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Chair

Mr. Peter Fonseca

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● (1740)

[*English*]

The Chair (Mr. Peter Fonseca (Mississauga East—Cooksville, Lib.)): We'll call the meeting to order.

We have some very special guests here with us today—Eric Lindros and Chris Nowinski—to make the most of this opportunity as we look at sports-related concussions here across Canada.

We have votes in this place, and we have one coming up at 6:15. We would ask for a consensus from the members that we break right at 6:10 to give Eric and Chris the most amount of time. We're going to go into votes, which may take half an hour or so, and then we'll be back. We'll extend the time if we have consensus—I've heard from some of the members that that's all right—so that we can hear from these great witnesses.

On that note, I don't want to take up any more time. We are going to get started with Mr. Eric Lindros. He's a Canadian icon, and we have watched his storied career through the NHL.

Mr. Lindros, you have the floor.

Mr. Eric Lindros (As an Individual): First of all, thank you very much for inviting us here today. It's an honour to be here. Hopefully, we can talk about some ideas and talk a little bit about the past, but I think it's far more important to have a game plan going forward than to be looking at the past and being negative about it. I think we learn from the past, but let's really focus on the positives. I'm glad you guys have put this together, and I'm happy to be here.

I'm more of an answer type of person, so if you want to get started in that fashion, I'm certainly open to that. I have some different ideas as we go through.

The Chair: I think the members are itching to ask you many questions. We really want to hear about your story and what kind of change you would like to see when it comes to addressing the issue of concussions.

We're going to start with the Liberals, then over to the Conservatives and the NDP, and we'll keep going in that rotation.

Mr. Eric Lindros: Sure.

The Chair: We'll start with Mr. Fisher.

Mr. Darren Fisher (Dartmouth—Cole Harbour, Lib.): Thank you very much, Mr. Chair.

Thanks, Eric, for being here.

We've talked over the past weeks about concussions, whether it be prevention, diagnosis or treatment. I know that you talk a lot about prevention. I was reading about Arthur Brown's research at Western, and I think you said, “It is the first time I have seen work that could result in a quicker recovery from concussion symptoms.”

That fascinated me because I've read as much as I could in the last couple of months, since this committee was formed, and, until I read this work, I had not heard that you could recover more quickly. I thought maybe you could tell us just a little bit about this.

Mr. Eric Lindros: I'd love to tell you more about it. I wish that Arthur Brown had finished his research and was further along...and this might be part of it. He has worked hard, and we're hopeful of positive results—or negative results, for that matter.

When you think about research, you want to get things happening as quickly as possible, and overall, I think we can do better. When I look at the system of research, I wonder if are we collaborating enough. It's hard to raise money. I've asked about 30 different researchers for their opinion as we're restructuring Rowan's Concussion Legacy Foundation.

It's a three-part situation where we are looking at research and how we can do research better. How we can make it more efficient and more effective? How can we get to our results and tell the world about our results more quickly? Then, when we have our results, how can we get through them, and how can we translate them into something that's clean, well vetted and ready for the street? The third part is how we handle the street, how we market this, and how we present the findings as quickly as possible, so you're coming out of the research arm right into the street.

We have a bunch of different ideas on that, and I could just touch on one. A lot of people have questions about their kids going through certain situations, and I'm just so confused as to why we can't have one protocol across our nation. I just don't get it.

Certainly, if you're in different sports, there are going to be a couple of different things that you're going to look at in getting back to play, but for 90% or so, whether you're in horseback riding or playing soccer, it's the same thing. We're talking about sport concussion here. A lot of concussion is not occurring in sports; it's occurring in playgrounds or with kids at school, and things like that. I don't think we want to forget about that. I think if we did this properly, it would blanket much more than just sport.

I think doing it once would be cost-effective. We have great doctors. If you look at what goes on and who's representing Canada, we have the names. We have great research facilities: McGill, UBC, Calgary, Western, U of T. It goes on and on. It's everywhere. We have the people. How can we get this working as a group? That's where I see frustration.

Mr. Darren Fisher: If we're talking about treatment, diagnosis and prevention, Arthur Brown's work touches on treatment. I know you also have lots of ideas about prevention, and we can get to that in a second.

I'm just thinking about diagnosis. Going back to something you said, just because you have not received a knockout hit, that doesn't mean you haven't had impact on your brain. We had a moment to speak before the committee started, and I was telling you about my son, who plays hockey and has never had a concussion. As a hockey parent, I started thinking about your statement.

I also totally agree with the statements you've made in the past about getting away from the sport of hockey and doing something totally different after May, or whenever your season is finished. I thought you could talk a little about that accumulation of small hits, and maybe very minor injuries that never get looked at, that may never be a concussion, but could damage the brain.

Mr. Eric Lindros: I look back to when I played. It's like school. Hockey would start in the fall, and we'd play until before exams, or the end of May. Then we'd have June, July, August and most of September when we weren't doing much. The science has taught us that this allows the brain to grow. The brain wants to grow and replenish itself and heal. By playing 12 months a year, we're not giving the brain that chance to get back to where it was at the start of the previous year.

Think about a pickup truck running down a dirt road, or a farm road, or a cottage road, or whatever the case may be. If you don't pull it in for servicing every once in a while, something is going to fall apart. Sooner or later, it's inevitable that you're not going to be right there. Maybe that truck will last a long time, and hopefully it does, but I think we should look at taking better care of ourselves. Plus, you'd become a better athlete, in my mind, when you're able to work your feet in soccer, or improve your hand-eye in baseball. Everything correlates and works together, so when you start the next season you're not skipping a beat and you're actually healthier.

● (1745)

Mr. Darren Fisher: You've veered a little bit from diagnosis into prevention. We have only a minute left, so tell me a little bit about some of the ideas you have for prevention, notwithstanding taking a break in May.

Mr. Eric Lindros: We have a great doctor and researcher in Canada, Dr. Carolyn Emery, out of Calgary. She did research on hitting. You will not find this shocking at all, but if you take out hitting, then injuries and concussions go down accordingly. I guess you have to go through that, do that type of research and get it done, and I'm happy she did it.

I look at hockey and what a beautiful game it is. Why are we starting to hit when not everyone has gone through puberty? You know what it's like when you're 12. Why can't we wait until we're 15, focus on our skills, focus on skating, focus on other aspects of hockey? Trust me, you can learn to hit and receive a hit from 15 on and you'll be just fine. You're not going to be behind the eight ball by any stretch. If everyone else is doing it, then everyone is on an equal playing field anyway.

Let's get through that danger zone, where there can be a big discrepancy between size and strength. I think it clears it out. What Carolyn did was fantastic and it allows us to look at it. That's been out there for years, but what have we done to take her great information and put it into practice?

The Chair: Thank you, Mr. Lindros.

We're moving over to the Conservatives, with Mr. Nuttall.

Mr. Alexander Nuttall (Barrie—Springwater—Oro-Medonte, CPC): Thanks again for coming today.

I represent a region in the Barrie area which I think you're pretty familiar with. Your Uncle Paul there was—

Mr. Eric Lindros: Principal.

Mr. Alexander Nuttall: Yes, sir.

You come from the hockey world, obviously. Some of the greats have come out of Barrie, and there has been some hard-hitting hockey. Interestingly enough, we now have Concussion North, which is a one-of-a-kind clinic, open up there. I'm not sure if you're familiar with Gary Goodridge, but he's on a speaking tour specifically on concussions. He's a UFC fighter, and he is at the Concussion North clinic.

Mr. Eric Lindros: He must be busy.

Mr. Alexander Nuttall: Absolutely.

One of the things we heard from testimony in the previous meetings was in regard to the tracking of individuals. You were talking specifically about the juniors, prepubescent individuals, and being able to track what's going on with our young people.

If you're a hockey player, or maybe you play soccer in the summertime and hockey in the winter, there's no single tracking system in place. You were talking here about a single protocol, a single process, that we can put in place to manage that individual, that client, if you will, going into the world. What recommendations do you have for us to actually implement that?

You said this is a thing we need to do, and you can't understand why it hasn't happened. Because you've been on the inside of this world, tell us how to do it, and then we can actually look at that as well.

Mr. Eric Lindros: That's one, the communication part between school and your coaches, whether it be your high school coach or your travel coaches, or whatever coach you have. It's completely different from the regular protocols. They're a bit separate here. There are companies out there. There's a really strong company based in Canada that deals with communication between teachers and parents. You can make it as widespread as you want or as narrow as you want, and it's extremely effective.

The other part was a broader protocol.

● (1750)

Mr. Alexander Nuttall: Excuse me, Mr. Lindros, what company does that?

Mr. Eric Lindros: The company name is PRIVIT.

Mr. Alexander Nuttall: Thank you. We can look at that as well.

Mr. Eric Lindros: It is very good at what it does. For full clarity, I help it out.

Mr. Alexander Nuttall: When you started doing work on this—and I know that concussion is something that affected you, as well as your brother—you started working with the university hospital in London, I believe, where you put your own resources behind this, as well as being a face and raising the issue.

Have you found that government as a whole has been open to some of the suggestions you've made, or have we been...? I say “we”, because this is non-partisan. It's not about the current government. I'm saying, over the years, have we been open?

Mr. Eric Lindros: Rowan's law was just passed in Ontario. There was a group of 12 or 14 of us, led by Dr. Dan Cass, and we were told to come up with solutions. We did so over the course of that year. We had in mind that what we'd submitted was something that didn't just look at the highly populated areas of Ontario. We thought it could be spread throughout Canada—I don't want to say "at a floor level”, but something that's attainable.

We did that. We worked hard at it, and we submitted it. I'm a bit confused now about where Rowan's law stands in Ontario. It was really something fantastic, so hopefully the provincial government there has a plan up its sleeve and it can start to be rolled out.

There are a number of things in there that we thought we addressed. One of them was making sure that in the schooling system, the medical schooling system in particular, everyone was getting hours based on learning about concussion. What we saw in the past was that people were sustaining concussions, and because they needed to have clearance, they were not being honest and open about their situation.

The lineup to get in to the doctor was two weeks. Once you get in, it's another.... It was just too much. How can we make this more widespread, so that people can come in and get out, and see the professionals they need?

Our research is so far behind that it does not take weeks to be quite up to date on concussion. Unfortunately, we're pretty much up to date in a four- or five-hour video on the topic. I would like to see that changed as well, but anyway, we have what we have. I'd just like to see it more widespread.

Mr. Alexander Nuttall: I have one more question.

The Chair: You have two minutes.

Mr. Alexander Nuttall: Beautiful.

