



## Chiropractical Episode 4 with Dr. Heidi Haavik and Dr. Brent Leininger

### Chick Herbert

Hey, everyone. Welcome to Chiropractical. Thank you for your tremendous response and support of our prior episodes. We're thrilled to have you back. Chiropractical is a podcast about chiropractors, for chiropractors. At NCMIC our motto is "We take care of our own," and this is just one more way that we demonstrate that. This show is designed to help you, regardless of where you are in your career. My name is Chuck Herbert. I'm the cohost of Chiropractical, and I'm thrilled to be joined today by my friend here and cohost Melissa Knutson. We have a great lineup of guests and we are sure it's going to be entertaining and educational.

### Melissa Knutson

Today we're joined by Dr. Brent Leininger. Dr. Leininger is an associate professor in the Integrative Health and Wellbeing Research Program at the University of Minnesota. He's the past recipient of several prestigious awards and has a lot of advice to share with us about research; specifically, steps that you should consider if you want to get into research and what makes a good research topic.

### Chick Herbert

We're also thrilled today to be joined by Dr. Heidi Haavik. Many of you know Dr. Haavik and her great work in the research space. She's the director of research at the New Zealand College of Chiropractic, and she has her PhD in human neurophysiology, clearly a highly educated, very bright and passionate woman. We're excited to share her message with you.

### Melissa Knutson

And with that, let's get started.

### Chick Herbert

A primary goal of chiropractic is to connect you, our listeners, with a variety of leaders spanning the chiropractic profession; unique and insightful leaders that will broaden your perspectives and bring value to your practice. I can state with great confidence that our next guest will check all those boxes and more. I'm thrilled to welcome Dr. Heidi Haavik. Dr. Haavik is the director of research at the New Zealand

College of Chiropractic. In addition to being a chiropractor, she has a PhD in human neurophysiology from the University of Auckland. She's worked in the area of human neuro-psychology for 15 years, and she is the author of a book, multiple research papers and research. Extraordinary. Welcome! I'm going to call you Heidi. Welcome Heidi.

[Dr. Heidi Haavik](#)

Thank you so much, Chick. This is awesome.

[Chick Herbert](#)

Great to have you with us. You're - I think now we can claim that we're an international podcast since you're in another hemisphere from us. We appreciate that very, very, very much. I know that your mission is to enlighten the world about the science of chiropractic. Can you give us a little bit of your background and your current focus and initiatives?

[Dr. Heidi Haavik](#)

It definitely is my mission. I didn't know that this was my mission, but it sort of became my mission over the years. I grew up in a Norwegian household with a New Zealand mother. So this is where my strange accent comes from - partly in New Zealand and partly Norwegian. I was brought up my dad, who is a medical doctor. So I grew up in the medical world.

[Dr. Heidi Haavik](#)

I had really planned on going into medicine or psychology, or I was even studying philosophy there for a while because I thought it was really cool, but I ended up studying chiropractic and I absolutely loved it. It fit with my own values and belief systems. And anyway, studying at the chiropractic college, what I realized is we don't understand a lot about how it works and this is what struck me and I've got this brain that yes, I can do things I really enjoyed chiropractic, and when I finally managed to adjust bones it took me a while.

[Dr. Heidi Haavik](#)

Once it finally was in me, I mean, I just adored it. And the changes you could see in people was phenomenal, but I couldn't understand how or why this was happening. And that just used to drive me mad. So because I had that left brain too, that worked really well, I got A pluses at university, I continued and studied human neurophysiology, as you said. And we started to do experiments even early in my PhD research, looking at the effects of adjusting subluxations on brain function. And what struck us really early on was that we were changing brain function and we hadn't as a profession been looking at the brain. I mean, I know a few people had, but most chiropractors were looking at nerve root changes and squash nerve roots. And this is what we thought, this is how it worked.

