



The Beat Podcast
Season 2, Episode 6: Transcript

The surprising heart-brain connection

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Caroline Lavallée [00:00:23] I'm Caroline Lavallée, and you're listening to The Beat, a podcast by Heart & Stroke, with support from our generous donors. Thanks for listening. Now let's get into the episode.

The heart and brain are deeply interconnected. If something happens to one, the other is affected. However, the Canadian medical system is mostly siloed when it comes to diagnosing and treating conditions that affect your heart and your brain. The result is missed opportunities for prevention and treatment and sometimes medical emergencies that might have been prevented.

Many Canadians are unaware of the links between heart and brain conditions. In this episode, we'll dive into the complexities of the heart-brain connection and what the medical system can do better to treat these interlinked conditions. We'll also hear about the important things you need to know about the relationship between your heart and brain, and the research being done to further our understanding, as well as increase awareness and education about this powerful connection.

When she was 34 years old, Kelly, an educational assistant and mother of three, experienced a stroke.

Kelly Saylor [00:01:47] So the first stroke, when I had it, I didn't realize that I had a stroke. I was so busy with the children and trying to get everybody up and moving and get them off to school. I remember the day and the night; I was sleeping and I had pain and I thought I should wake up and take Advil or I'll wake up my husband, but I was too disoriented to do that. And then when I got up in the morning, I was having trouble functioning, is how I would say it. I got up. I tried to go get my kids ready for school. I felt like I was off balance. I was talking abnormally. I was having difficulty speaking. And my husband noticed that something was off and he left for work quite quickly and didn't say too much other than, "Are you OK?" And I said, "I'm OK, because I'm a mom. I have to go. I have things to do."

Caroline Lavallée [00:02:51] It took months before Kelly's stroke was finally diagnosed. She had been experiencing a range of neurological symptoms like brain fog and aphasia, which means she had trouble speaking and finding words.

Kelly Saylor [00:03:06] The next time I had to make an appointment because my husband nagged me, he came with me. And he said to the doctor, "She's having neurological symptoms." And he went through a list of the symptoms, telling him that, you know, I needed to see a neurologist. And that's when they sent me to neurologist. So when we went in and he said, I had a stroke, we were pretty surprised that that's what it was, but also sort of relieved in some way, because it was already done. So we're like, OK, so it's already done. We don't have to worry about something else. And then he said to me, "No, we have to check your heart, because something's caused the stroke and so we need to send you for tests."

Caroline Lavallée [00:03:53] Kelly had been experiencing pain in her chest for years, but had been told it was caused by anxiety and more recently, fatigue from having a baby.

Kelly Saylor [00:04:04] For about 15 years, I had experienced pain in my chest and neck. Extreme pain that I would go to the emergency for, and eventually it would just stop. The pain would just stop. And so the doctors just kept sending me home. And they didn't even do any tests on me. They never checked my heart. And then he still continued to diagnose me with anxiety. And I even questioned him, saying, "I have this numbness only in my left side. Are you sure that's anxiety?" And he said, "Well, you get numbness from anxiety." And I was like, "But only in my left side? Are you sure I didn't have a stroke?" And he said, "No, you didn't have a stroke. Like, you're being, you're just being ridiculous. Like, just, you know, take your anti-anxiety medication. You're not sleeping. The baby is keeping you up."

Caroline Lavallée [00:05:03] It wasn't until after she suffered a second stroke that Kelly was finally diagnosed with a blood clot in her aortic valve. She was astonished to learn that this heart condition had been the cause of her chest and neck pain, and that pieces of the clot had broken off and traveled to her brain.

Kelly Saylor [00:05:24] And then I waited hours, and I finally said to the doctor, "I have to leave. I have to go get my kids." And she said, "Please, don't leave. I think there's something on your CAT scan. I need you to stay." So she finally came out. She brought me into the little room, and I said, "Oh, I must be bad if you're bringing me into this little room." And she said, "You have a very large thrombosis in your aorta, and it's coming in and out of your heart in your heartbeat, so we're admitting you to the ICU right now."

Caroline Lavallée [00:05:56] Unfortunately, stories like Kelly's are not unusual because the heart-brain connection is often overlooked. Kelly wonders if her strokes might have been prevented if her heart condition had been diagnosed earlier. She wishes she had known more about the relationship between her heart and brain.

Patrice Lindsay [00:06:17] When we talk about the heart brain connection, what we're really speaking about is trying to look at the whole person.

Caroline Lavallée [00:06:25] This is Patrice Lindsay, director of health systems at Heart & Stroke.

Patrice Lindsay [00:06:30] When somebody has an event that is, you know, attributed to their heart or they have a stroke or other event that's attributed to their brain, we want to stop getting people to think of those as isolated organs and the conditions in isolation. We know that everything in your body is connected through your blood vessels. And there's lots of blood vessels that come... all the vessels start at and stem from the heart may go directly up to your brain.

In the past, our medical system is really built in silos. So we have cardiology and heart services over in one place. We have our stroke services in another, and very rarely do we have that crossover. And then even further to that, looking at cognitive impairment or those kind of more memory-thinking-functioning components, are yet a separate group altogether. And it's only been, I'd say even more recently in the last 10 years where we've started to talk about this, and we've actually started to get and through Heart & Stroke we've helped facilitate getting all those different specialty groups to start talking to each other.

I think they all inherently knew that there were some relationships, but you rarely saw research that brought all those groups together to really focus. We will often refer to the whole patient care, which is really encouraging all those three groups to come together and to work together to understand how, whether you started with the heart or the brain, how those affect each other and how to deal with the whole person; you have to take that into consideration.