Speaking of Ontario, one of the things I've heard from Concussion North relates to the billing by doctors for concussion-related injuries. There isn't a specific billing cycle for concussion, so they basically have to bill under a very limited dollar-per-hour, which then allows them almost no ability to give the additional services that are needed.

If you're looking at a comprehensive approach, having both the doctor who specializes in head injuries and the general practitioner, as well as perhaps somebody who's going to help with exercises and so on, the money just isn't there. I don't think that was covered in Rowan's law.

In cases you've seen in the professional environment, is it the teams that pick up most of the bills for treating this?

Mr. Eric Lindros: I don't know what occurs now, but I would assume so.

Mr. Alexander Nuttall: Okay.

Mr. Eric Lindros: We really didn't have a whole lot going on in the past. A lot of the protocols occurring in the early and mid-1990s are still being used right now.

Mr. Alexander Nuttall: That's interesting.

Have you seen a recommendation come out related to healing during the summer months? I think you talked about it a little, but is there a recommendation we can specifically look at that says, “Take this much time off from this sport. This much time off helps the brain regenerate and heal”?

Mr. Eric Lindros: This is the hard part about all this. You're never going to find a real black-and-white definitive answer. Every body is different. Every brain is different. Everyone is going to react differently to different things.

Is there a specific time? You're never going to come up with that. No one is going to agree with that. However, common sense says that if you continually bash your truck, down the road something is going to give.

We have to start moving on with a lot more common sense, as opposed to the numbers here or the days there. We know what's right. We know in our heart what's right. Let's move forward. If you choose not to, that's your choice, but let's lay it out and inform people as much as possible about what the options are for them and why.

● (1755)

The Chair: Thank you.

We're going to move over to Ms. Hardcastle, from the NDP.

Ms. Cheryl Hardcastle (Windsor—Tecumseh, NDP): Thank you, Mr. Chair.

Thank you, Mr. Lindros. I follow your advocacy work all the time. It's extremely important right now, because we do know, with this issue, that besides having a common-sense approach, it is going to take some culture changes as well.

To give you a general heads-up with regard to my time, I'm going to ask you about what you see as the low-hanging fruit and the opportunities for us to seize on, especially with regard to using a blanket approach.

I will ask you to speak on that, but can you start by talking a bit about what you think could be done in terms of a culture change? We did have Rugby Canada's director Paul Hunter come and talk to us about the development of Rowan's law and about the culture change initiative they've developed, which is zero tolerance. Maybe you have some ideas about how we could get our heads around that and be part of a general narrative that includes concussion awareness in that type of context.

I'll leave that to you to talk about, and about opportunities with blanket approaches.

Mr. Eric Lindros: Okay.

First of all, I think it has improved. Now, when parents are going out and watching hockey, yes, they're cheering for their kid and looking out for their kid and the kid's teammates, but more and more, you're seeing people look out for the other team as well, which is amazing. It's what we want. This is starting to happen. The communication has been there. It's been moving. Now we have a window to really define it, clean it up and work within it.

Let's start with the low-hanging fruit you mentioned—hits to the head. Ken Dryden speaks about this all the time. I'm sorry, but if you hit someone on the head.... To make it black and white, any hits to the head are penalized. That would clean up a lot. I think that's a very easy one. It's simple. You're going to find, too, that if you start it in the culture with the young, and it's spoken about at school, it's going to progress as people grow.

The school system, to me, is the way we really inform. In Ontario, we have Rowan's Law Day. The idea was to take an hour and a half once a year and really go through what concussion is and what to look for. Let's look for it within. Let's look for it in our friends, and in the people we're going to be competitive against. Let's make sure we're all safe. That's our big concern.

Starting young and moving our way up.... Why can't we start with all the grade 1 students throughout Canada? Let's start there, on Rowan's Law Day. The messaging in grade 1 would be a little different from that in grade 2, and a little different from that in grade 3. As you progress and get older and more mature, and you understand more, the message correlates to the age group. I think starting in the school system, just for that one day, that hour and a half, would make a huge difference. It's possible. The information is there. God knows, we have amazing doctors in Canada who can vet this. It's about getting all the groups to say, "We want to work under one hood."

A lot of people are trying, and a lot of people are pulling on the rope. I think we get further ahead if we work together as one. If they're receiving federal or provincial government money, you kind of tell them what to do a little bit: "This is how we're going to change. This is what we'd like to see. We're not shoving it down your throat. Let's work to just change this a little bit and see how it goes."

● (1800)

Ms. Cheryl Hardcastle: Can you give us an example of how...? That's partly what the mandate of this committee is, to take testimony and make recommendations with it, assuming the testimony is based on evidence. Can you give us more specifics? What would you like to see as a directive, if we're giving federal dollars to a group? I'll be hypothetical, and then you can respond: "You can't have federal dollars unless you share your research with like-minded organizations." Is that what you mean?

Mr. Eric Lindros: Sure, let's start there. If you have the best imaging machines at McGill and Western, what programs can we set up so the load is being shared and they're working together and communicating? One might be better at one part than the other. Let's work together and get this done faster. Let's not just let it sit there with one group. Something might overflow into another area of research, but if you're helping to purchase that machine, then I would think you have a say.

Ms. Cheryl Hardcastle: Good. You don't just mean sharing information, then; you mean sharing the actual resources to do the research and get the evidence together, for example with imaging.

Mr. Eric Lindros: Yes. My thought was that if people are good at blood biomarkers, let's get all of our best blood biomarker people working on a project together and collaborating. Maybe someone is missing something along the way. I always think that if you get into a situation.... It's not just me and Peter who are going to sit here and talk about concussion. We're going to get a whole group together, and we're going to work. We're going to get as many ideas as possible floating around, and then we'll go through them, shrink them down, pick four or five targets and go at it.

I don't think the research is making the group wide enough, and they're not working together as nicely as they could be. If you think pro sport is fierce, you should see these researchers. It's unreal. It is fierce. It's very competitive in the research world.

Let's get it up. Let's have timelines and look into how we can improve things. Money is hard to come by, and it's Canadians' dollars. Let's show what's working, where the money's going, what's progressing and what has come out of it.

The Chair: Thank you.

We're going to move over to the Liberals now, with Dr. Doug Eyolfson.

Mr. Doug Eyolfson (Charleswood—St. James—Assiniboia—Headingley, Lib.): Thank you, Mr. Chair.

Thank you, sir, for coming.

One of the big things we've heard about so far with concussions is of course prevention. This squares with something you said, which is that there should be severe penalties for hits to the head and this sort of thing.

Of course, something that's very controversial in professional hockey, particularly with the NHL, is the issue of fighting. They don't have fighting in the junior leagues, and you certainly won't see that in the Olympics.

It's technically against the rules in any game, yet the NHL still tolerates it. It's still there. The game goes on and the people are still on the ice. Why does the NHL still tolerate fighting the way it does?

Mr. Eric Lindros: I can't speak for the NHL, and quite honestly, any time you mix athletics and money, the lines blur.

I don't think you should focus there. I think that's the top end. If you work on the culture making its way through, I think you're going to see an effect at the end of the stream, as opposed to doing anything up top and having it affect things.

I can speak to the OHL, the CHL and junior hockey. Look at the OHL. Dave Branch has done a fantastic job. He was the first one to implement the big 10-game suspension. For anybody who swings or just gets carried away, it's not a one- or two-game suspension anymore; it's a 10-gamer or a 12-gamer. It's 20% of your season.

Mr. Doug Eyolfson: Sorry, which league is that?

Mr. Eric Lindros: It's the major juniors, like the Ottawa 67's, whatever the—

Mr. Doug Eyolfson: Okay. Why wouldn't you have that in the NHL?

Mr. Eric Lindros: I'm leaving the NHL alone.

Mr. Doug Eyolfson: The reason I ask is that it's something that a lot of young players aspire to, and you have college players—

Mr. Eric Lindros: You're seeing, though, that—

Mr. Doug Eyolfson: A lot of them emulate that.

Mr. Eric Lindros: Yes.

Mr. Doug Eyolfson: Although there are penalties when they do it, it's common to say, “Yeah, I got in my first fight.”

Mr. Eric Lindros: Yes.

● (1805)

Mr. Doug Eyolfson: They're encouraged by this behaviour, even if—

Mr. Eric Lindros: You're not going to change it, though. I don't think you're going to change it.

Mr. Doug Eyolfson: No?

Mr. Eric Lindros: I don't know.

I think the way to change it, if you're going to have any effect on it, is through the minor system, as we talked about, working its way up so that the players who are coming through—as peewees, bantams, midgets and juniors—have grown up in surroundings where it just wasn't there. The fighting wasn't occurring. When that goes on further, it will pretty much die out.

If you look at fighting rates over the past five or 10 years, you'll see they've declined dramatically.

Mr. Doug Eyolfson: It's good to hear.

Mr. Eric Lindros: Yes.

Mr. Doug Eyolfson: But why couldn't a professional hockey league put in the same rules as the OHL?

Mr. Eric Lindros: I don't know.

Mr. Doug Eyolfson: Is there any moral reason for tolerating it the way they do, with rules that are more lax than in the junior league, where there's a significant penalty?

Mr. Eric Lindros: I can't speak for the NHL. In fact, I still have hopes that they will look at concussion and help out in one form or another in terms of aiding some research.

Dr. Mulder and I approached the concussion working group of the National Hockey League at the all-star game in L.A. Dr. Mulder is a long-standing doctor for the Montreal Canadiens. We asked for a million dollars per team, whether they piggyback with the NFL.... We didn't come up with a specific game plan, because it's their money and they're going to do whatever they want to do anyway, but if you want to put it towards imaging at McGill or Western, or if you want to do something else.... Whatever you want to do, let's just do something. Let's start focusing on being productive here and being proactive.

Unfortunately, it hasn't occurred, but I still hold a bit of hope that it would, so if you want to get off the NHL, it helps, maybe, you know.

Mr. Doug Eyolfson: Yes.

Mr. Eric Lindros: Maybe we'll still get some money down the pike.

Mr. Doug Eyolfson: Sure. Thank you.

Another issue with prevention is of course equipment. I'm old enough that I still remember watching the NHL when helmets were actually very unusual. I watched Bobby Orr playing without a helmet, and the greats of the time playing without helmets. You saw maybe one player on the team who had a helmet.

Are there current standards? Is it now mandated that you wear a helmet when you play in the NHL?

Mr. Eric Lindros: It is. I actually played with the last guy who didn't. It was Craig MacTavish. That's how far back I go.