### Dr. Heidi Haavik

But right from early on in our research, we were showing them a change the brain. So this is, this kind of just took over my world and my life. And the more we've studied it, the more we're discovering that when we adjust subluxations, when we chiropractors adjust subluxations in the spine, we're actually changing the way the brain perceives what's going on inside your body and the world around you. And by changing the way your brain perceives what's going on, it will change the way the brain controls your entire system, the way you function, the way you think, what you feel. And it's been an incredible journey. So then I realized that, well, it's not just me that doesn't know this, the whole world doesn't know this.

### Dr. Heidi Haavik

So then it sort of became my mission. Well, I need to enlighten the world. I need to tell a chiropractic professional. I need to get it out there to the public. Because if you start to realize what chiropractic is, it's not just about back pain, neck pain, and headaches. This is about your entire reality. So I'm all about doing the research, very relevant research for chiropractors, but also translating. And again, not just our science, but other people's science, that's relevant to practicing chiropractors. And then to put it into easy, to understand language, both for the chiropractor and help them communicate it to the public. So we translated into the lay language as well, and that's literally become my mission and I just love it.

### Chick Herbert

And what has been the most insightful and interesting research that you've uncovered in your work? And I know that's a broad question because there've been so many things, but if you wanted our audience to understand one, what might that be?

### Dr. Heidi Haavik

The most exciting research that we've been doing recently is the work that we've been doing in stroke victims because of the changes we were seeing over 20 years now, 20 years, we've been doing this and seeing these changes in brain function. One of the non-chiropractic physiologist neurophysiologists that we were working with. He then said, "Well, Heidi, if you can make these changes in people's brains, that makes them more efficiently able to use their muscles and produce force, which is coming from the brain, you should really be studying this in people that have lost their cortical ability to activate their muscles. So you should really be doing this research on stroke victims." So this sort of led to this line of research that we're looking at now, and it's quite remarkable because this is an area that we wouldn't naturally think of. Funnily enough, if you go back to our forefathers, they *did* think about this and they were working on people back then, you know.

### Dr. Heidi Haavik

But this has been the most amazing thing because the first study we did go ahead and do in stroke victims, where again, we're just checking in, adjusting subluxations of the spine, and then we're recording their ability to contract the

muscles in stroke victims that have actually lost their ability. So it's in their affected Lowell and was in their legs. And they had an average increase of the one single adjustment session of a guy that was one year out of our college, the New Zealand College of Chiropractic. They had an increase of over 65% in their maximum ability to produce force in their effected lower limb in the leg muscle. That was just mind blowing to me. I just couldn't believe it. And this fit perfectly with the research that we'd already been doing, and now we've followed it up and we've done a clinical trial because, again, I'm in 65% increase in the strength. You would assume that's a good thing, right? We're talking stroke victim's here, but it still actually have to follow that up and see, does it actually help them, do they function better? And, and, and this, this line of research to me is so exciting because it opens up the possibility that we're definitely not just helping people with back pain, neck pain, and headaches. We are improving brain function, even in people that have lost their ability to use their brain.

#### Dr. Heidi Haavik

So that to me opens up the field now for Parkinson's disease, Alzheimer's disease, Huntington's disease, all the neurodevelopmental disorders, but not just that, even in the children, neuro developmental disorders, you're talking ADHD, autism, any brain functional areas. Now, I mean, I can't help, but just mentioning a briefly is this work that we're starting up with children, because it's one thing I noticed in practice, as you know, the amount of parents that would come back almost in tears, because we've just checked and adjusted kids and, and had such a change in their lives. And if you, if you think we're changing children at a young age, that's the rest of their life, that potential that you can change in their whole development.

#### Dr. Heidi Haavik

And that's an area that really, really excites me and we're doing some awesome research with some really cool chiropractors in the United States actually that are working in with school boards. And so we're accessing these kids that are having some difficulties learning, but also just normal children. And then looking at chiropractic care and testing how they're doing in their mental health, their wellbeing, the physical performance and the school performance really, really exciting. And that's something I hope can grow into. Like I would just love chiropractic care to be an option that most kids or all kids have access to. That that's just a normal part of, of life from pregnancy onwards. If you know what I mean.

