Behind the Breakthrough Podcast - University Health Network

Season 5 - Dr. Hance Clarke

Transcript

BTB

Welcome to another episode of Behind the Breakthrough, the podcast all about groundbreaking medical research and the people behind it at Toronto's University Health Network, Canada's largest research and teaching hospital. I'm your host Christine Coté. Joining us on the podcast today, Dr. Hance Clarke is the staff anesthesiologist and director of pain services at UHN. Medical Director of the Pain Research Unit at Toronto General Hospital and award winning scientist at the Krembil Research Institute. Dr. Clarke is a pioneer in pain research that has led to groundbreaking solutions to help patients manage pain post surgery, solutions that reduce the incidence of chronic pain and the risk of addiction. Dr. Hance Clarke, welcome to Behind the Breakthrough.

DR. HANCE CLARKE

Thanks for having me Christian.

BTB

Let's first if we could understand the challenge of managing pain after surgery. Obviously, it's a delicate balancing act between ensuring patient comfort and preventing addiction, prior to your research, what's been the protocol to try and achieve this balance?

DR. HANCE CLARKE

So I think before we even tackle the balance Christian, I think we have to talk about what patient's fears are when they come into the hospital, they're having surgery. You know, if you're a patient, and you're about to go under, you have two real thoughts and two fears. And the first one is am I going to die. And as an anesthesiologist if that happens, well, we've probably not done a great job. So that's typically a fear we can put to bed for most folks. But the bigger one is, you know, how much pain am I going to have from A to B? And how does this work from landing in the hospital to walking back out. And so I came from a time and I trained in a time where the thought at that period was you know, no pain, let's have a pain free surgery. And you know what that led us to in terms of some of the opioid crisis issues we've had. And so that's changed over time. And it's morphed into pain as a part of the process, and how do we help people be supported as they come through the hospital system.

DR. HANCE CLARKE

And so when we look at what that journey is today, and that balance between who might become addicted, and we really don't use the word addiction, and more reasons, you know, substance use

disorder, those who have an issue are persisting on their opioids, or they take it longer than they need. You know, if you're an individual who's not taking an opioid medication, that risk is probably less than 1%, we have some Ontario data to show that it's 3%, at about six months. And if you follow that through to a year, it's about 1.8% of all people who are not taking an opioid. Now, if you add in someone who has a pain issue, someone who is already being treated for a pain condition that changes significantly, and I'm sure we'll get into things like you know, risk factors and your mental health and things of that nature. So it's always a balance, the protocols were at times rudimentary. And now we've changed that to put a focus back on the patient.

BTB

Let's just maybe do a bit of a deeper dive into the consequences of the lack of a protocol maybe prior to your research and the solutions. What happened in terms of the scope and scale, say, of addiction in Canada as a result of post surgery pain?

DR. HANCE CLARKE

When we think about when we conceptualize this program, and it's really a world first program, looking at this kind of acute to chronic pain and the chronicity and the transition from surgery in particular, the thought is from some of the naysayers, so to speak is when you have acute pain, it will go away. And then you have these chronic pain services. And so when you think about that, and you think about a typical journey was before we built our service, you could be someone who came in you had a let's call it general surgery of some sort, and you're having a pain issue, you're renewing your prescription meds, you see your surgeon, they probably talked about how successful the surgery was, they may or may not touch on how much pain you have. And whether you're you know, your opioids and things of that nature. And then your primary care doc lands with you and you're saying I have this thing, it's not going away, I can't really function as well as it did before surgery.

DR. HANCE CLARKE

And that journey would look something along these lines, you might have another follow up with your surgeon and about three or six months, maybe good tickbox, you're good, but there's this thing that's still bothering you. And then you try to get into a pain clinic of some sort, which would then land you on an eight to 12 month waitlist and you're about 18 months out now from the time you've had a surgical incision and you're struggling with some symptoms. And we missed a huge window of opportunity there to intervene. What this service does, and what many of the places are doing that are replicating this service is providing a service to institutions that are doing in particular things like surgical oncology, orthopedic surgery, any of these major surgical interventions, where there's a percentage of folks that go on to have a consequence of even a life saving surgery, and take those individuals and actually change their trajectories, hopefully, but within an appropriate timeframe, as opposed to in the days of the opioid crisis now being on there, 300 400 milligrams of Oxy five to six to 10 to 12 months later, and then starting from behind.

DR. HANCE CLARKE

And so this is really what we brought to the forefront, to say you know, when you talk to the chronic pain Doc's they'll say when five individuals that we see in our clinic, 20% of patients have a condition related to their surgery, when someone cuts you open and fixes you up and puts you back together. You're never going to be exactly as you were before. And I think education obviously is key for some of these folks.

BTB

And are their surgical procedures that we know in advance where there's a higher risk of addiction post surgery?

DR. HANCE CLARKE

There's no doubt that you know, when we look into the databases and we do research into this area that things like thoracic surgery always bubbled to the top when you're, you know, opening people's ribs and things of that nature, but simple things like inguinal hernias, you know, many people have inguinal hernias, and there's lots of nerves and plexuses there that people go on to have a couple of years of chronic post surgical pain or issues related to that without much understanding about it. And then you can think about breast cancer surgery and the number of women that are having mastectomies and lymph nodes removed from under their arm. And the question there is, but some of that ongoing longitudinal pain due to the surgery, is it due to radiation? Is it you know, there's so many factors that go into this. But it's such a huge area of medicine that has been castaway for the longest time until we started to really bring this to the forefront.