Yes, it is, and it is all the way through. When you go to the local outdoor rinks, I know that, if it's not law, they're certainly asking people to put helmets on, even if it's a free skate, which makes perfect sense to me. I think that's wonderful to do. Even the best skaters fall at times and can injure themselves. Having a helmet on, while it's not the end-all and be-all, does protect.

Now, it's not going to protect so much with concussion, I don't think. Everyone keeps talking about the equipment. I don't believe that's the case at all. I think it's the shoulder, the chest.... In the chest situation, your brain is still shaken within. A helmet is not going to help that. I don't see how equipment is going to make that change.

Mr. Doug Eyolfson: All right.

I guess the last question I have—

The Chair: You have about a minute.

Mr. Doug Eyolfson: Okay.

As you said, there are rules now and you have to have a helmet. Are there any other substantial changes? Are there standards regarding the type of helmet, or is there anything beyond the helmet in the way of protection, facial protection?

Mr. Eric Lindros: Not that I'm aware of. Most of the guys wear mouthguards, which I think is pretty smart to do.

Helmets have changed, but not drastically. They've improved, and they're always working on making things better, but again, it's not the equipment. The speed of the game right now is just so quick that when you have two bodies colliding—and it's inevitable that they're going to collide—a helmet's not going to do anything. It's not going to do anything even if they're slower, in many situations.

These things are going to occur. Concussions are going to occur.

Mr. Doug Eyolfson: Of course.

Mr. Eric Lindros: It's not to say to our kids, “Go sit on the couch. It's so much safer on the couch. Go watch your blah blah blah....” Let's not make people afraid. Let's say that these things are going to occur, and when they do, we are ready, organized and prepared for you and we can get you back onto the pitch or the rink when you're safe and sound, and you can get back out and have some fun.

That's really what we want to do—and get them back to school. It's not just the athlete or the kid missing school because they're not feeling well and they're going through a concussion thing; it's also the parent having to miss work. There's the trickle-down effect and the wave effect—

● (1810)

The Chair: Thank you.

We're going to move over to the Conservatives now.

Mr. Martel.

[*Translation*]

Mr. Richard Martel (Chicoutimi—Le Fjord, CPC): Thank you, Mr. Chair.

Mr. Lindros, thank you for being here today. You put a lot of hard work into the concussion file.

I was a coach for 18 years in the Quebec Major Junior Hockey League. I was behind the bench for the challenge between Ontario and Quebec at the Montreal Forum.

Let me take this opportunity to say that I saw you play when you were 16 years old. Honestly, I have to say that among the players of that age I had seen, you were among the most impressive. I have seen others—Sidney Crosby, the Lecavalier brothers, Brad Richards—but I've never seen a 16-year-old player dominate the ice as you did.

People did not use to believe in concussions like the one you sustained. Everyone thought, including professional hockey scouts, that people are invincible at that age. You skated, you checked, you did everything. People now are much more aware and better informed on the subject of concussions.

Why were concussions less recognized in the past than they have been in the past five years? Is it because of the speed of hockey? I remember very well that you checked very hard. Other players probably had concussions because they were checked by you. In your opinion, what caused this big change that led to so many concussions? Is it the speed? The equipment?

[*English*]

Mr. Eric Lindros: First of all, thank you for your kind words.

Was it equipment? No. I think what happened in the nineties was two or three really massive impacts. I remember being hit by Darius Kasparaitis in Pittsburgh in an afternoon game, and coming to and being in the Pittsburgh dressing room, or the visitors' dressing room. They had the logos of the Pittsburgh Penguins everywhere. I thought I got traded to Pittsburgh. I guess the silver lining was that, at that particular moment, I had the chance to play with Mario Lemieux. But kidding aside, it was just a huge impact.

Again, with Scott Stevens, in game seven of the semifinals, he pulled a bit, coming over, and he hit me up top as I was reaching and poking. Those are just truly big impacts.

Do I think the numbers are going up? I think, to a certain extent, because of awareness.... I'd like to think that people are being honest. Again, I don't look to pro sport for this, because you have a situation where you have a contract coming up, and you don't want to be labelled as the guy who's had concussion problems. It's going to affect your.... You have your family, your kids, and so on. I think we leave pro sport out of it. But if we can be completely honest, all the way through minor hockey...and the culture, bring that into play. Let's be honest with ourselves here. At times, the worst person to ask is the person who is concussed.

In terms of common sense, I think we should take a little extra time. We go on the cautious side. But I think there was a bit of a peak because of the awareness. It's great that people are talking about it and they're looking out for themselves. But I think the numbers have been pretty steady for the last few years.

The Chair: We're going to suspend now, members, and we'll be back right after our votes.

We have about five minutes until the votes, then maybe a half an hour for our votes, and then we'll be back. We'll still continue to hear from Mr. Lindros.

● (1810)

(Pause)

● (1830)

The Chair: I'm going to commence proceedings again.

Mr. Lindros, hopefully we still have 25 minutes of your time. Thank you for that. That's great.

Also, Mr. Chris Nowinski is at the table. I think this is an opportunity for them to tag-team a little before Mr. Lindros may need to exit, and then Mr. Nowinski will continue with his testimony.

We are now moving over to the Liberals and Madam Fortier, so you may need your earpiece for this one.

Mrs. Mona Fortier (Ottawa—Vanier, Lib.): You will need your earpiece.

[*Translation*]

First, I want to thank you for taking the time to meet with us today. I know that your time is precious. It's really important that you are here. We thank you for having travelled to be here.

I also want you to know that you have parliamentary privileges here. You have to feel comfortable to speak out without fearing that someone on the other side will come back to you with something you said.

We are studying the situation in the national league and in other leagues around the world. Is there anything more we could ask the leagues to do to decrease the number of concussions?

● (1835)

[*English*]

Mr. Eric Lindros: Do you mean in terms of different ideas from other leagues that we could implement in our areas?

Mrs. Mona Fortier: Maybe there are practices you've seen in other leagues or something that we should look at, either outside of Canada or even in Canada.

Mr. Eric Lindros: Right.

Mrs. Mona Fortier: I want you to feel comfortable saying that there are things we should do better.

Mr. Eric Lindros: Yes.

No one's tackled it, but it's the hits to the head, unfortunately. Someone who always comes to mind is a player in Boston. His name is Zdeno Chara. He's so much taller than everybody that inevitably there's some contact here and there, but he does his absolute best not to have that contact occur, especially playing with someone like Patrice Bergeron, who has gone through a concussion, so he's very mindful of that. Getting rid of hits to the head, that's a really easy one.

We spoke of starting to hit, or learning to deal with body contact, after we've gone through puberty so there is more of a level playing field. I think that's a really easy one.

I don't know what goes on sometimes in parents' minds, when they want to put their kid through hockey 12 months a year. I mean, arenas are great and all, but they're not the end-all and be-all places to be. Everyone needs a break. I think it's true for everything. Research is coming back that kids who are taking breaks are doing better, so I think that's a great one.

It's about acting on these things. We know that Dr. Carolyn Emery has done the research on contact. Common sense says that if we don't have the contact, injuries are going to go down and concussions are going to go down, yet we still have the contact. Why is that? Where are our groups? Where's Hockey Canada on this?

It's a tough one, but I think it's a pretty easy fix. It wouldn't take a lot to change, and I think it would be for the better. We're still going to have great players—actually probably better players, because they're going to be better skaters. They're going to be better stickhandlers and puck movers, and think the game differently. Trust me. Learning how to work someone off a puck physically and accepting or giving body contact is something that you can pick up pretty quickly.

[*Translation*]

Mrs. Mona Fortier: You said that parents have a role to play in the life of their children who want to become hockey or volleyball players, or play other sports. You said that young athletes have to learn, but how can the parents be involved in that? Do you have any ideas on that?

We have heard testimony from some young people who sustained concussions. Parents also have a role to play. How can we support the parents in all of this?

[*English*]

Mr. Eric Lindros: It's awareness in general, yes.

As I mentioned before, I think we have great doctors. We have some great groups, and they have some wonderful videos and things of that nature. If we could run through these, have all our best doctors agree on something, on one video, and make it available and make it part of....

If we went to a broader picture and you thought of.... When I say “amber” to you, what do you think of? You think of a missing child. If I were to say “Rowan” to you, being from Ontario and having Rowan's Law, I would want that to associate with concussion. So can we get a video, can we have a website, with the Canadian flag on it, where people can go with comfort, knowing that it is the best of the best, that this is what our government has to offer, and have testimonials and different videos that have been vetted by our good people, where people can go and learn? They'd know that it's not coming from different parts of the world, from people with different ideas or different agendas; it's pure and it's from the heart, and it's the best we have to offer. It's learning that way, if you want to go from the parent down.

Mrs. Mona Fortier: Thank you very much.

The Chair: We're moving over to the Conservatives.

We have Mr. Martel, again.

[*Translation*]

Mr. Richard Martel: Thank you, Mr. Chair.

Mr. Lindros, I'd like to know, out of simple curiosity, if you had any concussions during the years when you played in the junior league.

● (1840)

[*English*]

Mr. Eric Lindros: Yes, I think back to that. I don't recall having any situations. It was really interesting, and it took a while and I got extremely angry. Personally, I went from being a really good player and improving, doing really well in the best league in the world and playing at the highest level, to going through concussion. It changes you dramatically. It changes your outlook on things. It changes you from within. There are huge fears, cutting through the middle. You have it on the outside that you're okay and so on, but you're never the same. You don't think as quickly. You don't react as quickly.

Now I can go to a quick game of pickup and I can be doing just fine out there, but to play at the highest level, that involves your edge, your quickness, your ability to adjust, your ability to read and react. Going through the concussions erased that in me, and I got really upset and depressed. I was extremely angry. I continued to try to play, but I wasn't the same. I wasn't as sharp. I wasn't close to being as good as I once was. It takes a lot out of your heart too. It's a difficult thing to go through.

[*Translation*]

Mr. Richard Martel: Did you have any concussions before you played in the national league, that is to say during the years when you were in the junior league, the OHL?

[*English*]

Mr. Eric Lindros: I don't recall that. I don't recall being concussed in junior hockey. I'm trying to think back, and I don't believe that was the case.

[*Translation*]

Mr. Richard Martel: In my opinion, hockey culture is changing, as is its regulation. Things are moving forward. I don't think Scott Stevens' check would be legal today. That was a hit you did not see coming. I don't think such checks, which have caused a fair number of concussions, would be allowed today. I think things are improving considerably.

I believe you saw several physicians after your concussion. In your opinion, what is the percentage of concussions that are being treated today, as compared to when you had your first concussions? Can you tell me to what extent things have improved?