#### Chick Herbert

You strike me as someone that brings a little bit of energy and passion to the table. Uh, I don't know where I'm picking that up. I'm somewhat observant. So I have to imagine that while you're proud of the accomplishments and the research and the things that you're bringing forward, what are some of your frustrations in the research process? Has there been an impact on your research as a result of COVID or are you continuing to blaze the trail in the same path?

Dr. Heidi Haavik

It's sort of ground a lot of our experiments to a halt. So we're not allowed to do the face to face experiments, which is a real shame. Like we've got this awesome French PhD student Luciens from France because we've got funding from this fabulous company in the US called NCMIC. They're just really awesome people. And they're not only co-funding his scholarship to do this PhD with us, but also they're funded his actual project, which is an amazing, amazing study, looking at the neurophysiology of the spine, using multichannel EMG recordings. And I'm talking like hundreds of channels of EMG. We can actually start to extract single motor unit data from it. You can start to get information of whether the drive to these muscles, that erector spine muscles over the spine, whether the drive is coming from the brain or the spinal cord, and you can see changes in patterns and it's, but we're also looking at the biomechanics.

Dr. Heidi Haavik

So we're looking at the movement patterns. So we've got all these balls stuck on the person, and it's an amazing study where we can actually explore the biomechanics and the neuroscience of how the central nervous system controls the spinal segments in both healthy people, people that are developing problems and people with chronic pain. And again, we can look at it when they're standing, walking, you know, just having a perturbation to their system and pre and post adjustments. We might even be able to get right down to looking at if there's a difference in the neurophysiology of a subluxated segment versus an unsubluxating segment. So there's just so much exciting stuff. So his research we're right in data collection right now. So that is extremely frustrating because he's like he was shut down.

Dr. Heidi Haavik

But the cool thing is my, my team is so awesome and adaptable. We're really close too on some amazing collaborations opportunities that could be really incredible, because if we could run that neuro immune trial in a medical university, hospital and collaboration with, and everything is just so going towards that, I can't see why the professional wouldn't get behind it. Like, it's not you, you just couldn't, you couldn't argue against that. If it's, if this neuro immune trial was run in a medical hospital with in collaboration with us, but it just, it would be so bulletproof. And if you then really do show that, Hey, if you've had that period of chiropractic care and you then have an immune challenge, you actually get over it real quickly. Well, then we can start saying the chiropractic care does seem to boost immunity. It does prevent you from getting sick and we can even follow up and see if their recovery period of those that do get sick is shorter, less symptoms. And then you can actually start to quantify it a little bit. And I know one trial is not enough, but at least it would be something.

Dr. Heidi Haavik

I would love to just finish off with encouraging you to learn your science. There's a lot of classes, online classes that you can take. I'd highly encourage you to learn your science. If you find this science exciting, if you find it's answering questions

about chiropractic, if you can start to see the importance of us doing this research, like, especially with the COVID situation, we are not allowed to say that we boost immune system and you think that we should be able to, because you see it in practice, then please, please don't think that your little input couldn't make a difference. The more people that are more chiropractors that actually care enough to make a small donation, it makes such a big difference. If we can collectively put this together, we can make a difference. We are so keen on running a neuro immune clinical trial to actually test whether chiropractic care does boost immune system, whether it does prevent you from, from developing symptoms. If it speeds up recovery, once you are sick weight, we've done a lot of work because of the neuro immune review we've written. We've also designed a study and we're working with immunologists. We're working with medical professionals as well as part of a team to put together a really good clinical trial, but we are going to need funding. So that's kind of my message. Learn your science and become involved. Please, please help us.

[Chick Herbert](#)

Well, that's a great message. Well, I've really enjoyed the conversation. Great to spend time with you. Thank you. And on behalf of NC mic, thanks for your continued effort on the research front. It's so important.

[Dr. Heidi Haavik](#)

Thank you. And thanks to NCMIC. I mean, you guys are an amazing team. I haven't met a single person part of your team that's not amazing. Really enjoy you and appreciate you and appreciate your support.

