

Katie Johnson: Good morning and welcome to Apple a Day, Lake Region Healthcare's health and wellness show, where we feature news and information you can use to live a healthier life. I'm Katie Johnson, your host, and my guest today is Brian Pickering. Brian is the specialty care coordinator at Lake Region Healthcare's Clinic Services, and he's also a certified athletic trainer, and he's joining me today to talk about National Winter Sports Traumatic Brain Injury Awareness Month. How's that for a mouthful? Good morning Brian.

Brian Pickering: It's quite the mouthful, and obviously we know you get all these months, and this happens to be the one we're on now, or one of the many that fall in January.

Katie Johnson: It does, and we kind of liked this topic and chose it for our show today because there is a lot of publicity around brain injury these days, and maybe some misconceptions, and certainly a lot of room for education about what we can all do to be a little bit more proactive. People that we get in our families, who might be in high impact sports that should be familiar with the risks, but there's a lot of everyday things that have risks that come with them too, so a lot to talk about. Let's start out just by giving our listeners a little bit of background on who you are, and what your background and role is here.

Brian Pickering: Yeah, so like you said I work in clinic administration, or clinic services right now, I have almost 20 years of experience as a certified athletic trainer, and that's kind of my background and where my expertise lies in, I guess you could say, or my passions.

Katie Johnson: Right, yeah you've done a lot of work in that area, so as we dive into the topic itself let's start with defining traumatic brain injury. What does that mean and how do you identify? And we'll call it TBI for short, a traumatic brain injury.

Brian Pickering: Yeah, so traumatic brain injury is really defined as some sort of external force that puts a cognitive or an altered state of consciousness really on the brain, creating that impairment or some other cognitive abilities, or even influencing physical functioning as well.

Katie Johnson: So what's the difference between a concussion and a TBI?

Brian Pickering: Right, so a concussion would be a sub qualification of a TBI. When we talk about a TBI we talk about any traumatic brain injury, when we talk about a concussion we're talking about a specific focus within there. And generally we think of concussions occurring in day to day activities or sports, which is accurate and true, but a concussion can occur from slipping and falling and hitting your head. When we think of TBI's it's held for the big stuff, the car accidents, and the falls from many stories, things like that. But in reality either one can cause, a fall or a car accident can still cause a concussion and not a TBI, and in the same turn you can still get a TBI from sports, because really a TBI is a larger definition of a concussion.

Katie Johnson: Sure, so with that in mind, what's the broader population of statistics around TBIs? It's, like you said, much more than just professional sports.

Brian Pickering: We're in that season, and we talk about this being Winter Sport Traumatic Brain Injury Month, and the concussions we see now come from things like hockey, but they also come from things like figure skating. My five year old came home the other day and said, "I want to play hockey," and I kind of looked at him like, "Ugh, really?" You know? And those kids that haven't learned how to skate, or are learning to skate, or even if it's an adult learning to skate, you get that falling, or you talk about sledding, tubing at this time of year, downhill skiing, if I didn't talk about that, even snowmobiling all run risks of creating injuries and TBIs, or concussions come with them.

Katie Johnson: Statistics, as we've been reading about this and planning for it, are kind of interesting. One of the things I found really interesting is the ages of those at highest risk for TBI. Can you elaborate on that a little bit?

Brian Pickering: Yeah, so we see that mostly in that younger group, that zero to fourish range, and then those that are older, or elderly, the 75 and older. And what we see is that balance and proprioception become a big problem or a major component of that, what causes me to slip and fall on the ice. You know, we think of grandma or whoever, that elderly person slipping and falling on the ice, and the first thing that pops in our head is, "Oh, they're going to break their hip," or, "Oh, they're going to fracture their wrist." But really we worry about the head hitting around, because of the high impact from the fall, along with the whiplash that kind of comes with it.

When we talk about brain injury areas, it's not the side of the head that hits the ground, it's the opposite side. Or the same thing happens with a helmet, or whatever the case is, the brain sits in that fluid, and as it gets hit it slides across and bangs up against the other side of the skull, and that's where we see the bruising or that lesion occur. So we worry about those sorts of things as well. If you look at the broader population there's been many studies that are starting to look at where the hit occurs on an athlete to cause long term issues with concussion.