[*English*]

Mr. Eric Lindros: In terms of improvement.... In terms of treatment, I can't point my finger to treatment that is the light switch. It's the same old.... It's rest. It's controlling your heart rate and functioning without nausea and dizziness as you increase your heart rate. All of that was available in the 1990s. This is why we're so far behind. We haven't gotten to these steps. We haven't come up with anything really clear and new. It's a bit disheartening, to be honest with you.

Awareness has picked up. A lot of great, positive things have come from.... I guess it would be the silver lining of a dark cloud. You have a wonderful player like Sidney Crosby, who had to go through certain situations. Luckily, he came back. He hasn't missed a beat and is doing amazingly well. If it weren't for him having his troubles, or other players going through it, we wouldn't have had the attention that it's gotten.

Our window on this is now. We have to start moving on this now. We've talked and talked about it. We have to come up with a consensus and come up with the three or four major things we're going to do and decide who's going to be in charge of it as things go forward. As the faces in here and the representations of other parts of Canada change and move on, how can we always make sure that we're constantly looking out for the improvements that we want and have the right people in there?

The Chair: Thank you, Mr. Lindros.

[*Translation*]

Mr. Richard Martel: Thank you very much.

[*English*]

The Chair: We're moving over to the Liberals now.

Mr. Fisher.

● (1845)

Mr. Darren Fisher: Thanks, Mr. Chair.

I know how you don't like to talk about yourself, but Mr. Martel has started, so I'd like to continue.

I think about you. I represent Dartmouth—Cole Harbour in Nova Scotia, so of course I think about Crosby quite often. You're both players who missed extended periods of time due to concussions.

Mr. Martel suggested that he thinks—and I kind of agree with him—that some type of change has begun in the culture of hockey. When you were concussed, I felt—rightly or wrongly—that you were rushed back. When Crosby was concussed, I felt—and maybe the fans felt—a level of protection for Sid. It felt like maybe they were concerned he might be rushed back.

Mr. Eric Lindros: It's different times. Yes, we learn from looking back, but we're not going to gain anything from this.

I was having a tough time. They sent me to a migraine specialist in Philadelphia. He said I didn't have migraines and I should go to Chicago to see so-and-so. Then it was a matter of.... This was all very new. Sitting out a week for something that you can't see.... It's not a fracture on an X-ray. It's not bruising or swelling somewhere. It's something you can't see. Although you are, for the most part, 90% on, you're not on. You're not there.

Mr. Darren Fisher: Was there pressure to return?

Mr. Eric Lindros: There's pressure to return with everything. Again, I would not look to pro sport as—

Mr. Darren Fisher: I know.

Mr. Eric Lindros: I would not look to pro sport for this. I think things have improved greatly. I am really happy we didn't lose Sidney Crosby. I think that's huge.

Mr. Darren Fisher: We had a young goalie in here a couple of months back who kept getting run. They would suspend the players who would run him. They would get their four, six or eight games, and they would come back and do the same thing. I hope I'm getting this testimony right, but my recollection of the family' opinion was that the suspensions didn't work.

You had said to take head shots right out of the game, with suspensions. Do you think that will work, or do you think the suspensions need to be massive, such as 30 or 10 or 12 games?

Mr. Eric Lindros: I look back to what Dave Branch did in the OHL and the CHL. From what I saw, he was turning what would normally be a three-gamer into 10. Dave Branch is not afraid to do what's right. He's a wonderful man. We're lucky to have him overseeing things.

I can't speak to what goes on in terms of somebody running a goaltender. Obviously, if it's happening a lot, something is going on. It would certainly be deterred with 10, but I'm not there, so I don't know the ins and outs of it.

Mr. Darren Fisher: You talk about data sharing and knowledge sharing, and we've also heard that there might be a—

Mr. Eric Lindros: I'm sorry to interrupt. Can I have one second?

Mr. Darren Fisher: Yes, absolutely.

Mr. Eric Lindros: If you go to 10, here's what will happen. On the back end of this, as coach would say, you're not going to have the fighters. The fighter is not going to come out. If the referee is going to referee consistently, strongly, assertively, then if it's only a two- or three-game suspension, and he comes out the next game, then whatever team has that goalie on it.... I'm sure there's one guy going out there to go have a little chat with whoever ran him and had that three-game suspension. If you go to 10, I think that will erase that. I think it will clean it up. I think it will stop it from even happening the next time. Refereeing is a huge part of this as well.

Sorry, go on. I didn't mean to interrupt.

Mr. Darren Fisher: No, you're bringing up another interesting point. You say that if you make that 10 instead of three, you'll get rid of the fighters in the game. I've seen that change as well. Now you don't have a fighter in the game who's just a fighter, who sits on the bench just to fight. They have to be able to contribute; they have to be able to play.

Mr. Eric Lindros: Detroit started that. They went to four lines, and even now you'll see that there is very little.... The coveted guy is the one who can perform on both sides, if you look at Wayne Simmonds or Wilson. Wilson is an example in the east of sticking up for his teammates but being able to perform as well.

No one wakes up and says, “I really can't wait to go fight.” No one wakes up to do that.

● (1850)

The Chair: Thank you, Mr. Lindros.

Now we're going to move to our last member who will ask questions for three minutes, from the NDP. After that, we'll have a transition. This is our first round. We'll move over to Mr. Chris Nowinski.

Ms. Cheryl Hardcastle: Thank you for clarifying that, Mr. Chair, because some of us are.... We're not just big fans of yours, Eric, but we're big fans of Chris as well.

Mr. Eric Lindros: Oh, yes.

Ms. Cheryl Hardcastle: I wonder how well you know Chris's work. Maybe before we get a chance to hear him, you could kind of flesh out some of the work he's done. Do you have any quick ideas or observations on some of the work he's done and what's being done in the United States that we could be doing here? You talked about us being more co-operative. Maybe talk about evidence-gathering—

Mr. Eric Lindros: I think Chris will talk about this.

Ms. Cheryl Hardcastle: I have three minutes, so take it away.

Mr. Eric Lindros: We need a brain bank up here, too.

Can you elaborate on that, Chris?

Mr. Chris Nowinski (Chief Executive Officer, Concussion Legacy Foundation): Sure, I'm happy to.

We've found that what has been very effective in helping us understand the long-term consequences of concussions and repetitive brain trauma is studying the brain after someone has passed away. There are brain banks here, and there are folks working on this. We found that it's a very positive investment. It really helps us appreciate what's happening on a molecular level, on a biological level, but also the stories of people's lives and how these injuries affect them and sometimes lead to very tragic outcomes.

Ms. Cheryl Hardcastle: Can you just clarify for me...? My riding is Windsor—Tecumseh. I'm right across from Detroit. I don't want to name names, but we have wonderful athletes who have—

Mr. Eric Lindros: Is it Fergie Jenkins?

Ms. Cheryl Hardcastle: It could be.

Mr. Eric Lindros: His parents are from Chatham.

Ms. Cheryl Hardcastle: Oh, okay, good.

No, I'm talking about some others from the area who have donated their brains, or their families have.

Mr. Eric Lindros: Oh, I see.

Ms. Cheryl Hardcastle: I thought we had a bank. So what do we have now, compared to what you're saying, then, Eric or Chris, about a brain bank?

Mr. Eric Lindros: Let me just hit this before....

Mr. Chris Nowinski: Sure.

Mr. Eric Lindros: I want them to work together. It's asking a lot, especially of the structure of research and medicine, but in my deepest heart of hearts, I wish they could work together—take what exists and go from there.

Ms. Cheryl Hardcastle: Okay. Right now, are they separate? The system that we have—

Mr. Eric Lindros: It's not affiliated.

Ms. Cheryl Hardcastle: Okay.

Mr. Eric Lindros: Am I correct in saying that?

Mr. Chris Nowinski: Yes. But you don't necessarily always need all the scientists working together. There are different perspectives on this disease, and the brain bank you're referring to.... The neuropathologist has, for example, chosen to be an expert witness for the NHL in lawsuits, which is something that would probably prohibit future brain donations. It's a complicated political field, but the important thing is that you want more people working on this, whether it's independent or whether it's collaboratively, because it's a powerful method of research.

I'm still trying to convince Eric to pledge his brain to me, but we'll get to that at some point.

Mr. Eric Lindros: Once you collaborate.

Voices: Oh, oh!

Mr. Eric Lindros: Once there's full-on collaboration, I'll sign up. Until then....

Mr. Chris Nowinski: Thank you.

The Chair: Listen, you guys make a great tag team, but this concludes our first round.

Mr. Lindros, you're welcome to stay and still participate, but we will now move to Mr. Nowinski.

Mr. Chris Nowinski is a Harvard grad who played in the NFL. We have him here for all of that, but he is also co-founder and CEO of the Concussion Legacy Foundation.

Chris, the floor is yours.

Mr. Chris Nowinski: Thank you.

It's an incredible honour to be here, especially as an American invited to help this conversation continue. I'll share with you what I can. I have a short opening statement. I'll use it as an opportunity to give you an overview of things that might move the discussion along. I've been in this area in multiple ways, starting as a patient.

In terms of my background, right now I'm CEO of the Concussion Legacy Foundation. We have a sister organization here, Concussion Legacy Foundation Canada, led by my colleague Tim Fleiszer, who's sitting behind me. He's a former Canadian Football League player. I did not play in the NFL—I was not that good—but that's okay now. I'm co-founder of Boston University's CTE Center, which has the world's largest brain bank of athletes. It is led by Dr. Ann McKee.

I advise multiple sports organizations. Deep down, I consider myself an advocate, but I also went back to school to get my Ph.D. in behavioural neuroscience, so maybe I'll be able to talk about the research more effectively.

I got into this the hard way. Concussions were never part of my life until they were all of my life. I played all sports growing up. I played football at Harvard, but then I chose to become a professional wrestler with WWE. That was the most fun job in the world, until I got kicked in the head and got a concussion. The problem was that I didn't realize, as a 24-year-old Ivy League graduate, what a concussion was. I blacked out and had a throbbing headache, but I was able to complete the match, so I didn't think that was enough to tell the athletic trainer.

I lied and hid my symptoms for five weeks, until they got so bad I developed what's called “REM behaviour disorder”: I developed sleepwalking. That was the symptom that forced me to stop. I jumped through a nightstand off a bed. That has haunted me until this day. I still struggle with it. My sleep is so impaired I actually sometimes don't want to go to sleep. I fear it.

I didn't understand the risks, but once that happened, I was honest about my issues. For me, though, it was too late. To this day, 16 years later, I still struggle with headaches. I still struggle with other symptoms. I can't exercise without feeling nauseous.

