee.

[CHUCKLING]

And the reason my parents came to New York City was actually seeking treatment for a medical blastoma cancer diagnosis that we were given in Columbia when I was 13 months old. So they extended that treatment. It was really groundbreaking. And it was occurring in New York City.

And they hoped it would take about three months. It ended up taking 2 and 1/2 years long. And my parents decided to relocate my family and basically uproot their lives and stay in New York City. Thankfully, we had the opportunity to have an incredible exposure to educational resources.

And so I was raised along with my other two sisters. So there are three of us. I'm the youngest.

And I ended up that kind of you know, flying off after high school to Stanford University. My parents thought that that was going to be too far for me to go for college, so they didn't help me with my college application. I instead took it to school. And I had friends and a couple of wonderful faculty help me fill it out. And that's how I got to Stanford.

Wrapped up my studies there in mathematics. And then worked for a few years in the nonprofit sector with the ACLU before going off to med school-- sorry, my business school, and where I obtained my MBA in finance. And after working for-- in the corporate sector for Dow Chemical and IBM, I decided that I was going to pursue my Paralympic dream.

So we go on to the rest of my background. You'll see that there is a bit of athleticism, I guess, in my genes. I was a dancer with the National Dance institute back in the '80s. And so that'll date me a bit for all of you. But I did dance ballet, tap, and jazz.


And I had the pleasure of training with a world renowned class dancer Jacques d'Amboise, for those of you who are interested in googling him and googling some of the organizations they use. I did do some cycling with my dad. My dad would actually run alongside me and he pulled the back of my seat actually, very likely to steer me. And that's how I would cycle. So I thought thanks dad.

He was quite a runner himself in his day. And he loved to play soccer as well. And then right after Stanford, I did summit Kilimanjaro in 2001 as part of a mission with the Achilles track club. And our goal was to bring resources to children-- blind and visually impaired and deaf children-- resources, so Braille books, computers, basic supplies for schools, pens, papers, you name it, glue sticks, you know, these types of things that are hard to come by in many countries.

And so we did a trip through Kilimanjaro and did that service with a couple of the schools. And that was around the time when I started to pick up running. So I guess then my competitive side starts to emerge a little bit. And I start running in Central Park. And it started out with two miles. I ended up going home and taking a nap.

And two years later, thanks to some wonderful friends and incredible volunteers and guide runners and some coaxing with hot chocolate, I end up running my first marathon. And that was in 2003. So I ran-- I've run the New York City Marathon, the Boston Marathon. And that then expanded into triathlons, and then finally towards the 2016 Paralympic games.

So let's talk a little bit about the Paralympics and its history. There's actually been some organizations or clubs should we call it, in existence way back into the 1880s. And there wasn't an organization a club specifically for deaf athletes. That was in the history books back then.



We fast forward to 1944 where we have Dr. Goodman, who's actually from Great Britain. And he founded the Stoke Mandeville hospital. And this was a place originally for post-World War II that to come within severely injured and traumatized through the experience of war. And so he founds this hospital to bring rehab and recreation opportunities as well for these individuals.

So in 1948 there's the first Stoke Mandeville Games, which were held at the Stoke Mandeville Hospital location. We'll take it a bit fast here. So we'll move forward to 1960 when the Stoke Mandeville Games became the International Stoke Mandeville Games. And then they're actually held in the same location as the Olympic games that year. And that happened in Rome, Italy.

So in 1964 we have the International Sports Organization for the Disabled. And that's formed in order to expand the inclusion of disabilities into these types of sports and activity. And as time progresses, and as you can imagine, lots of other organizations form. So there's organizations to represent cerebral palsy, the IBSA, which is to represent blind and visually impaired individuals, there's the wheelchair organization that gets founded, so you name it.

And then we look forward to 1976, because out of all these organizations we are looking for inclusion of other disabilities into the games. And so in 1976 is the first games where we have visually impaired athletes who compete in Paralympic Games. And that happens in Toronto. So thank you, Canada.

1982 we had the International Coordination Committee. And that was basically formed to govern the games as well as to increase the opportunities of dialogue with the International Olympic Committee, because if you're not aware of the International Olympic Committee and the International Paralympic Committees are actually separate entities. And so there was a need to establish this dialogue and partnership between the two organizations.