I use one of my twins as an example, she's 15 now, but we've been dealing with concussion and post-concussive symptoms for three to four years with her. And those kids that get hit in the back of the head, and we're not sure why, but there's something that causes a long term issues with symptoms. She still, like last night, came to me and said, "Hey, I'm getting these weird numbness things, and I'm getting these sharp headaches coming from the back of my head." And we, personally, we've taken it, we've looked at it from many different angles, form neurology to neuropsych to whatever the case is, but we haven't zeroed in on, as a profession, what causes those symptoms to linger in those kids hit in the back of the head. So we talk about falling on the ice or whatever, that becomes a concern.

Katie Johnson: And you mean the back of the head versus the front or the side, that there's different long term effects based on where the actual trauma is?

Brian Pickering: Right. So those people hit more in the front of the head seem to have symptoms that resolve quicker, or on the side, than those that get hit in the back. For some reason to be studied, if somebody really wants to look into that, that's one thing that we're starting to see is that that's creating a longer symptom resolution.

Katie Johnson: Interesting. The most benefit can come out of talking about this is talking about what can we do to prevent traumatic brain injury and/or concussion.

Brian Pickering: Right, so we talk about ways to protect the brain. There's no perfect helmet out there, we can't bubble wrap our kids, that's doing a disservice to them as well. But just being smart about things, being aware of the weather conditions. Whether that's because you're driving in white out conditions and you're at a risk of a car accident, or driving at excessive speeds when the roads are icy, those sorts of things as well. We want to be smart. But if you're playing hockey make sure you have a helmet on, if you're out on the ice and it's just a recreational period, and there's multiple people around, be aware of your surroundings. Make sure that, if you are wearing a helmet, that it's the right size. That it fits you appropriately. Obviously and then just be aware of, if something happens, what are you going to do?

Katie Johnson: Right, just kind of being ready for those what if scenarios. If you do suspect that your child, or your parent, or whoever it might be, someone has slipped and hit their head, are there certain symptoms that you can kind of look for and know that this requires a follow up, or more action?

Brian Pickering: Yeah, so we talk about the big ones: seizures, excessive vomiting that you can't explain, loss of consciousness, so the inability to awaken or arouse them are all big ones that I look at. Bleeding from the head or bleeding from the ears would be that as well. Fluid loss, or not even blood, we talk about any fluid loss coming out of the ears, 'cause that can be cerebral spinal fluid as well that we lose out of there as well. Those are the big ones.

We've moved away from this whole idea of we should wake up our kids every hour or two hours, whatever the case is, that's not good. We want them to, especially after ... I'm going to use this word, and I hate using it because it's not appropriate, but after what we consider to be these more mild, because there really is no mild brain injury, but these concussions that we feel like can be managed and hopefully resolved in say two to three weeks, the sleep and the limited, 48 to 72 hours of cognitive, and brain rest, and physical rest is good, but after that point there's a social psycho factor that comes in, that we really need to be aware of, and keeping kids away from their peers, and taking them out of those social situations, is almost more of a detriment to long term than getting them involved in some kind of a minimal basis, even if it's just letting them

spend a half an hour with their friends. So the sleep component of that initially is better than waking them up.

But like I said, the seizures, the vomiting, the inability to arouse, and anything coming from the ears or the head, bleeding or other fluids that you're concerned of, those would be the big ones I would look at.

Katie Johnson: Definitely. I think we've really come a long ways, recently, in terms of both the expectation and the acceptance of wearing helmets for a lot of sports. I think about skiing, something our family does, it's more uncommon to see people without a helmet now then it used to be, and we've also come a long ways I think in terms of knowing how to react, and how to best care for concussions and TBIs in those that we see. So having sports trainers at most of our high school activities, for example. These are all really positive signs for brain health.