Where I stand today, I'm happy to be where I am. I know that many people suffer far worse. But it did open up my eyes to the problem that it wasn't just me dealing with this.

I was lucky to be sent to one of the world's experts, Dr. Robert Cantu, outside of Boston. He helped me realize how I got to this point. He did it in a very interesting manner. He asked me how many concussions I'd had before this last one. My answer was “Zero”; in 19 years of contact sports, I had never had a diagnosed concussion. He said to me, “Well, I know you don't think you've had one, but how many times were you hit in the head and saw stars, were dizzy, were confused, or forgot where you were?” I started laughing, because it happened so often I just never called it a concussion and never told anybody about it. I have vivid memories of the sky going from blue to orange in football games, but it wouldn't last so long that I would have to actually pull myself out.

He taught me in that session that, first, I didn't know what a concussion was. It turns out that most athletes of my generation did not understand it. As well, rest was critical for recovery. By barrelling through every one and ignoring them, I'd made my damage much worse, with maybe long-term consequences down the road. At that point, I didn't really appreciate that. At that point, we didn't know as much as we know today. Right now we know far more.

So my first aha moment came from talking to Dr. Cantu and then reading the medical literature he pointed me to. We've known for a hundred years that concussions are bad for you. We've known that we shouldn't be putting people back into games, and we've ignored it for various reasons. Partially, I think, it's from the influence of professional sports wanting to control this. Partially it's from athletes not wanting to believe what was going on and not being educated on this issue. But it wasn't really just a medical problem; the bigger problem at that moment was cultural. We didn't want to deal with it, so we were hiding this.

Part of the work we did at the beginning, when I started the foundation in 2007, was just to raise awareness of this issue and say that it doesn't have to be this way. We don't have to throw away our health by trying to be a hero and fighting through these concussions. Luckily, I think, that's one of the great advances we've made in the last 12 years. We now realize that athletes shouldn't be going back. We now have amazing spokespersons like Eric Lindros telling young athletes they don't need to be a hero in this situation. We've made some progress there.

The next part I want to focus on is the long-term effects, because this helps inspire how much effort we should spend in preventing these problems, especially when we talk about concussive long-term effects.

● (1855)

They're sometimes harder to understand, because we talk about them as symptoms. Whether it's memory issues or depression or anxiety or sleep issues or headaches, pathologically it often doesn't have a great name. We have post-traumatic degeneration, white matter changes, micro-bleeds. We have all sorts of cellular abnormalities that we pick up, but it's not a smooth story.

What has become a very interesting story, though, is the research on chronic traumatic encephalopathy. We used to call this degenerative brain disease “punch drunk”, because we thought it was only in boxers. It turns out that it's basically in all contact sports. It's in military service. It's been seen in victims of abuse. If you get hit in the head too many times, it appears to be able to spark a degenerative process that can lead to symptoms that sometimes are like Alzheimer's, but in mid-life they can look like bipolar disorder. We're talking about cognitive issues, behavioural changes, mood disorders. We've learned a lot.

How I got involved with the brain bank was that I said, “We need to figure this out faster.” We reached out to Boston University and the U.S. Department of Veterans Affairs, with Dr. McKee, and we said, “If we get you brains of athletes, will you study them and help us answer this question?” They've been amazing. It used to be that I had to call widows when someone passed away. Now, of the 175 brains we got in the last year, 90% were from people calling us. We get multiple calls a day from people who have lost somebody, who say, “Their life went off the rails, and we think it's due to CTE.” The really uncomfortable part of this is that we see the disease in 70% of the donated brains. The donated brains are mostly driven now by the families. We cannot diagnose this disease in living people. We have no clinical diagnostic criteria for doctors. Yet families are right, seven out of 10 times, in diagnosing their loved ones with this. That tells me that this is probably a much bigger issue than we realize.

We don't know how to diagnose it. We can't treat it. We don't know exactly how or why it progresses. We don't know all the risk factors or all the risk modifiers, but we have learned a lot. We know what symptoms it appears to cause. We need to keep digging into that. We know they can be destructive. We've learned—and this is important—that we don't see a correlation between diagnosed concussions and the disease.

Based on our experience, the assumption is that if you get one or two concussions and never get hit in the head, your risk of CTE is microscopic. But in 20% of the brains that have had CTE, we have no diagnosed concussions in the history, but they've had thousands of hits to the head—through football or ice hockey or rugby—and the correlation appears to be with thousands of hits to the head or the number of years you play. If you play a contact sport for a couple of decades, we see increased risk not only of CTE, but also of Lewy body disease, which can cause Parkinson's symptoms. So it appears to be a dose-response issue, and this is an important construct for policy.

We published our experience with football players in 2017. We had 110 out of 111 NFL players with the disease, seven of eight Canadian Football League players with the disease, 48 of 53 college football players with the disease, and then six of 26 high school football players and zero of two youth football players. What that shows you—there's a little bit of a correlation there—is that the longer you play, the worse off you are. That maybe gives us a window into what we should do going forward.

There is a similar experience with hockey. Nine out of nine NHL players studied for this disease had it, but four out of eight youth hockey players studied also had it—“youth” meaning non-professional. The four who had it all died by suicide at the age of 30 or earlier, and they all had significant concussion histories. So this is an issue we need to really dig into.

We've also seen that the earlier you start, the more the disease appears to affect you. We need to have a discussion around the fact that hitting kids in the head while their brains are developing appears to cause consequences. You don't have to be a neuroscientist to realize that's probably true. I think we need to talk about that in terms of our prevention efforts.

In talking about going forward, I think we need to focus on education, on research and on prevention. I'm happy to dig into a lot of good ideas that we have, but I think the government can play an important role in the prevention issue. Think about where government protects young people. You set ages for when they can do dangerous activities. At what age can you drive a car? At what age can you smoke a cigarette? At what age can you drink? We also regulate exposure to things that are dangerous for the brain. We regulate how much lead you can have in paint in your home or in gasoline, because we know it causes brain damage.

● (1900)

Well, if that's the case, maybe we should regulate how often you're allowed to let your child get hit in the head, or how many concussions you're allowed to have. It can change the course of your life if we don't take this issue very seriously.

I know that Eric has been avoiding the discussion of professional organizations, but I'm in a different position, having never participated in professional sports. We should perhaps talk about the terrible leadership we're seeing from professional sports on this, the denial of these long-term consequences, and the historical abuse of players, putting them back in and saying, “Everything's going to be fine.” We've made some changes. We've had some advances, but it doesn't mean your kid will be safe and it doesn't mean your kid will get the right message.

I'll end my opening statement there. Thank you for having me. I look forward to your questions.

The Chair: Thank you, Dr. Nowinski.

We'll move to Dr. Doug Eyolfson.

Mr. Doug Eyolfson: Thank you, Chair.

Thank you, Mr. Nowinski.

I'm an emergency physician. Part of our training was in sports medicine. Part of it was in environmental medicine, by which I mean exposure to whatever environments you have. It is refreshing to see sports in general listening to the medical profession.

I think back to the days when heat illness was first being recognized. A lot of people don't know this, but 500 Americans a year die of heat illness. The vast majority of them are athletes and military recruits. It used to be that coaches prohibited the drinking of water during practice, because they thought that drinking water made you weak. They actually made athletes put on rubber suits and exercise in the hot sun because all that sweating would make them lose weight. If they died, well, you know, they shouldn't have been there in the first place.

● (1905)

Mr. Chris Nowinski: They weren't tough enough.

Mr. Doug Eyolfson: Exactly.

In regard to prevention, we still sometimes hear this fatalistic “If people are going to do this, they're going to get hurt.” But you can do activities that are risky and minimize the risk. I downhill ski; I wear a helmet. I ride a motorcycle; I wear a helmet—and armour.

Voices: Oh, oh!

Mr. Doug Eyolfson: You try to minimize it.

But we still find, as you say, among the leadership in sports, particularly at the professional level and in the media.... There's a rather famous Canadian sports broadcaster, known for very loud shirts, who tends to get very hostile when people mention increased protective gear or getting the fighting out of hockey. He actually says very terrible and derisive things to people who say that there should be no fighting in hockey.

Do you think professional sports and the media should have more of an influence if we're going to change the culture of sport?

Mr. Chris Nowinski: That's a great question. I do think it is incumbent upon pro sports to play a positive role in this issue. I think we have to appreciate, and draw a fine line, when it comes to the purpose of sports at the professional level and the purpose of sports at the youth level. You know, as somebody who used to be in what some people call sports entertainment, I look at all professional sports as entertainment. No disrespect.

Mr. Eric Lindros: That's fine.

Mr. Chris Nowinski: There is some aspect of.... I'm an adviser to the NFL Players Association. They choose to play the game. We tell them the risks. They think that's the best decision for them and their family, and that's okay. But every professional sports league has influence on youth sports, whether they underwrite it or fund it or market to it, so they need to send the right message about this issue.

That's a long-winded answer just to say that I don't think we need to ask them not to have a dangerous sport. If that's what they want to have, if that's going to bring in the revenue, that's okay. But they can't minimize this injury and they can't set the wrong example on television that's going to hurt kids. For example, when an NFL or NHL player who clearly shows concussion signs on the ice or on the field is allowed to go back into the game, and they pretend that's okay, that is the worst public health messaging you could possibly imagine. We all theoretically trust that organization to be doing the right thing by those players. We need to hold them accountable for doing the wrong thing in that situation.

That includes the media. We just launched a program, called the Concussion Legacy Foundation media project, to train broadcasters on how to cover concussions the right way, because they've never had any training. Some of them are old school, but that's because no one has ever told them otherwise. They don't appreciate what the risks are—that if you put somebody back in there, they could die on the ice from another blow to the head, or they could have their life completely derailed, which would affect their children and their family.

It's an important question. We do need to ask for more.

Mr. Doug Eyolfson: Thank you. It's a good lesson, because I think the culture is...and it's not just with head injuries; it's with all sorts of things. A number of years ago, there was an NHL series in which one of the star players developed appendicitis, and they were actually reporting this as something very aspirational, that basically the doctor was monitoring him and he was playing while on intravenous antibiotics, because of course if he went to the hospital to get his appendix out he would be out of the playoffs. I was astonished, as a physician, that the physician still had a licence to practise medicine after that. This is clearly not the standard of care in any other profession, but somehow everyone was applauding this behaviour in the NHL, and I was just gobsmacked by this. I think we do need more leadership from these organizations for this.

Even though you have different rules in a more junior league and in a professional league, or even more tolerances, does that have an influence on how the younger players will react, or how they will play?