BTB

Okay, so let's dive into your research. One of the latest initiatives you brought forward to address this lack of a protocol in terms of pain management after surgery, right as the pandemic is about to take off. You and a team of healthcare professionals and patient partners create a guide, called the consensus statement for the prescription of pain medication at discharge after elective adult surgery. First of all, what was it that you came up with?

DR. HANCE CLARKE

What we came up with was the first elective you call the consensus statement, you call it a guideline with respect to elective patients and surgery and discharge prescriptions to help deal with the big issue that we're all being called out for at that time, which was, it's our prescriptions leading to individuals landing with persistent use, and ultimately, you know, having an addiction problem down the road. And so what we moved the focus to is not so much pain and how much pain you're going to have. But really, and truly what the type of surgery is you're going to undergo, and what your recovery trajectory looks like. And then we tailored the prescriptions, according to that. And we could then put up our hand and say, Hey, we've done something about that from the perioperative side, we're not sending people out with 100 pills when they're going to use five, and then where those 95 pills land. And those were issues that were certainly front and center at that point in time.

DR. HANCE CLARKE

The only issue here Christian is that when you look at what has transpired, we've reduced opioid prescribing by 10 to 15%, across the country in the past, you know, seven to eight years. And I can tell you that the opioid death toll hasn't gone in a similar direction, it's actually going in the opposite direction. So when you look at all the societal factors that are going into this, when we squeezed that pipeline, it opened up areas for the illicit fentanyl, and all of those other things to come into the market. And those unforeseen consequences, which some of us were talking about, certainly have become front and center today.

BTB

Put the guideline into perspective for us, though, first, what was it about this consensus statement that made it so unique?

DR. HANCE CLARKE

When you think about where we were, and we're a country of 37 million people, and there was no singular kind of prescribing framework in the midst of an opioid crisis. And so like I said, you had people just being handed opioids and sometimes being renewed opioids by the physicians admin, or you know, just what we're also busy. And so it really came down to four main tenants, right, and they were kind of looking at educating the patient and giving them information in terms of what things might come of their surgery, we talked a little bit about some of the risk factors. And we also talked about appropriate prescribing and then leading into things like transitional pain services, and all those things that we've created.

BTB

So let's break it down, you focused on a very specific patient profile with this guide, who and why was that?

DR. HANCE CLARKE

We looked at opioid naive, so people not currently taking opioids because that's the majority of the people that we see, you know, the majority of the population isn't taking an opioid. So let's go over kind of who might be, 20% of Canadians live everyday with a chronic pain problem. And so you take a percentage of that 20%, you're still looking at millions of people taking opioid on an annual basis. And so we wanted to have it as general as possible. So we said, people not taking their opioids and having elective surgery. And so that's where we started, it was a huge endeavor, with the department of surgery, and we canvassed almost every department to see where they would classify their surgeries, and then tailor the guidelines accordingly.

BTB

And I understand you hang these guiding principles of managing post surgical pain on four practice pillars. Can you walk us through them?

DR. HANCE CLARKE

Sure. So the first one, I think we mentioned just briefly already patient education. Quite often patients, we will see them on the tail end of their surgery or after discharge, and they're struggling. And they say, no one told me I could have a pain issue. No one told me this could be a problem long term. And first of all, no, my opioids are fine. They're not going to be an issue. And you can see they're already struggling with, you know, how do I how do I ween these things? How do I get off them? And so really having people understand that this is a major intervention, and you are going to have some downstream consequences and be prepared for them and just you know, giving them the foresight to know this. Also, understanding that how you stop opioids and having those discussions early on, if you've taken it for three to five days, you're in a position where you're now dependent on it, you're not addicted to it, but you're dependent on your central nervous system says, Hey, where's this thing? If you stop it, you're gonna have to have some of that understanding to be able to stop some of these medications for individuals.

DR. HANCE CLARKE

The second one, if I'm not mistaken, was looking at potential risk factors for individuals. So who are the folks at highest risk for going on to have a problem as a consequence of a major intervention or a surgical intervention. So the type of surgery if you were a person who had mental health issues, so if you're suffering from anxiety, if you've had depression in the past, if you have any type of trauma, think about your childhood, if you suffered from sexual abuse, whether it's physical abuse, neglect, all of these things, kind of cloud your experiences, especially at something like surgery, where there's even some literature now to speak to the fact that just the surgical intervention itself can be trauma for some people. And understanding the whole person and helping them move forward is really important. But what we have to understand is 85% of folks do quite well and just go on living their life. And there's 15% of folks that probably end up with some type of consequences from the routine care that they appreciate. And we didn't have a recourse for that. And that 15% can plug an entire system, because they get stuck chasing what can fix them, when sometimes you just have to help them cope and kind of move forward with their new present being, you know, wherever they are, so leaving them where they're at.