Brian Pickering: Yeah, I would agree. I mean, I was watching a hockey game the other day and just the littlest thing caught me, is that a player didn't have a visor on. And we've gotten so far now, from the point where we didn't wear helmets to then we just wore more or less a cheap plastic bucket on our head, to now these helmets are fit and designed to take the hit, bend in a way to kind of help protect the brain. To see that, even in the sport of volleyball, there's been some kids that I've worked with at schools around here, or schools in the Fargo area, that they're wearing a softer helmet out on the field, but we've definitely moved past this whole idea of giving a kid smelling salts or saying, "It's fine, you just got your bell rung," and sending them back out there.

When I grew up in the 80s we didn't wear helmets when we rode our bike, now my kid knows that, when he goes to the garage, the first thing he does is he grabs his helmet and throws it on his head, before he ever goes and grabs his bike. It's the culture we've grown up in, and it's these little things that we've decided are of benefit long term.

Katie Johnson: Right. So we've come a long way, but maybe have more to go. What do you see for the future, or what do you hope for the future of preventing brain injury?

Brian Pickering: Yeah. I don't ... as far as preventing brain injury it's really about who can create that next step of a helmet. We're kind of fighting against ourselves, if you have watched sports or you have watched any even recreational sports, or even snowmobiling, we've created machines or people that move faster, at higher speeds, that are more athletic, that it's a thrill, it's a rush. And that's what we've done is, we all want to go faster, we want to do whatever the case is. Well, when you're accelerating or moving a human being through whatever, down a hill, across the open field, or through woods on a snowmobile, or across the ice, or across a football field, if you're going faster the collision's going to have more force to it, there's going to be a higher rate of injury. So we can continue to make better equipment hopefully, but there's always got to be these rules, or something that goes along with that, in order to do that.

I think as far as diagnosing and maybe treating head injuries, or TBIs moving forward, I don't think we're going to be that far away from maybe starting to see a blood test. There's lots of studies out there on these right now, they're getting close to being FDA approved, but you're going to be able to draw blood and look for increased levels of certain neurochemicals that will have been released. And we're going to be able to treat these, and maybe even identify those that have potential risk of long term issues.

We've also become much more multi-dimensional, or multi-specialty. Like I said, I go back to my own daughter, we've seen her primary care pediatrician, we've seen somebody that specifically deals with concussion and post-concussive symptoms. She has a neuropsychologist, she's got a psychologist, she's got a pediatric neurologist, she's got me at home, you know what I mean?

Katie Johnson: Right.

Brian Pickering: So we talk about a multi-disciplinary ... She's got an acupuncturist, and we talk about all this as a multi-disciplinary way to treat her. We're all expertise in certain areas, and it's getting everybody together and coming up with a plan that fits this kid or that person appropriately.

Katie Johnson: Right. Well, that's definitely good news for the future. Anything else you want to share with our listeners this morning, as we wrap up our discussion about Winter Sports Traumatic Brain Injury Awareness Month?

Brian Pickering: No, I would just say be aware that the risk is out there, understand going into it that there's always going to be a risk in this, but don't feel like you should be excluding or sitting on the sidelines. Because we talk about, and I'm sure you're going to say this at the end, but there's a lot to do here and stay healthy for it. Don't feel like, "Oh, well I could potentially get an injury by going out and playing hockey this weekend," or, "I should never go skiing because I could potentially get injured." That's not the right attitude to have about it, the right attitude is to say, "We should all be living healthy lives, and being active, and doing things that we enjoy doing. Not only for our mental health, but a break from our jobs, and whatever the case is." And understand that the risks are there, but know what you can do to help mitigate those, and if there was something that happens to occur, know what steps you're going to take in order to treat that, or move forward to get appropriate medical care.

Katie Johnson: Right, like you say, life is here to be lived, and we've got a lot of enjoyment to be had in the winter months, so great advice for our athletes and for everyone, to be aware of your surroundings, be smart, be proactive with protective equipment, but don't let that stop you from enjoying winter. Thanks for joining me this morning, Brian.

Brian Pickering: Thanks for having me on.

Katie Johnson: Brian Pickering, Specialty Care Coordinator and Certified Athletic Trainer at Lake Region Healthcare. My guest today as we talk about National Winter Sports Traumatic Brain Injury Awareness Month on Apple a Day. Brian and Katie both remind you there is so much to do here, stay healthy for it. Have a great day.