So in 1989 we get the official formation of the International Paralympics, which today, most people will hear Paralympics. And that word is actually formed from the Greek para for parallel, and then Olympics. So we have the games happening in parallel with each other. And the Olympics usually will happen first step, and the Paralympics follows in the same location using the same venues somewhere around two, to three, four weeks later, depends on the year.

So let's talk about how do athletes get to be Paralympians and how this classification happen within the Paralympics? We start out back in 1948 when Dr. Goodman had arranged is classifications with his athletes. And those specifications were based on a medical diagnosis. So the cycle of spinal cord injury, whether it was neurological, the type of amputation. And as you can imagine, a number of categories then give rise-- thousands and thousands of disabilities and diagnoses.

And so looking for a way to bring down this expansive number of classifications, in the 1980s we finally get to a classification system that switches and then transitions from a medical

diagnosis to a functional diagnosis. And the only exclusion or exception to that is going to be the athletes with a visual impairment. That, till this day, still remains as a medical diagnosis.

Let's see. This basically means that the main factor that's going to be considered is the extent to which the impairment impacts the performance of the athlete. So it has to be then, very sports specific, because if you think about it, a disability or an impairment for one sport-- let's take an athlete who is maybe an amputee below the elbow-- the impact of that impairment for swimming is going to be quite different than the impact of that impairment for running, and so quite different.

What that also means is that some sports within the Paralympics may have more classification than others. So we look at specifically today, we'll take a look at Paralympic track and field, and we'll note that Paralympic track and field actually has 52 classifications. But then we get to explore sport like ice hockey, and have one classification. So quite a difference there in things to think about.

So these are actually classified based on three main questions. So does the athlete have an eligible impairment for the sport they're considering? Does the impairment meet the minimum disability criteria for the sport? We'll talk a little bit about that as well. And then which sport classification describes the limitations most accurately for this particular athlete? So those are the ways-- the big things that are considered when an athlete is going to be classified for a particular classification within a particular sport.

And then the types of classifications, I've just listed them here and we did talk to some of them. But we can talk about-- let's see-- there's impaired muscle power. So that has to do with the reduced force of muscles. And that can be on any part of the body and limb, lower half of the body, upper half.

We talk about impaired passive range of movement. And this actually relates to permanent impacts or effects on a joint. So things like an acute condition of arthritis would not qualify here in this particular category. So this has to be a permanent impact to the joint structure.

Then we've got limited limb deficiencies. So that can apply to situations where that would be an absence of bones. We've got right leg discrepancies. Very often this is coming either from birth or trauma. Short stature, so that again, can result from growth hormone dysfunction.

We've got a hypertonia. And that can apply to neurological conditions such as CP or multiple sclerosis. We've got ataxia, which has to do with the lack of coordination. Again, that too, can apply to athletes with brain injuries or CP. So you'll see there could be some crossover or some athletes depending on the sport.

And then we've got athetosis. So that's really going to be the balance of the athlete and involuntary movements. We've got visual impairment. And that's going to be divided into three classic categories itself, those who are totally blind.

And then two classifications or categories for those who have some remaining usable vision. And then finally, they're the intellectual impairment category. So that should cover it. That should cover all of those. These categories and definitions were actually taken from the World Health Organization and some of their terminology and definitions. So if you're interested in that, you can go ahead and do a little research on that.

What's not on one of these slides and what I do want to cover is what the Paralympics is not. It's very often a misnomer with Paralympics and it gets confused with the Special Olympics. And so we'll let all of you note that the Special Olympics was actually be founded with the goal of inclusion for individuals with intellectual disabilities. That was its premise.

And its promise is also to bring about joy and inclusion through sport. But there's no requirement and there's no standards that these athletes have to meet in order to compete in any kind of sport activity, unlike the Paralympics, where the Paralympic is set up very much identically to the Olympics in the sense that there are standards that athletes have to hit in order to make either national team B or national team A status, and also standards to hit in order to get to be a Paralympian athlete. So to make the Paralympic team or any kind of the Pan Am games that we often hear about, those all have time standards and requirements that need to be met, whereas the Special Olympics doesn't have that.

And so now let's take a look at a few videos. I thought It would be fun to show you guys how some of the athletes participate in getting their sports in the Paralympics. I, of course, started out a little biased here, because I'm going to start out with a T11 video, which applies to athletes who are totally blind. And so we will race-- such as myself-- we will race with a guide runner.