DR. HANCE CLARKE

And I think the third one was really giving the surgeons in particular, the foresight to know how am I being comfortable, how am I following the standards in terms of opioid prescribing. And so, after surgery, everyone should get their Tylenol, they should all get their anti inflammatories. If you have something that's really a day surgery where you walk into the hospital and you're put to sleep you wake up and you're at the hospital, well you don't need 100 Percocets right? You need, let's call it 12. If you are having a total knee arthroplasty, though, and you know, it's gonna take you 30 days to even get close to where you were at baseline, you got rehab ahead of you? Well, yeah, we can give you 60

Percocets in that scenario, but we're not going to give it to you all at once. What if we give you 30. And then you know, you can come back and fill the next 30, 15 days later. And these are things we do in the pain world all the time. But certainly they weren't mainstay in the surgical world. And, you know, it's been interesting to see the uptake. Because Alberta has adopted some of these strategies, BC, you know, other parts of the country have done lots of rounds and things like that with the department of surgery.

DR. HANCE CLARKE

And then I think the fourth one, if I remember correctly, was just the follow up in terms of you know, making sure that people are doing okay after surgery. And so if they're continuing to take their opioids, or if they're struggling with nerve pain and neuropathic symptoms that they never had before, those are something that will persist for quite some time, and getting them seen early on, where you land at six months after your intervention, if you're struggling is probably a good indicator of you're going to last for quite some time. So don't miss that window, and have somebody referred 18 months later for something you could have tackled kind of early on. And those were the four main messages.

BTB

And I'm curious for that follow up where you recommended that it actually be the surgeon or your family physician?

DR. HANCE CLARKE

In terms of when you are seeing it can be a surgeon, it can be your primary care doc. What I'm saying is ensure we build programs tailored to these individuals similar to what we've done.

BTB

And you mentioned Alberta and BC taking up some of these guidelines. I'm curious just about the healthcare community in general, what's been the reaction to your paper once you published?

DR. HANCE CLARKE

So we're talking about the the guidelines?

BTB

Yes.

DR. HANCE CLARKE

So it's been pretty positive. I would say that for the most part, we've been asked to give rounds pretty much across the country now. Like I said, from BC, Alberta, the East Coast, we had our Canadian Pain

Society meeting last year. It was so interesting the timing because they were published the Monday Canada went into lockdown. They were literally ignored for a while.

BTB

Kind of stole your thunder.

DR. HANCE CLARKE

Yeah, they totally ignored for a while and they kind of percolated back up when it was really Robin McLeod, who is I think she runs quality improvement, professor in the department of surgery, who really took upon herself to say no, this is important. Let's get this disseminated and so we were able to disseminate.

BTB

Dr. McLeod is where?

DR. HANCE CLARKE

She's at Mount Sinai, if I'm not mistaken.

BTB

Let's touch on another pioneering initiative of yours in the pain world, because it's also another global first. This is going back to 2014, you created the transitional pain clinic at Toronto General Hospital, what was the vision there?

DR. HANCE CLARKE

My PhD supervisor was a gentleman by the name of Joel Katz. And Joel Katz is a psychologist. He was also in the Department of Anesthesia at Toronto General Hospital when I was finishing my residency. And so I had done my PhD kind of in the area of looking at how we can improve post surgical outcomes from a pain perspective by using medications and non opioid type strategies. You've got decades of research looking at what those risk factors are that we talked about that land people in a poor trajectory for worsening chronic pain for not being able to get back to their daily functioning, but no one's built a service around this. And we thought, well, here it is. Let's do that. Let's be the first to do this. Let's build a service where we are going to identify very early on people that are struggling. And those people are the people taking high doses of opioids outside of the norm, who are giving us these neuropathic pain symptoms are saying this stuff is burning.

DR. HANCE CLARKE

It's like electric shock like and there was a really cool paper it was way back in 2003. The paper basically went on to say that if you have these symptoms within the first 48 to 72 hours after your surgery, and they're unrelenting and you follow this group of patients to about six months, 60 to 80% of them will still have those symptoms. And so if they're presenting in front of you, and you missed that window, they're really going to struggle moving forward. And so we were able to kind of say, okay, these are some of the categories we're going to be looking out for, we were able to identify some of these folks. And then what are you going to do with them? Well, we're going to find you a service. And then we're going to start tackling this right away within weeks after surgery, not 18 months after surgery, and that was the intervention or the world first.

BTB

And how were then patients getting referred to this pain clinic?

DR. HANCE CLARKE

Change in medicine is hard, right? And so when you think about individuals that are now being told, Well, you've got this service, and everyone's like, Well, why do we need it, we have acute pain services, we have our nurse practitioners in Toronto General in particular, and they see them and they take care of them, and then they'll get caught somewhere. And so what we decided was we were going to train our acute pain nurses, as well as myself and a couple of colleagues that started this to say, let's look beyond just who we're handing an IV PCA to, which is basically a pain pump with opioids and taking it away. And let's figure out who's not working with the standard pathway. And once we put in specific factors that we were looking for, then we're going to refer them into this transitional pain service.

DR. HANCE CLARKE

And that's where we have our anesthesiologist or psychologists and that program was built on the combining pain and mental health. The people that struggle are those that are really having real dissonance or problems, getting to the terms of where they are and what they're dealing with. And then why why me why did this happen? Why am I one of these people that have these symptoms? And so you've got to tackle that early on and say, look, it's not the end of the world. Look it may never be gone, but we're going to help you function and get back to reasonable quality of life.

BTB

Can you tell us how the clinic works? Because we're nine years in right now.