Caroline Lavallée [00:08:12] Having one of these conditions drastically increases your risk of developing another.

Patrice Lindsay [00:08:18] We know that people who have cognitive impairment have, you know, up to 60% risk of having a stroke, a really serious stroke. We know that people with heart failure are almost three times more likely to end up with cognitive impairment, and they have a much higher incidence of stroke as well.

Caroline Lavallée [00:08:35] Undiagnosed congenital heart conditions, which means heart defects that a person is born with, also increase the risk of experiencing a stroke.

Patrice Lindsay [00:08:45] So many congenital heart defects put you at higher risk of stroke. Some of the reasons for that could be some heart defects are holes in the walls between the right side and left side of the heart. So when blood comes into the right side, it goes through the lungs, it gets filtered and all that, the clots and things that come back from your body get filtered out. In some cases, if there's a hole, it's like a little window between the left and right side of your heart, those little clots can pop through the window and then be sent directly to your brain without getting filtered out, and that could then cause an ischemic stroke. That is common, a common thing that happens with those. A lot of other heart congenital conditions are really complicated where the heart's not pumping properly. So if the heart's not pumping properly, not all the blood leaves the heart at the same time, and you see that with heart failure as well.

Caroline Lavallée [00:09:43] Eventually, Kelly received open-heart surgery to treat her heart condition. But she feels like the connection between her heart and brain was not initially taken into consideration.

Kelly Saylor [00:09:56] I think that they dealt with what was immediate and emergency. And then I think after that, they failed to recognize the rest. Even like cardiac rehab, they wanted me to go to cardiac rehab. But even there, he wasn't addressing, they weren't addressing my symptom, my specific situation and symptoms. So I think that the neurologist in Niagara Falls was probably the only one who understood that there was something with my aorta causing the thrombosis and causing the strokes. He kind of put those things together, but I don't think anybody else addressed it again.

Caroline Lavallée [00:10:39] Heart & Stroke is working to raise awareness of the heart-brain connection and accelerate change within the healthcare system. These changes are needed to ensure that situations like Kelly's are recognized and treated.

Patrice Lindsay [00:10:55] We really need to be working and we are working now on... the first step is really educating. Educating both clinicians at the front line, educating the patient and people with conditions to start asking those broader questions like, "Hey, I've had a stroke, is my heart OK? I've had a heart condition or I have heart failure, I've heard that that puts me an increased risk of a stroke. What do I need to know?"

When you make your treatment plan, you start to think more broadly if you're ordering medications. Well, how will these medications impact? You know, will they... help on a broader sense or is there a risk they might actually hide or mask something else? So you want to start thinking more about that heart-brain connection and that broader risk profile for the person before you actively put all their treatment pieces in place that just focus on the heart or the brain. So that's really important.

A second thing that we're really pushing for is ensuring that cognitive health and mental health are part of that early package because people with heart conditions have a really high risk of having anxiety,

mood issues, even to severe depression. People with stroke are at higher risk, up to 60% of patients will experience a some sort of anxiety or mood condition afterwards. So we need to build those pieces because they are part of the heart-brain connection.

Caroline Lavallée [00:12:22] Thankfully, the amount of research being done to understand the heart brain connection is also increasing.

Patrice Lindsay [00:12:29] So the research of the heart-brain connection is really advancing at a more rapid rate now, which is awesome. What we're learning is biomarkers such as genetic markers or, you know, when you have genetic testing done or DNA sequencing, we're picking up markers that indicate or that are associated with, you know, certain kinds of conditions. If you test enough people and you see the same kind of marker in several people and they all happen to have the same heart condition, you start to realize where those relationships are.

What we're starting to see in some of the research right now is some of those markers are overlapping between heart conditions and stroke. So it's more of a vascular marker as opposed to just a heart marker. And this is still at the very early stages. And I think over the next few years, we'll see a real just explosion of information about this and knowledge.

The Heart & Stroke Foundation and Brain Canada have recently awarded two significant grants looking at the heart-brain connection. So one is specifically looking at, you know, the relationship between minor stroke and stroke and the heart and how we can prevent... increase our efforts around prevention and our knowledge around how to prevent both. And the other one is looking at heart failure and heart conditions and that relationship to cognitive impairment and other brain-related conditions. And again, how do we minimize those disease states from getting worse and really spreading and how to be better at prevention?

Caroline Lavallée [00:14:10] Three in five people in Canada or someone close to them has faced at least one heart or brain condition. These conditions are not rare, yet awareness about their interconnectedness is low. To prevent more stories like Kelly's, there needs to be both education for everyday people, as well as changes in the way heart disease and stroke are treated in the healthcare system.

Heart & Stroke is working to create change by advocating for a more holistic model of care, and they're providing resources so that patients know the questions to ask about their risk of experiencing a heart or brain condition. The more we're all aware of these connections, the more we can ask our healthcare providers the right questions.

For more information about living with heart disease and stroke, visit heartandstroke.ca.

Thanks for listening to The Beat, and a special thanks to our donors for making this podcast possible. I hope you'll take away some valuable insights from today's episode and maybe you'll be inspired to join the community that's determined to beat heart disease and stroke. Subscribe now to stay informed, get inspired and rediscover hope. Don't forget to rate and review the podcast so we can reach even more listeners. Stay tuned for our next episode. Until next time, I'm Caroline Lavallée.