[Chick Herbert](#)

Thank you.

[Mike Whitmer](#)

I'm Mike Whitmer with NCMIC. Doctors asked me all the time about risk management issues they're facing in practice. We want to address these questions for you in each episode of Chiropractical. We call it "Ask NCMIC".

This episode's question comes to us from Dr. Jeff in Utah. Dr. Jeff asks, "I'm entering my second year as a practicing DC. Because my small solo practice is starting to grow a colleague of mine advised that I should look into incorporating my practice. This shouldn't change anything for my malpractice insurance, right? I mean, I'm still just a one doc shop."

[Mike Whitmer](#)

To address Dr. Jeff's question, we went to Emily Wood, a corporate relations representative with NCMIC.

## Emily Wood

Thanks for the question, Dr. Jeff. Incorporating is a great way to protect yourself. Considering the corporation, whether it's an LLC, S Corp, whatever designation you chose, it can be sued for your actions and drawn into a lawsuit alongside you. The courts treat the entity like an individual. We recommend that if the business is chiropractic in nature, and you are the majority owner, that you always add your entity to your malpractice policy. Once you have added the corp NCMIC will pay for the defense cost and any damages that are assigned to the entity as well, otherwise you yourself would be paying for that. Because we're focused on helping our doctors do more at NCMIC, if you and the corporation share in the policy limits, then there is no cost to you for this coverage. In some cases, doctors buy additional coverage for the corp. We leave that up to you to determine if you think that's necessary. At NCMIC we never tell you how to practice, we insure you for how you do.

## Mike Whitmer

Do you have a question? Send it to us at [AskNCMIC@ncmic.com](mailto:AskNCMIC@ncmic.com).

## Melissa Knutson

Dr. Leininger, thank you for joining us today to share your insights into the world of chiropractic research. So what sparked your passion to get into chiropractic and then specifically into chiropractic research?

## Dr. Brent Leininger

So I grew up in a small town in Western Minnesota, so there's really only one primary physician to see, and I've seen in my entire life and took good care of me. And I showed up with these ankle problems and he did an evaluation and did a bunch of x-rays and, uh, came back and said, you know, there's nothing wrong with you. You're being a baby. You just got to suck it up and get over it. So I was like, well, okay, that's, that's good. And so the next step was, my mother took me to the chiropractor and the chiropractor didn't have a magical answer, but at least they had, he gave me, well, here's some exercises you can do. That's really what sparked it for me was like, okay, at least, I guess I felt listened to the interest in research really came when I was at a chiropractic college.

## Dr. Brent Leininger

So I went to Palmer back in the early two thousands. And I didn't know a lot about chiropractic other than my experience that I had had with my local chiropractor. And so when I got to college that struck me that there, everything was really black and white and that's really, wasn't the way I thought the world worked. And so I started, uh, doing a lot of spending a lot of time in the library, looking at what research was out there around the care of these different conditions, or, you know, when you should do this or when you should do that and quickly realized that there wasn't a lot, I mean, there was some research, but not a lot to, to substantiate a lot of the black and white that I was being taught. And so that's what really inspired me to want to pursue a career in research.

Melissa Knutson

But it took a lot to get to where you are today. So tell us a little bit more about that.

Dr. Brent Leininger

So I was in private practice for three years before I stopped ignoring the voice in the back of my head that said, you really should pursue a career in research because I had just gone through chiropractic college and had a bunch of student loan debt for becoming a chiropractor there. I didn't really wasn't clear to me how one would even start a career in research or what opportunities would be available. So luckily for me, one of my contacts in my local provider network who I'd reached out to was a physical medicine and rehab clinician at Mayo. And he was, uh, doing, uh, uh, research or he was on a research tracks. And he said, you know, there's a couple of groups that you might want to talk to where you could get started doing a career, get started on some research projects and, and really start to build your career.