DR. HANCE CLARKE

Yes, next year will be 10 years, actually.

BTB

Congratulations.

DR. HANCE CLARKE

Yeah. Thank you very much. And so what we have put together as a big interdisciplinary kind of framework, and it started very modestly, it was one nurse practitioner at the time, we had an admin a psychologist and you know, some of the pain Doc's, we've now grown to having psychologists, we have a psychiatry component as well, that was added just a year ago, actually, we have physiotherapist, we were doing non conventional things like acupuncture. And we have a yoga program that we're actually going to publish on shortly, that looks pretty promising. We haven't formalized that per se.

DR. HANCE CLARKE

But it's really now bringing together a framework of mental health and pain care that patients can be seen in hospital picked up at that point, quite often, there'll be that early visit, because now the surgeons understand what we're doing at first it was why do we need this service, you know, and now, we can barely cope with the numbers that are coming through the doors, because you know, people understand the importance of getting some of these folks seen early and and getting some supports for them moving forward. And then the final way is obviously the family Doc's that refer back to us within a specific time period, because unfortunately, you have patients that are still trying to be referred in at five years after their surgery eight years after their surgery. And I think for what we're trying to do that's a little bit far gone sometimes.

BTB

Have you been able to measure impact on the patient population to the pain clinic?

DR. HANCE CLARKE

Oh, absolutely. So I mean, one of the things that I think we did really well, and I think this is a consequence of being at UHN, and being at the top research institution in the country, is that before we even saw the first patient, we had a research ethics board application and, and so instead of going back to ask about all of these things, we created a system where we were able to study it, as we built it, we probably put out 16 to 20 manuscripts just on some of the outcomes that we've seen in the transitional pain service. We have long term trajectory analyses now of people who have had trauma, we have opioid weaning stats, we have overall demographics of the types of folks we've seen, we've just published one a year ago on the transplant population. And just showing what outcomes can look like if you see folks you know, on their opioids. And how we can help wean, even pre surgery for some of those because the outcomes in that section of the population is challenging when they already are on opioids, and then they have a transplant, etc.

BTB

And can you give us a snapshot then of outcomes of what you've been able to achieve over the nine years?

DR. HANCE CLARKE

One of the things that's really been, I think, brought to the forefront is if you can start to tackle the anxiety piece. And you know, when you look at now, specific types of surgery, in particular the total knee arthroplasty, there's a group of surgeons saying we're just not going to operate on people who are significantly anxious or have a lot of anxiety because we know we just can't help them. And so you realize that you have to start to tackle some of those issues in conjunction with the pain issues. It's not simply how do you take my pain away? It's how do you help me cope? How do you help me deal with all of these things that can change my daily existence away from you know, I'm afraid of all these things to what can I do that's meaningful to me? And how can I move things forward? And I think once you start to bring that mental health lens into the pain space in a time where people are struggling and want to stay under their covers, and not get out of them, that's really where you can have some big impact for sure. We got lots of papers on the stuff like that.

BTB

And what's been the reaction of the model say of the pain clinic in the healthcare community?

DR. HANCE CLARKE

When we started this program, nine years ago, if we put up a posting, we could fill a psychologist, easily. I think one of the things we've really done is highlight mental health again. And if you go back to the 80s, mental health care as part of the healthcare system was ubiquitous. And then there were some government changes in the early 90s, where they said, Okay, those folks are gone, they're just costing us too much money, I can tell you that psychology has become part of almost every pain program now. We know the understanding of how your brain affects all parts of medicine. And it's not just pain, if you have any chronic health care condition. And you've got these underlying issues that don't allow you to really focus in on what you need to do to follow the treatment course, you're not gonna be able to do it.

DR. HANCE CLARKE

And you're just going to be spinning your wheels and costing the health system money. And so I think that's really been one of the wins for us. On top of that, we've just created a new model, which has now been taken up only across the country around the world, you've got Norway, I just was collaborating with somebody there. And they've gotten lots of money to build a national trauma type program. So folks that have trauma and and building a transitional pain service around that. Australia has got a couple of pilot projects. And the US has got a ton of centers that are doing this now.

BTB

You've been quoted in the past saying, quote, it's time to move the emphasis away from the prescription pad and to other multiple pain strategies, unquote. I'm curious, from your perspective, does that shift that you're talking about away from the prescription pad? Does that speak to a need for a better understanding in the medical community of acute versus chronic pain?

DR. HANCE CLARKE

Yeah, I think the understanding has been there. But what's been missing is where are the resources to help with that, right? Everyone kind of understands acute pain. And as a physician, we work in such silos. And pain is part of all conditions. Right? And so what's the most frustrating part when we talk about acute pain, chronic pain? Now, this new transitional pain concept is when you go for funding? Where's the pain committee? Do you have to go and give it to the MSK committee, where you're giving it to the Arthritis Society, or you're giving it to the neuro behavioral sciences committee at CIHR. And if we have a pain crisis, we have an opioid crisis, why isn't there a pain mental health opioid committee that you can approach for funding? It's so splintered that we really need to think about how we're going to bring all of these pieces together. And so I don't fault any of the physicians because we all know pain exists, we just don't have the skills to cope with it or the resources, you need to really help those patients when you're at the same time treating their cancer, treating their heart disease, treating whatever else is happening when they present to you.