● (1910)

Mr. Chris Nowinski: Yes, based on my personal experience, I do think everybody sees the lower levels modelling what they see on television. That's a reality. You talked about intentional injuries—for example, running a goalie. If that's allowed at the NHL level, or at the higher levels, it would be emulated at the youth levels. That's sort of an accepted thing. That's another reason why we need a great example from the higher levels.

The Chair: Thank you.

Mr. Doug Eyolfson: Thank you very much.

The Chair: We're moving over to the Conservatives, with Mr. Nuttall.

Mr. Alexander Nuttall: Thank you, Mr. Chair. If you will just indulge me a quick moment here, I know that Mr. Lindros has a time schedule here.

Just before you have to go, is there anything we did not ask you that you would like to communicate to this table, so that we can include it in the report?

Mr. Eric Lindros: I think we covered the spectrum.

I was just thinking about the question to Chris in terms of media. If we had a plan, the media would love to cover this. The media has been going after this and they've tried to tackle it in many ways, but there hasn't been change. Why write stories about something when nothing is happening and they're getting away with it? If we had momentum and we got things going, they would be right back on board, and this could be a whole lot stronger than just talk. It's kind of my last thought with that.

Thank you very much for having me. I have a flight to get back home, but I really appreciate being here. It's an honour.

Good luck with everything, and if you need some help down the road, give me a shout.

The Chair: Thank you.

Mr. Eric Lindros: Bye, everybody. Thank you.

The Chair: Thank you, Mr. Lindros.

Mr. Nuttall, you can continue.

Mr. Alexander Nuttall: Thank you, sir.

Chris, thank you for making the trek here.

It was interesting.... I was just reading part of your bio, which has some awesome photos, by the way. I was a huge WWE fan growing up, so it's very cool. There are some pretty big cases where concussions have had incredibly terrible outcomes. You started to talk about that a little bit, and it kind of feels as if you don't want to go into individual cases and you want to stay in terms of the data.

Mr. Chris Nowinski: No, I'll go wherever you want to go.

Mr. Alexander Nuttall: Okay. There was a Maple Leaf named Wade Belak. I'm not sure....

Mr. Chris Nowinski: Sure.

Mr. Alexander Nuttall: I understood there was a scan done after his death. There was depression leading up to when, obviously, he took his own life. I guess my question is.... And there's another one that I'm going to put into the same question for you. I read on CNN —I can't remember how long ago it was—regarding Mr. Hernandez as well. I had a conversation this morning after caucus with a colleague of mine. We were talking about this committee tonight, and he said that he had read the same article about Mr. Hernandez's brain and the results there afterwards, and obviously the terrible things that happened surrounding him.

Can you give us some comments on the connection between the injury, the concussions, and wide-ranging mental health issues—not yours personally, because I'm going to ask you about that next—that you're seeing through the data you have?

Mr. Chris Nowinski: I've been so lucky to co-author some articles on this in terms of psychiatric symptoms. There's no question that concussions, especially when you're young, increase your risk of psychiatric issues later on, mental health issues. Suicide is a very complex act, but the literature is pretty clear in countries with socialized medicine. One big study and review of studies out of Canada recently showed that even with just one concussion, you have twice the risk of suicide, potentially for the rest of your life.

The two operating theories on that are, one, that it changes the way your brain functions, and two, that it impairs your life. It impairs your ability to work, your ability to do things you love, your ability to have relationships. That is a clear association in the data. The reality is that when we look at some of these stories, we're trying to piece together what's happening, trying to build a dataset from it. The issue of concussions leading to a larger risk of psychiatric symptoms, or a larger risk of suicide, is in the data.

● (1915)

Mr. Alexander Nuttall: You say that professional sports are not doing a good job. We saw what I'll comment on as a ridiculously low-result lawsuit between the NHL and players here in Canada. The professional sports aren't doing a great job at dealing with this. Have you seen an increase in the support in terms of what you refer to as psychiatric help—I'll say mental health support—and professionals being deployed in circumstances surrounding concussion, or not really?

Mr. Chris Nowinski: I know it's being discussed a little bit more, and certainly the leading researchers on it are aware of this, but it's not a common conversation. I'll give you an example. We have a brain in our brain bank of a young man named Austin Trenum, who had a concussion on a Friday night. He didn't quite get great guidelines on how to spend his Saturday and had a stressful Saturday. He went out with friends to a concert, this and that, and on Sunday he took his life. We looked at his brain and we didn't, of course, see CTE, but we did see white matter changes. His suicide was preceded by an argument with his parents about doing his homework, and he went upstairs and took his life.

I'm sure there was no conversation about potential psychiatric symptoms, potential abnormal behaviours, potential emotional behaviours, with his parents when they left the emergency room. Preparing parents for their children not being themselves for the next few days is an important conversation to have, or at least we need to research whether that advice would lead to better outcomes.

The Chair: Thank you.

We're moving over now to the NDP, with Ms. Hardcastle.

Ms. Cheryl Hardcastle: I just wanted to ask a bit more, Chris, about the Concussion Legacy Foundation. You started with soccer and football, with a prevention program. What was your rationale? You must have had some data or evidence that told you.... Why did you start there? Maybe you can fill us in.

Mr. Chris Nowinski: Certainly. The effort to ban heading in soccer before a certain age.... Right now we're talking about banning all purposeful, repetitive hits to children's heads before age 14. That's a goal that we haven't reached. With soccer, it was based on studies. There's one important study showing that about one third of concussions that were happening to middle school soccer players were due to the act of heading, kids trying to put their head in the same space and competing for a ball. So we said, well, this is a skill they don't need to have when they're young. They can pick up heading when they're older.

First, we said, let's cut one third of concussions out of middle school soccer. Second, we found our first case of CTE in an American soccer player. He was a young man who died in his late twenties of Lou Gehrig's disease, ALS, which we have now found is linked in some way to CTE. We used that case to say, look, they don't need to have this exposure to repetitive head hits. Try this when you get home: Find a kid who has never played soccer; throw a ball at their head and they'll usually duck. That's because they're smarter than we are, and we're the ones who tell them to stick their forehead in the way and hit it back to us. It's not a natural thing.

That was the idea. We were led by a bunch of great American soccer players like Brandi Chastain and Taylor Twellman. We were actually able to get this through.

With football, we actually have much stronger data now, with hundreds of cases of CTE in football players that.... The old way of doing things is wrong, and it's been destroying lives. The best solution we have is reducing the exposure of children to hits to the head.

One interesting thing about the history of American football is that youth tackle football wasn't a thing until maybe the 1960s and 1970s. We're now seeing some of those athletes get older, and what we're finding very clearly in our data is that those who started younger have worse outcomes. So, if they play 20 or 30 years of football, and they're basically destined to have CTE, why don't we cut out those first few years? Tackle is not a skill.... Football is a unique situation. Having played it, I know it's not a skill-based sport. It's about being an athlete; they don't need to start banging their heads.

When they're young, based on the research we've seen, we're actually recommending that parents choose flag football: cut out those 300, 400 or 500 hits to their kid's head every fall, but still let them learn the rules of football and have fun. Then, when they're older, their brains are more mature. They've gone through puberty and they can build their upper body strength. They can be at a high school level that has trained coaches and athletic trainers, and then maybe it's okay to play. But before that, it's not.

To get into the big picture discussion we're having in the U.S.—and you may have watched this on HBO *Real Sports* last week—part of the issue is that the NFL is underwriting this game in our country to the tune of over $200 million invested in youth tackle football in this century. It's partially driven by the fact that their data shows that if they play youth tackle football while young, they're more likely to become a fan later on. It's driven by a financial decision. Even if you talk to leaders in football, pro coaches, college coaches, ex-players, you hear them say that kids should not be playing this. You can't take a 40-pound kid and put a four-pound helmet on their head and ask them to run into each other and expect good outcomes.

● (1920)

The Chair: You have three minutes.

Ms. Cheryl Hardcastle: Can you share with us a little more about what you assume is common knowledge now about concussion? We do get some briefing notes before witnesses come. When you were saying, in passing, that you're trying to prevent this because you know they shouldn't have contact under the age of 14, I didn't know that. You heard Eric talk a bit about promotion and education.

I guess what I'm asking you is not necessarily whether we should be educating, but what you think are the big, undisputable findings now about the developing brain—the top three. I don't know if there are three; there might be a dozen. But it sounds like we can hit the ground running with education, with really solid evidence, and I'd like to hear a bit more of that.

Mr. Chris Nowinski: Sure. If you want to talk about things we all agree on that are actionable—and some of this is built on some of the laws we have in the States—we all agree where a concussion occurs. Your brain changes function. There are 40 symptoms you could have, but you need only one to assume a concussion. We know that the person should rest and be gradually returned to sports in their life. That's agreed upon, but not always done.

We agree upon the fact that we don't diagnose most concussions, and this is a critical point where we have an opportunity. Athletes are still hiding most concussions, if they're old enough to understand that they have a concussion. If they're young, they don't understand that they have a concussion and they're not going to tell you. You'd have to be a doctor to recognize a concussion in a seven-year-old by examining their behaviour, because a seven-year-old's behaviour is all over the place.

We know that concussions are an important enemy, but there's something called a subconcussive impact. Imagine that it took a 100G hit in the head for me to have double vision for 10 minutes, and I also got hit in the head a bunch of times at 99Gs. Even though I didn't feel anything because it was below the threshold of causing double vision, it was still potentially damaging my brain microscopically, and those add up over time.

Therefore, it's very clear that it's not just a concussion issue, but the more hits to the head and the harder they are, the worse off you are, even if you don't have symptoms.

The Chair: We'll move on to Madame Fortier, from the Liberals.

[*Translation*]

Mrs. Mona Fortier: Thank you, Mr. Chair.

Mr. Nowinski, thank you very much for being here with us today.

Since you do research, I'd like to know whether you also study the brains of young female athletes, or whether your subjects are mostly males.

● (1925)

[*English*]

Mr. Chris Nowinski: That's a great question.

We work very hard to recruit female brains to the brain bank, but of 700 brains, I believe the number of female brains is just over 10. Part of that is because our brain bank is heavily football-related, a sport that very few women play, but the other reason is that, in America, we didn't allow women to play contact sports until Title IX. It wasn't equal opportunity; therefore, we don't have a lot of older female athletes.

We're very aggressively trying to raise awareness that we need female brains because we need to understand those differences. There's no question that we expect to find CTE in former female soccer players, ice hockey players, and players of other sports.

[*Translation*]

Mrs. Mona Fortier: My impression was correct; you study mostly male brains.