So Dr. [INAUDIBLE], can you summon that up? And there may not be audio here in the videos. And very often, there's these videos do start with a lot of commentary about the athletes who are participating. So hopefully, you can stick through some of that.

But I think the important things to look for here are going to be the different ways athletes might be tethered as they run on the track and the role of the guide runner. And so by tethering, as we watch this, basically justifies to a string. So athletes can be connected by a string that they would either hold in their hand, and the guide runner-- so here's Dr. Stark, he's my guide runner. So he would also hold the tether in this hand. Thank you Dr. Stark.

In this particular video, it's taken back in 2015, when the rules still allowed athletes to be tethered actually at the waist. So in that case, I would tether just in my fancy, dandy, very expensive equipment here, my shoelace, [INAUDIBLE]. And I would attach this to my waist. And then the other interrogator would be on my guide's waistband of his shorts.

This rule changed after these 2015 world championships, because I was the newbie on the scene. And no one expected that I would be running as fast as I had run. And other countries actually protested my tethering method. I was tethering at the waist, because I wanted full use of my arms, and I wanted to feel that I was running independently.

If you think about the mechanics of when you're tethered at the hand-- I'm going to have you this for me, Dr. Stark. We're going to basically be in a three-legged race because our arms are going to move together. So our leg are by default, have to move together. And so if you think about the power of my guide can influence my stride length and my power, my propulsion power. And so this is what I didn't want.

But the rules get changed for the 2016 Paralympic Games, which basically banned my tether at the waist. And I'm forced to learn how to run hand tethered for the 2016 games. This rule, by the way, is now back in flux.

And there is some change happening in 2018 and moving into 2019. And I am very hopeful that the waist tether will return. Stay tuned for that.

The next video I think we might have had was--

The T44s which are going to be you amputee or basically limb impairments. And in these cases, there are also three categories for leg amputees, because there are athletes who may have maybe a double amputee, so from the hips down. Others may be impacted just one side, one limb. Others may be below the knee. So there's different categories to encompass these different athletes.

And the key here to look for I think, is going to be you know, what's the balance like for each of these athletes? How do their different prostheses impact that torque on their bodies on their pelvis? And eventually, all the way up, right? It travels all the way up, up through the shoulders, up through the neck and head. And so very important when we get to thinking about how can we incorporate legalities like chiropractic and structural integration into these athletes' self care and recovery?

And then, let's see. The last video that we have is going to be wheelchair athletes. I wanted to show you guys some of these because some of these athletes can race in very different chairs. All the chairs do have to pass inspection. And there are certain requirements for the basic chairs.

But depending on the athlete's impairment, sometimes they may race in chairs that allow them their lower limbs to be out front ahead of them. Other times, you may see videos where the athletes are actually leaning forward and in a sense sitting on their legs. So think about in those cases so it impacts the circulation, even though in some cases, athletes may not have sensation because of the Paralysis in their legs, the impact to circulation and how that impacts the rest of their body is this going to be very important and crucial.

So if we've gotten through those, let's take a look then a little bit about the integrity of sports medicine and what that looks like a little Paralympic athlete. I've been talking a little bit about these different accommodations or these different methods that athletes will use as they race. But you can imagine that because of the high level of competition and training involved, there's huge windows here for all kinds of integrative options. So from acupuncture to calm the nervous system pre and major competition to chiropractic and structural integration for alignment. Massage therapy, I think, I'll point out very important as well, because there's oftentimes for many athletes where certain muscle groups or certain tissue is never addressed unless you, as a practitioner address it.

Sometimes there's a lack of information and lack of education as to the benefits of actually helping athletes -- let's say paraplegics-- move and mobilize those, not just the muscles of the joints, but impact the flow of limbs and impact positively the flow of that venous system through the legs and up through the rest of the body.

So let's see, there's that. What else can we talk about? And lastly, I throw in a plug for some energy work. I think sometimes depending on the sport and depending on the demands of the training and competition, sometimes any of these modalities right afterwards might be too much for an athlete. And so in those cases, definitely consider some energy work.

I'd say that the other benefits of offering these modalities and these forms of care, in that you really have an opportunity to limit medications when they're not necessary. And that in turn, is going to limit side effects, and in the end, we're going to get the maximized performance. So this is the key with the Paralympic athletes and any elite athlete or even your weekend warrior maximized performance.

And so the more the body can be in tune with itself, the better we can-- the athlete can perform. Let's see. So we talk about--