BTB

It sounds like we need some sort of, unless it exists, but correct me if I'm wrong, like a National Pain Strategy.

DR. HANCE CLARKE

I think it's a good segue into what has transpired, actually, and it was also wrapped up during COVID. And so there was a Canadian pain task force that delivered a report with hundreds of recommendations in terms of how we should go about fixing this as a country. They created some funding silos here where they're looking not only at the harm reduction in the opioid piece, but they are looking at funding pain and figuring out how we move Canada forward with the 20% of Canadians that are you know, struggling with pain on a daily basis.

BTB

What about in terms of medical education? Is there enough emphasis there in terms of training professionals to understand again, the difference between acute and chronic pain?

DR. HANCE CLARKE

You know, there can always be more Christian and certainly fellowship programs and things like that. That's what we do. And we take our trainees in, in particular. There's lots of CMEs that have been focused on fixing our opioid crisis, we're actually doing some pretty cool work with the indigenous

community right now. So we have a Grand Council treaty three project that's moving along pretty nicely. There's a meeting with some of the elders in the coming weeks. And we're actually putting together within about the first resource in terms of what is chronic pain? What does that mean to you as an indigenous individual? Where do you bring in some of those holistic, cultural aspects that the elders want you to do on top of some of the things we're doing here. And so we're pretty proud of that work that should be done, I think, in the spring of next year.

BTB

And I understand the transitional pain clinic you created almost 10 years ago is playing a part in this by taking on fellows from around the world. I'm curious what the knock on effect there for both practice and patient benefit is when these fellows go back home?

DR. HANCE CLARKE

We've gotten to a place where we just have an overabundance of folks reaching out to want to come and train with us. We all know that Toronto General has been named the fourth best hospital in the world. And we're lucky to be living in sight of that. I don't think we get credit for that. I think there's some other bigger programs that are out there that drive that number up. But sure, we certainly take advantage of that. And I can tell you that when I vet the fellows that come I really want to know, why do you want to come? What are you going to do with the training and are you going to take it back and move this forward?

DR. HANCE CLARKE

I've probably been responsible for training a couple of the Caribbean fellows. They're now running programs in places like the Cayman Islands and Barbados and places like that. My previous Canadian trainees have built a transitional Pain Service and see that would be Ainsley Sutherland. I'm training someone from the other side of the country. Now, I was with Woodford who's heading back to Newfoundland next year. And we've taken folks from all over the world and one of my last fellows is now in Spain and he's built to a brand new program on the west coast of Spain there and really moving this work forward. So it's really cool. Really, really, I'm really proud of them.

BTB

What should we look for next from you and your team?

DR. HANCE CLARKE

We did a couple of projects where it was pretty clear if you live in rural Canada, and you've got to travel 8 to 10 hours to come see a physician and we can put something in your hand that you can communicate with, and go back and forth and get some response from that. Guess what, when you take something like that into the rural community, and you get 70 to 80% of people engaged, this is where I think the government needs to start really looking at how if you want to engage and get people

in those rural cities, you've just got to really invest in technology and ensuring we're connected and being able to have folks be cared for not necessarily by driving eight hours to come see a doc every day, which was a really antiquated system. But we've hopefully moved well beyond that.

DR. HANCE CLARKE

I'd say when you think about some of the other things that we have going on, we've just looked at the Ontario ICES dataset. So the Institute of clinical and evaluative services, and looked at what our TPS or Transitional Pain Service patient population looks like, in comparison to the rest of the province. And the data looks pretty good. We take in these really high opioid users, more than 50% of our patients were patients with a pain problem. And you look at the rapidity in terms of weaning people off, and we certainly do a better job than people who weren't in the service. And, you know, that's one of the biggest issues that people have with this. They still have some naysayers. They say, well show us the evidence. And what is that evidence? Well, the evidence is what we need to see a randomized control trial.

DR. HANCE CLARKE

And so I'll end with saying we have one of those ongoing, we're about halfway through and hopefully it lands in our direction. It's a no brainer, people get it, you support people, you help them, they do well. But the true scientists and the doc's out there want to see this randomized control trial. And I will tell you that the Europeans were just given 5 million euros to replicate our service and do a randomized controlled trial of this service in Europe. And so hopefully, we can get our little RCT done before that $5 million study or we're not we're never gonna be on the front pages of anything. It's all good. As long as someone moves it forward. We're all happy.

BTB

You're listening to Behind the Breakthrough, the podcast all about groundbreaking medical research and the people behind it and Toronto's University Health Network, Canada's largest research and teaching hospital. I'm your host, Christian Coté. And today we're speaking with Dr. Hance Clarke, award winning scientist at the Krembil Research Institute. Dr. Clarke is a pioneer in pain research that has led to groundbreaking solutions to help patients manage pain post surgery, solutions that reduce the incidence of chronic pain and the risk of addiction. So Hance you were born and raised in St. Vincent and the Grenadines islands, your dad ran a gas station, your mom was a teacher. And then when you're just five years old, they decide to leave their jobs, leave their home and move to Canada settling in Toronto. What was their motivation?

DR. HANCE CLARKE

I think with most immigrants that immigrated into Canada, certainly in the 70s, it was to give my brother and I a chance at a better life and doing bigger things. And, you know, that was really their thought. And they ended it, they lived a pretty good life. So I you know, when I go back and I visit my relatives in the

Caribbean, those that stayed back are living great lives. Sometimes I wonder, wow, why did they leave, but you know, I love what I do?