Our committee is trying to see what could be done at the federal level. In your opinion, what could we, as legislators, do to improve things in this area?

[*English*]

Mr. Chris Nowinski: I'll try to be as concrete as possible.

From a policy perspective, what's in Rowan's Law is very similar to what is in the laws that exist in every state in the U.S. If you're going to play sports, everybody needs to be educated on concussions. That means we require it for coaches, and we require it in many states for the athletes. In some places, we even require it for parents, because parents don't realize that the average concussion isn't going to be diagnosed at practice. Those symptoms may show up when the person gets home that night. If they don't know what to look for, they won't piece it together. Mandating education through sports organizations, I think, is absolutely appropriate to do.

In the U.S., in most states, we mandate that you have to be cleared by a medical professional to return to sports after a concussion. I've heard about the backups for going to doctors as a reason why people don't get medical clearance. Finding a way to fix that issue, whether you need more trained doctors, or whatever.... It's absolutely appropriate to say that you have to be treated by a medical professional and cleared before you can return to sports, because returning to sports too soon is often how lives get derailed.

On the research side, it's hard to mandate specific things, but certainly convening a group to potentially put together a research road map and investing that time in getting scientists together to say where the gaps are and how we close them....

I mention that second just because, when I look at this issue as a public health problem, it's going to take decades to develop treatments for this or new ways to diagnose it using biomarkers on the sideline. That's an investment of time and effort, but right now we can draw a line in the sand and stop a whole lot of these problems on the prevention side, whether it's preventing the impacts in the first place, preventing mismanaged concussions or preventing a child from hiding a concussion, because we educate them better.

In terms of changing the culture, I would add that, if you're going to do education for athletes, it can't just be asking athletes to self-report, because asking a 10-year-old to diagnose their own brain injury in the moment they have a brain injury is an insane plan.

One program we've put together, which we do up here as well, is called Team Up Speak Up, where the primary message we give to children is not that you need to look out for yourself—that's the message they have already received—but looking out for your teammates. Your teammate is probably not going to know they're concussed, so if you see something, it's your responsibility to speak up to a coach or to a parent and say, "I'm worried about them; check them out."

Prevention-wise, I think looking into the idea that there should be minimum ages before it's open season on a child's head in sports is important. Again, I look at that like lead exposure. We have five-year-old kids in America, again, 40-pound kids putting on a four-pound helmet and running into each other, and we know they're getting hit in the head hundreds of times. We also know that, at the NFL level, we have guys walking away from the sport and turning down millions of dollars because they don't want to take that risk. The idea that we put kids at this risk when they don't understand what the long-term effects could be, because they're not old enough to understand what the long-term effects could be.... We usually don't assume they can predict this until they're 18.

When Eric mentioned checking at 15, to me that's an obvious one. When we brought checking down to young ages, we weren't thinking about the brain; we were thinking about preparing them for the money down the road. From a public health strategy, it's absurd that we encourage kids to run into each other.

Does anyone here play in any adult sports leagues? Are there any ice hockey players? Do any of the men here play in checking ice hockey leagues as adults? Of course not. We would never do that to ourselves. We're too smart for that. You know you need your brain down the road, so the idea that we'd put 13-year-olds in that situation without giving them an option to not check is cruel, I think.

● (1930)

The Chair: You have about a minute and a bit.

Mrs. Mona Fortier: Yes, there is a lot to think about.

Mr. Chris Nowinski: Yes.

Mrs. Mona Fortier: Is there anything else you'd like to share with us? Honestly, I think you have so much to offer that I would leave you with the floor if you have something like a takeaway that you think we really need to look at.

Mr. Chris Nowinski: I would just reiterate that this is a big area. I sort of fell into this in my mid-twenties, and now I've spent 15 years trying to understand it. I just want you to have confidence that this is a solvable issue. You can come out of this with very concrete steps that will put all Canadian athletes and citizens in a better position, where we have a better respect for concussions and a better respect for their brain, and change the course of the future of sports so that we don't deal with these outcomes that we're unfortunately uncovering way too much through the brain bank or through other situations. We can succeed at this in a short period of time.

Mrs. Mona Fortier: Thank you very much.

The Chair: Thank you.

We are going to move over to the Conservatives. I understand you'll be splitting your time.

You have five minutes, Mr. Nuttall and Mrs. Falk.

Mr. Alexander Nuttall: Thank you so much.

I just want to pick up on exactly what Ms. Fortier was asking you.

Chris, I want to give you an example of where we are at in Ontario. There is no malice on my behalf about the other things that I'm going to talk about that are being taught to the hockey clubs.

A hockey mom who found out I was on this committee reached out to me. She is the assistant convenor of one of the local leagues. They've been required by law to have coaches have conversations with their teams regarding gender issues. I'm not saying that's a bad thing. Let me be very clear.

Mr. Chris Nowinski: Right.

Mr. Alexander Nuttall: They've never been mandated to have conversations about concussions.

You sit there and you think, how is it we're going so far on this track, but we haven't even left the station on this one? Is that right?

Mr. Chris Nowinski: Yes.

Mr. Alexander Nuttall: It sounds like you have so much information and data. It would be nice.... You come and you are able to tell us about it. How much of it can you just throw on our desks and on the analysts' desks and say, "Here's the raw data. Here's the stuff. Please put it to work. Here are the 10 recommendations I make to every school I speak to in the U.S." or whatever?

Mr. Chris Nowinski: There aren't many opportunities to talk about federal changes. I would say there are a lot of recommendations.

I think that's an incredibly important point. In college, I remember being required to go to a gambling thing for sports. Every athlete had to go to a gambling issue, even though there was one case of people gambling on their own games in all of the United States.

I can promise you that if they're in a contact sport, 10% of those athletes are going to be diagnosed with a concussion over the next coming season. Probably 30% to 50% of those who have it are not going to say anything. The idea that you wouldn't mandate a concussion conversation but you'd mandate anything else is potentially bad, short-sighted policy.

I do think the idea of mandating.... You know, we're not born understanding our brain. Unless we actually sit there and talk about it, we're not going to appreciate it. I didn't realize until I was a couple of years into this work that we don't have pain nerves in our brain. That's why we don't feel anything. That's why we're so reckless with it. The feedback you get is that you have to interpret this mild headache as a brain injury, even though you get mild headaches from having the flu or other issues. You're right that we need to ask more of ourselves. We also have to understand the pitfalls that are coming.

I'll quickly give you one interesting study I just came across. A former colleague of ours, Christine Baugh, recently was able to survey four division 1 college football teams and found that their likelihood of reporting concussions diminished the more concussions they got. If you survey doctors, they'll tell you they start retirement conversations at three or four diagnosed concussions.

This survey found that they'd tell you about the first concussion. They'd tell you about the second one, and they might tell you about the third concussion. Fewer than half would tell you about the fourth concussion. Not a single athlete in this entire group had more than four diagnosed concussions, even though many of them admitted to having more than 15 concussions.

There are a whole lot of social aspects to this that we have to prepare people for. It is just very complex.

● (1935)

Mr. Alexander Nuttall: Mrs. Falk.

The Chair: You have a minute and a half.

Mrs. Rosemarie Falk (Battlefords—Lloydminster, CPC): This has been a very interesting conversation for me. I was never raised in contact sports, nor was my husband. We have a daughter who's in gym—she's a little gymnast—where they fall all the time. It's not contact, but they're up on a bar that's six feet high. It's very interesting that she trains 12 months a year. There is no break, because when they break, even a summer break, they notice too much regression, which makes it more difficult to compete. That was an interesting takeaway that I had.

Also, I have a nephew. I don't know if it's like this here, but where I'm from, in western Canada, everybody's in hockey—every single person. My nephew is six years old. They put him in hockey for the first time when he was five years old, and he's a joke because he wasn't put in when he was two years old.

Mr. Chris Nowinski: Yes.

Mrs. Rosemarie Falk: How do we change this culture of putting our kids in such high-pressure sports at two years old?

The Chair: You're going to have to hold on to that answer. Gather your thoughts, and we'll come back to the Conservatives.

We're moving over to the Liberals.

We have Mr. Fisher.

Mr. Darren Fisher: Thanks very much, Mr. Chair.

Chris, you said we don't diagnose most concussions, and then you said there are professional NFL players walking away because the risk is too high. How many NFL players are not coming forward to say that they have potentially been concussed? At this level, they probably know when they're concussed, but it's millions and millions of dollars. You have pressure from agents, pressure from coaches and interior pressure to make a living as well. How many concussions are going undiagnosed because of players not coming forward?

Mr. Chris Nowinski: Most.

Mr. Darren Fisher: I can't imagine too many players walking away from the game in fear of getting a concussion. I'm not saying it doesn't happen, but probably more—

Mr. Chris Nowinski: More are choosing to play through their injuries. They're making an informed choice, and you can't necessarily fault them for it, but, as soon as they walk away, players will be completely honest, and there are many quotes from athletes saying they got concussed all the time but they wouldn't say anything because if you get two concussions in one season in an NFL career, you're basically done, because they see you as a concussion case.

Mr. Darren Fisher: We've invited the CFL commissioner to this committee, and we believe he's very likely to come. If you could ask a question of Randy Ambrosie, what would you ask him?

Mr. Chris Nowinski: Well, I think the one issue that I've seen in his commentary is that he still refuses to acknowledge the evidence linking playing football to chronic traumatic encephalopathy. I think that's terribly misleading to the current players who are taking that risk with their brain for not a whole lot of money in the Canadian Football League, and it sets a bad example for every parent choosing when and how their child is going to get into that game. If you're going to be a pro sport and be the only group of folks who are actually making cash on this game, you have a responsibility to message the rest of the public the right way.

Mr. Darren Fisher: The influence of professional players on younger players is there. When kids are playing mini sticks, they're Crosby or they're Malkin. Eric said that the culture of change needs to start with the younger kids. How do you cross that t? How do you get the younger kids starting to think about protection from potential concussions, while acknowledging the fact that they're going to imitate the pros?

Mr. Chris Nowinski: You use multiple messages. For example, when pro athletes give a great quote about how they didn't rush back into the game and they're happy they were pulled out because they weren't in their right frame of mind, we try to magnify that to send that message out to the young people—that they're happy the team held them out, and they're happy to take a week or two off before they go back. That's setting the right example.

At the same time, with kids, we try to message them about how important their brain is, which is hard for them to understand. Our program, Team Up Speak Up, is one way we do it. We try to share with them interesting statistics, like the idea that you have 18 billion neurons in your head. Each one has an axon, and if you lined up all those axons end to end just in your head, it's about 500,000 miles—to the moon and back. We help them appreciate how fragile their brain is as they try to understand how a brain even functions and helps them. You have to educate from a lot of different places.