BTB

Well, a lot of people who have not been on that journey, don't understand the courage it takes to do something like that, and to leave their homeland, leave everything behind and start over in a new country. I'm curious how their actions shape you today?

DR. HANCE CLARKE

Well, you know, when you look at your parents struggling, my mom came to Canada and she couldn't continue her teaching career. So she went into bookkeeping, and eventually, you know, was doing some accounting work and things like that. My dad took a job in the factory had to support us and did shift work his whole life and would pick us up in the morning and then make dinner for us before he'd go into work, all of those types of things. And you sit back and you look at kind of the struggles and you look at where I am today, it really opens your eyes in terms of what they did for you. And you know, when you're a kid and you're growing up, you don't really see your parents as heroes, you really, really see them sometimes on the other end of that spectrum. And so it takes time to understand what that type of journey was. And I would say it was probably when I was in my 30s for sure that I could really look and I now had my own kids and I'm trying to figure things out and you're like holy, they really gambled and took a big risk and kind of worked out.

BTB

And the sacrifice they made to give you and your brother's new opportunity. Did that put any pressure on you as you moved through school and into your career?

DR. HANCE CLARKE

The only thing immigrant parents, especially from the Caribbean probably knew was you had to become either one of two things: a doctor and a lawyer. Right? That was all we knew, we always on TV. I remember seeing the Huxtables like that. That's what they were: one doctor, one lawyer. So that's probably what the two options were. When I look back there was so many more things that you could have done. So I think what it did was it kind of said, Okay, that's an angle. Let's see if we can get there and you know, maybe there was some pressure but it was always I think you don't succeed unless you also have a bit of internal drive. However that comes together for you and whatever your motivation is. I can certainly say that my parents modeled some of that in terms of their perseverance and trying to figure things out when they moved to Canada. You know, we grew up in the lowest of the low SES when we first got here, right. And they slowly ground their way through things. And eventually I went to, you know, St. Mike's for high school and my mom, because she had a teaching background knew the value of school and knew the value of what that education could ultimately bring. And so I think that for sure, put into it in a big way..

BTB

And do I have this right, around Grade 13, for you, you had this aha moment. Can you share that story with us?

DR. HANCE CLARKE

Yeah, sure. I think obviously, it was a really impactful moment in my life. So I was early in Grade 13 year, and we got a phone call on my dad doing his typical factory job in Scarborough. And he had 5000 tonnes of steel kind of fall on him. And so the brakes failed on this machine, it struck him in the head broke most of the bones of all the bones in his face. He had a neck fracture, but they didn't actually have to fuse or put anything back. He somehow wasn't paralyzed, and he had his hip crushed. And so pretty much the call said your dad has a 50% chance of like making it through the night. So we all traipsed over to the Sunnybrook ICU and I was like, Whoa, that's that's what someone looks like, never seen anybody in the hospital never seen anybody in an ICU. And 13 months later, he walked back through the house, he had had reconstructive surgery, if you met him, he had a prosthetic eye, we had to make a decision do we take our dad's eye out or not? Like none of us were kind of equipped to make some of these decisions.

DR. HANCE CLARKE

But the doctors really helped give you the facts and the ratios and the probabilities where if you did or you didn't, and if you met him for the next 30 years, you'd be like this guy had that type of an accident or that type of an injury and, and my dad was a really big guy, and like, I'm not that big of a guy. But you know, somebody had had the similar accident a few years before that they died. And so he's kind of a cat with you know, nine lives because he had a couple more really near misses with the healthcare environment, but they were able to pull him through. And you know, certainly that went a long way to saying, Okay, there's something about this medicine thing. You know, I think I think this is something I might want to be doing when I'm all grown up.

BTB

If you don't mind if I could ask because a lot of people in the audience find this instructive is, what's your sense of what it was internally that you connected with that made your decision about I want to move into medicine?

DR. HANCE CLARKE

Well, I think it was really the non biased way that all of these really big life changing events are happening. But how do we kind of help you make the right decision because we know you don't have any of that information. And so we really trusted the process, we trusted what was happening. And at the end of the day, that process worked out really well for my dad. And so I think those were really some of the pieces that said, Yeah, okay, this is something that I want to do.

BTB

What role has mentorship played in shaping your career over the years?

DR. HANCE CLARKE

No one gets anywhere in isolation, and no one can be driving their destiny by themselves. And so when you talk about mentorship, there's career Mentorship, and there's life mentorship. And I've been very fortunate to have a lot of career mentorship. I mentioned my PhD supervisor, Joel Katz. I can mention our department chief Bev Orser who's now are actually a university chief. Even my site chief Kate, and these are all individuals who are ahead of me, that directed me at certain moments to say, why aren't you doing this? Why aren't you doing your PhD? No, I'm not interested in not going to do it. And here I am with my PhD many years later, that has shifted and shaped my career in ways I would never have known.

DR. HANCE CLARKE

And then, you know, you have the life coaching, where, yeah, on top of all these great things happening in career, how do you be a good person, you know, how do you navigate really tricky things personally, that are happening because people can be really a king in one domain, and not so great in other domains. And so I was lucky enough, and everybody should have a counselor or should have people that they talk to whether it's formal or informal, because you don't need to be a sounding board with the people closest to you to help figure these things out, you really need to, you know, get some counsel from people that are completely non biased and completely can help you make some decisions. And I've been blessed to have really good career mentors, and really good life mentors as well. And some formal and some were non formal. And that's how it all kind of comes together. And no one can succeed without help. And you have to be able to keep your eyes open for when that help is really altruistic and when someone has your best interests at heart.

BTB

And today, now, how do you in turn mentor?

DR. HANCE CLARKE

It's good question. And, you know, I would say I'm a collaborative leader. So I'm not a leader that dictates and for anybody on my team, and I've been lucky and successful enough to build a couple of pretty big teams. They can come to me and they can talk about personal things. They can talk about what's next in their career. And I always say, Never be afraid if you're coming to me to say I'm leaving, or I'm going on to do something else. And you see people really get nervous and upset if someone's leaving. I say, Well, that's what's supposed to happen. life evolves, everybody leaves at some point in time everybody does what's the next best thing for themselves and their family and their human growth? And you know, you just need to have some heads up and then there are others out there that will come in and help fill those voids. And so it's always open, just be transparent. Just tell me exactly

what it is you want, I can't help if there's some other thing in the background, you're not telling me about.

DR. HANCE CLARKE

And it goes for clinical scenarios, you know, someone makes a mistake, if they don't tell you what the mistake is, you can't fix it, people die. And so the number one thing is to say, what did you do like what happened? So because if you're telling me this information, I'll react with that information. If you give me another piece of information, I'll go down the wrong path. And you see it a lot, where people are just really afraid to be open and be transparent. And so those are some of the messages that I always say, I'll have your back, you're on my team, I'm the guy that's gonna go down at the end of the day. So give me the pieces of information, I need to protect you, and protect the scenario and make sure we all have a good outcome as best it can be.

BTB

Research involves, oftentimes, you know, roadblocks and challenges. I'm interested to hear how you have navigated failure over the years, because it's not something we're taught in school?

DR. HANCE CLARKE

That's a powerful question. I think in today's society, Christian, because if you look at I think one of the weaknesses, and I'm a dad, my kids are adults now. But we don't let our kids fail anymore. There is this background of protecting children against failure. And the problem is, guess what happens when you walk into the world, you fail more than you succeed? And when you don't have the skills to recognize that you're going to fail, and you've never failed, and you're an adult, you know what, the bridge looks pretty good. Because this is all over my life is collapsing around me. And hopefully, before that bridge looks so good, they reach out to someone and they say, you know, here's here's what's happened, how do I work and then you say, Well, you didn't get that job, or you didn't get that. So what there’s going to be six more opportunities, there's going to be seven more opportunities.

DR. HANCE CLARKE

So hence, you've been so successful. So guys, for every success, I've had nine failures. And so it's just a matter of realizing all you can do is do your best and figuring out what the next pathway is to go down. If a door closes, well, you got to look around, and it's not going to be easy sometimes. And it's really going to hit. Of course, it's going to take its toll on your psyche. But the more we let kids fail, and they appreciate failure at an early age, the more people will be successful long term and you can't teach drive. I mean, those are just things that people that I think are inherently born with. And as long as they know how to fail, they'll certainly succeed.

BTB

You see patients, you see their need for improved treatments and pain management. How do you reconcile then the urgency of their need, with the fact that science takes time?

DR. HANCE CLARKE

Well, pain is probably the perfect place for that question, because there is no cure. But when you meet someone, and they're in distress, and you can actually get them to the place where you say, look, there is no cure, and they can buy that. And that's a tough message to hear, right? Because no, you are going to fix this. That's what you do, you fix things, don't you? You make me the person I want to be? Well, sometimes you can't. And then once they digest that sometimes a lot of tears happen to digest the messages like that, then you can start with okay, how do we help you cope? How do we help you move forward, and science will catch up one day. And the one thing that has happened, I should mention, as a consequence of companies like Purdue now not making OxyContin and the opioid crisis shifting, what had happened for two decades in pain medicine was that there was no more investment because oxy was king.

DR. HANCE CLARKE

And if you had a pain problem, you just prescribe this thing until people had no more pain. And so since we've really turned course on that there are multiple new targets coming out in the next few years, there's companies with new selective peripheral nerve blockers, and you know, peripheral nerve and neuropathic pain is the mainstay of many of these problems. And so the companies have now gone back to investing into that. You know, the bigger societal issue is, well, we're completely anti pharma and afraid of everything and we can't be then unfortunately, pain is at the center of this anti pharma sentiment because all they can think of is opioids. And there isn't an area of medicine where pharma actually doesn't have an interplay and doesn't actually help move things forward from a treatment perspective. And we really have to back off this anti pharma sentiment and figure out okay, let’s, let's bring all the stakeholders together. And it's actually what we're doing next spring in Ottawa.

DR. HANCE CLARKE

And so I become the president of Canadian Pain Society, and it'll be the first partnered Health Canada Canadian Pain Society meeting next spring. And that's exactly what we want to do. We want to bring all of the stakeholders together. We'll have patients, we’ll have the researchers, we'll have the clinicians, we’ll have pharma, we’ll have everybody sitting around a round table and talking. Let's move this forward and get us back to a place where we can maybe start to promise cure again or promise significant change. And I don't have to tell patients look, I don't have anything for you, except to help you cope and kind of move this forward.