● (1940)

Mr. Darren Fisher: I guess we need to have more of the top hits videos replaced by top plays videos or best saves.

Mr. Chris Nowinski: Right.

Mr. Darren Fisher: I know that when I flip through my Twitter feed, Sportsnet continuously shows the hits of the day. In fairness, TSN and all those groups show the plays of the day as well, but I think that some of the younger kids who are influenced by those pros are really excited by those hits of the day, the best hits.

Mr. Chris Nowinski: Well, we're all still animals at heart, but I think we've had leadership in some sports that has started to emphasize the skills rather than the violence. In America, the major league lacrosse community, US Lacrosse, has actually made all hits to the head penalties. It's really championing the skills of the game, and it's doing well for its business.

Mr. Darren Fisher: Do I have a tiny little bit of time left?

The Chair: You have about 30 seconds.

Mr. Darren Fisher: Can you give me 30 seconds on CTE connected to ALS?

Mr. Chris Nowinski: There are many ways you can get ALS, and we haven't figured out most of them, but we know that NFL players, for example, have a greater risk of developing ALS than the regular population. What appears to be happening in some of them, according to Dr. Ann McKee, is that they're having changes in their brain due to the CTE that are overly affecting their upper spinal motor neurons, which appears to cause these ALS symptoms and motor symptoms. It's maybe one of 20 ways you can get ALS, if not more.

The Chair: Now we're back to the Conservatives and Mrs. Falk.

Mrs. Rosemarie Falk: Thank you.

I'll go back to my question. How do we successfully shift the culture with parents? Even with hockey, you have your fall camps, then your spring camps and summer camps, and then you're back into the fall. How do we shift that?

Mr. Chris Nowinski: One thing that hurts us in our concussion and CTE prevention work is the professionalization of youth sports. You tell me that your daughter is not forced but asked to do 12 months a year of gymnastics because she's going to lose skills over the summer.

Mrs. Rosemarie Falk: Yes.

Mr. Chris Nowinski: Who cares if she has a drop-off of skills over the summer? No child's body can take 12 months of any activity over and over again.

That is a bit of an educational issue. In the U.S., we're sort of fighting a capitalism issue. There's a group of coaches who have found that if they prey on parents' fears that their child will fall behind, or sell them on the idea of a college scholarship because education is costing too much now, they can convince them that their child has to play their sport year-round to succeed.

I'm a new parent. That's something that I'm going to have to fight, but I've committed myself to fighting it, because it's not the way it used to be and it's not the way we grew up. Now there's a financial incentive to have your child in a sport year-round and, frankly, while we need kids having exercise and all that stuff, we need to de-emphasize a little bit this chase for glory. We have to realize that 99% of people who are playing sports are never going to get paid for it. They're never going to reach the top. It's not all about that chase.

Mrs. Rosemarie Falk: I literally know no different. I was never a gym kid, so it's like, okay—

Mr. Chris Nowinski: Well, of course, that's what everyone's doing.

Mrs. Rosemarie Falk: The thing that sucks is that she fricking likes it. When she's at home, she's walking on her hands. It's like, okay, you already do this many hours a week, so why are you still doing it?

Mr. Chris Nowinski: That's right.

Mrs. Rosemarie Falk: Let alone the cost of it. It's ridiculous.

Mr. Chris Nowinski: That's the message coming from the sports medicine community about specialization and giving people rest and playing multiple sports. We need to arm parents with that information, because the capitalist side is telling them that they have to do it all the time, year-round, or they're going to fall behind. We need medical professionals saying that kids' bodies need a break. They can't do this all the time, or they are going to have consequences down the road.

Mrs. Rosemarie Falk: Thank you.

The Chair: You have about two and a half minutes, Mr. Nuttall.

Mr. Alexander Nuttall: Thank you.

Chris, I know that this is a bit of a hot button question, because any time we discuss health care with Americans we're liable to end up needing the police or something. I'm going to go there anyway.

Mr. Chris Nowinski: Yes.

Mr. Alexander Nuttall: I think you heard me earlier. In health care in Ontario, they have a computer system in which they have to create—

Mr. Chris Nowinski: Reimbursement.

Mr. Alexander Nuttall: How do you bill? When you're looking at somebody who looks like they have the effects of a concussion and have a need for a personal trainer, or for some sort of massage therapy in some cases, or potentially a need for someone who can look at the nerve damage in other parts of the body, a huge number of people are needed.

● (1945)

Mr. Chris Nowinski: That's right.

Mr. Alexander Nuttall: How do you guys tackle that in the U.S. with your system when you see a young person, let's say? Is it that you're S.O.L. if you don't have insurance? What happens?

Mr. Chris Nowinski: Yes, if you don't have insurance, you're in big trouble. That's a huge issue in the United States, and I don't know how to solve that problem here.

Let's go back to the original question about billing codes and rehabilitation. I think you have identified a major issue here. If you don't have appropriate reimbursement and billing codes for doctors so that they can give proper care for concussions, that's something you could fix. That's easy. We know that most people aren't going to need extensive therapy, but some are.

Mr. Alexander Nuttall: It further discourages doctors from taking it on.

Mr. Chris Nowinski: Yes, that's right, and building his practice....

Mr. Alexander Nuttall: Right. If we believe that it's about entertainment and about money in that world—Rosemarie and I have been talking about this on the side here—there is an aspect to that within the health world as well.

Mr. Chris Nowinski: Right. Just to give you an example, in the U.S. we used to call our concussion education sessions “concussion clinics”, because there were no physical clinics that treated concussions. There are now well over a thousand. Every major hospital has a concussion clinic where you send kids. They have multidisciplinary teams to help assess what's wrong and how to fix you. Do you need vestibular rehab, visual rehab, cognitive behavioural therapy or whatever it is? They're doing it, so hopefully kids are going to have better outcomes down the road.

Mr. Alexander Nuttall: We don't have that in Canada.

Mr. Chris Nowinski: Yes. That's something you need.

The Chair: We're going to move over to the NDP. This will be our last questioner.

Chris, you may want to put on the table whatever you want all of us to hear.

Mr. Chris Nowinski: Thank you.

Ms. Cheryl Hardcastle: How much time do I have?

The Chair: You have five minutes.

Ms. Cheryl Hardcastle: Do you want to take five minutes for wrap-up?

Mr. Chris Nowinski: No, I feel like I've said a lot on most of the things.

Ms. Cheryl Hardcastle: Okay.

I would like you to go back to telling us a bit about what is common and not disputed anymore.

Rosemarie was talking about her daughter and how much her daughter loves sports. That has been the problem perpetually. Kids love it, and then parents feel good when they see their kids doing it. The kids get positive reinforcement, so they do it. First thing you know, you're a fan paying the money for a professional sport; it's not just about the amateur. It just cycles and cycles and cycles.

I would love to bring it back to what we know now that we didn't know in the 1990s. What is not disputable?

You were on a roll a bit, and I would love to hear more about that. Even if you just want to talk about the developing brain and contact sports, for instance, when did we find that out?

Mr. Chris Nowinski: That's a good point. All right, where do I take this?

The interesting thing is that a lot of stuff we're talking about today has been in the medical literature forever. We've always known that a hit to the head can cause your brain to malfunction. It can cause structural injury. It can cause symptoms, most of which are acute, but some can become very long-term. We now know that those hits to the head can lead to degeneration and problems down the road.

We know that those hits to the head are probably worse when you're young. Kids take not only longer to recover, but there are things called developmental windows in the brain. If children have a brain injury before they're supposed to develop a certain skill—a good example would be if a kid has a brain injury before he learns to speak—they're going to be delayed dramatically and they may never catch up.

The idea that we need to protect kids is well accepted. What's interesting is that what is not accepted is the idea that we shouldn't hit kids on the head. I think that's the best way to look at this. That is not an accepted premise in North America. I like to steer the conversation there all the time.

The best thing we can do for all of these issues is prevent them. We can get into medical billing and all the nuances of what to do for you once you are in the system, but the biggest opportunity we have is prevention. We need to use our influence and knowledge to rein in sport, which in a lot of ways has become more about boosting enrolment and capitalism, creating jobs, than about necessarily doing what's best for your kid.

The idea we have today on year-round sports still boggles my mind. In my dissertation, I had to deal with an issue where I was studying a soccer team in a high school. I put sensors on their heads, and we were counting how many times they were hit on the head. I didn't imagine that the kids were also allowed to play on a private soccer team the other days of the week. I didn't realize it until afterwards, and I had to put that in my limitations, that these kids were also playing soccer somewhere else, 7 days a week, some of them for 12 months a year.

When we look at how bad the brains at our brain bank are today, those were athletes who were playing probably three or four months a year—a season a year of sports. We don't have a lot of 12-month-a-year soccer players. We also don't have “bigger, stronger, faster” in there. That's something we don't talk about either: our increased training and nutrition. If you look at an NFL team, they're 20% larger. They are faster than they were, and their brains are no tougher. The idea that.... You will hear that we've solved most of this problem and it's behind us, but that's not the most likely situation.

The worst of this is coming, which is why we're so dedicated to saying, “Let's draw a line in the sand. Let's fix what we can now. Let's stop creating this by letting kids get hit on the head, for years, while their brains are developing. Then, let's really dig in and try to help the folks who have been damaged.”

It's not just athletes; it's also our veterans. Whether it's our veterans or your veterans, they are people who have served our countries and need help. Unless we really invest and create this research roadmap and put money towards it, we won't have answers.

I'm now 40 years old, and I may need the answers at some point, so I urge you to hurry up. If it's not me who is going to be affected by this, it's certainly all my buddies.

● (1950)

The Chair: We can't thank Dr. Chris Nowinski enough, and Mr. Eric Lindros, for coming in.

You have been excellent witnesses. On behalf of all the members, we thank you for your passion, your advocacy, the research you are doing and the collaboration with Canada. Thank you.

We are looking to have this study completed by the spring, and we'll present you with the report.

Mr. Chris Nowinski: It has been my honour. Thank you.

The Chair: Yes, Mr. Nuttall.

Mr. Alexander Nuttall: Mr. Chair, very quickly....

Chris, you came up here; it's not your country, and all those things. I really wanted to highlight that and say thank you. I know it's taken a lot of time out of your schedule to do that. It just shows how much you care. We have a lot of respect for that, Chris, so thank you for doing that.

Mr. Chris Nowinski: Thank you.

The Chair: You're always welcome. Thank you.

This meeting is adjourned.