BTB

You want to give a plug to the website for that. Oh conference you're having next year?

DR. HANCE CLARKE

Sure. everybody can go and see the canadianpainsociety.ca If I'm not mistaken, and you'll see all about our meeting in Ottawa. I think it'd be at the Westin. I hope I'm not messing this up and we will see April 27th to 30th If I'm not mistaken in 2024.

BTB

You also have another role which is I understand Chair of the Knowledge Translation for Pain at the University of Toronto, I'm curious about that role from the standpoint today of the proliferation of scientific misinformation that really took off during COVID-19. I was reading that the World Health Organization calls it an infodemic. I'm curious to know your thoughts on the responsibility of scientists and medical researchers to take a greater role in informing the public of their work?

DR. HANCE CLARKE

When you think about what rules the world and the info demic it’s social media, and the one thing that you know, scientists have been afraid of, and I would say that we've all rested our laurels on Well, good science will always win. Good science might win, eventually. But there's a big gap between what we know and when it gets into practice. And so there is absolutely no doubt that you have to use your, for example, if you just compare to what's happening here, use your research institutes, I'm part of the Krembil, use the PR folks there to get those messages out when you have them. They can generate social media, maybe it doesn't have to be you personally, I'm on Twitter, but I guess it's now X, as they call it. But yeah, you know, I put my messages out my transitional Pain Service has a Twitter site, we certainly put our messages out our publications out things of that nature. And I think that's just part and parcel of where we are now in society where social media drives change.

BTB

As you mentioned, you're active on Twitter, you do a lot of public speaking, do you have any guidance for say younger medical researchers out there on how to handle this world?

DR. HANCE CLARKE

The first thing is, especially if this is for the younger, up and coming clinician, scientist or researcher, one, it takes time. So it's a body of work before you get to the stage where you're being invited all over the world to talk and you're getting a presence where, okay, when this person says something, somebody should probably listen, because they've done the background work to make it credible. I think your work will speak for itself. But at the same time, you really need to develop the network so that you have all of the pieces around you that drive the work forward. And so that's where the training years really come in. Things like your PhD and your fellowships and all these things. They're really to be connected to be connected in the network. And eventually, that work really will just kind of speak for itself.

BTB

There's a leadership author, I love to quote Simon Sinek, who has the saying of people don't buy what you do, they buy why you do it. Why do you do what you do Hance?

DR. HANCE CLARKE

Well Christian, I'd say, one of the things that is clear, as I couldn't have predicted, I would have landed here, I think very few people can predict the future, very few people can say, this is where I'm going to land. And this is what I'm going to do. And I think doors open doors close. And you land in a space where hopefully it fits your skills, and it fits kind of who you are as a person. And I think I got lucky. I'm in a space where I'm a role model to my boys. And you know, I love my family, I now have an extended family. I love so many things that are happening on a daily basis. I love where my career has landed, you know, my family, my extended family, all of the chances I have to change people's lives and have an opportunity to impact people in a positive way. And so when I think about my clinical work, my research world, my leadership roles, all of these things, they've afforded me this ability to see the world to have an opportunity to interact with all types of different people. And I keep waking up every day, you know, saying if I could do this again, would I do something differently? And I honestly can say no, I'm really privileged to be doing what I do. And that's what kind of keeps it going.

BTB

We talked earlier about your parents' sacrifice moving all the way from St. Vincent and the Grenadines islands to Canada to start over and give you and your brothers new opportunities in life. I'm curious, through today's lens, what do they think of your achievements?

DR. HANCE CLARKE

Well, my dad passed away last year. So that was…

BTB

I'm sorry to hear.

DR. HANCE CLARKE

…no thank you for that. But one thing I do know is that and my mom no juggles kind of going back and forth from St. Vincent and Canada and figuring out what's next. They had a beautiful property kind of overlooking the main bay there. But there's no doubt that my parents are proud of me, in terms of all of my career achievements, but I think what's even more important is you know, whether or not they're proud of me of, being a good human being and I think anybody that I try to work with or bring onto my team, those are kind of the characteristics that I look for. Are you a good human being? Are you someone that is kind? Are you someone that navigates the world with kindness? And I hope that that's what they're most proud of is, those are the tenents that I will choose to the people I work with and the messages and the types of programs that want to deliver and how we treat people when we see them

and only hope that we can move their trajectories in a positive direction, every chance we get. I've had lots of opportunity because of my parents' decision. And I owe a lot to them. And so you know, I every minute I get I I tell them, I'm proud of them too. So I think that's where we stand.

BTB

Dr. Hance Clarke, award winning scientist at the Krembil Research Institute. Thank you for sharing your pioneering work and continued success.

DR. HANCE CLARKE

Thank you Christian. It’s been a pleasure.

BTB

For more on Dr. Clarke's pioneering work in pain management, go to our website www.behindthebreakthrough.ca or uhn.ca. And let us know what you think we'd love to hear from you. That's a wrap for this edition of Behind the Breakthrough, the podcast all about groundbreaking medical research and the people behind it at the University Health Network in Toronto. Canada's largest research and teaching hospital. I'm your host Christian Coté. Thanks for listening