Dr. Brent Leininger

So one of them was a group up in the cities that were doing a research at Northwestern health sciences university had been doing a number of clinical research studies, which that was what my interest was really the day to day decisions that clinicians are making, making, and how can we provide data to help inform some of that. And that's where I got my start and worked with them for three or four years in that capacity before I actually put in my first grant. And the grant was specifically for me to provide more training, to develop further as a researcher. So I started a clinical research program at the university of Minnesota, where I was getting a master's degree in clinical research was successful with that first grant. So, so NIH was able to pay for some of my schooling and some of the extent and give me a stipend to cover my experience was working on the clinical trials and other research projects.

Dr. Brent Leininger

The group was going or undertaking did my masters of clinical research finished that applied for another grant to do further career development. So this is a career development award, give me five years to get a even further education. So I entered into a PhD program at the university of Minnesota, which I'm still currently in, I'm near the end of that. So I'm getting my PhD in health policy and administration. A lot of my training is on economic evaluations. So providing the economic impact of the different treatment approaches and where there's value and where there's not value. So learning how to do those sorts of analyses. So did that for close to five years. And finally got me to the point where I applied for, with my primary mentor as code project leads for our first actual project grant, where I'm the head of it, but it took 10 years to get to that point.

Melissa Knutson

If somebody is interested in pursuing a career in research how they go about doing that. And I was saying, the first step is really what research is a broad field and a broad topic, and there's many different types of research. So first understanding

where are you, where's your real interest? Is it in day to day clinical activities and, and doing clinical research, are you more interested in basic science research trying to understand some of the mechanisms behind a disease processes or how particular interventions might, may have an effect? So that would be a good first step because knowing which line of research you're interested in can help you start to look at who's doing that type of work in the area you're interested in, who's doing that type of work that you in an area where you'd be willing to, let's say you wanted to make that step and start getting additional training.

#### Dr. Brent Leininger

Is there a lab where you could do training and could work with them? Is it near you? Is it away from you or are you willing to move to a different area of the country to, to pursue that line of work? So, first step is just taking a step back and looking at what's the significance of the potential problem that you're trying to address and the research question, who is it significant to? Is it significant to the broad population, all of society, or is it more of an, a problem specific to an individual provider group or a specific condition, because the more widespread the issue and the problem you're trying to solve that can inform who you're going to look to potentially fund the project. Right. So if you're looking at going to the US government like the National Institutes of Health for funding, the broader the problem, more likely they're going to have an interest.

#### Dr. Brent Leininger

Whereas if it's more of a subset, there might be a particular association or some other foundation that has a particular interest in that problem that you could potentially get funding from. And then the second part is, well, what sort of research has been done to address this problem in the past? Maybe it's a problem, but there's a lot of research out there that's similar to what you're proposing and how would you build on that? Or could you build on that? Is there anything to build on? Because if that question has already been answered and it's been answered sufficiently, sometimes it's just because there's a research project that's been done on a particular question. Sometimes it might've had some issues with the conduct of the study or they might, you might take a slightly different look or ask a slightly different question that would provide a slightly different answers.

#### Dr. Brent Leininger

That might be a way to approach it. So those are the main two steps. This, is it significant? Who is it significant to, what's been done in the past and how is our project going to really add to that? You could find out that, yeah, this project we're thinking of doing, it's already been done, but no one's done this next step. And so maybe we need to move down and really work on this next step or move up and you know, this is a problem, but to answer this problem, no, one's answered this question that comes before it. And so you can kind of move up or down the research chain, depending on what's been done and where the current knowledge is on that problem.

Melissa Knutson

In your opinion, can you think of any, are there any big glaring gaps right now in research from a chiropractic perspective?

Dr. Brent Leininger

Yeah, there's still a lot of gaps. There's been a lot of research from a clinical perspective of what treatment works best for just back pain and neck pain in general. But when you look at not everyone has just run in the middle of back pain and the chiropractor, listen, they'll probably tell you that the 20 patients who come into their office all 20 of them are somewhat unique and have different issues, different problems. And so once you start digging into the weeds a little bit more and finding the best approach for this particular constellation of issues, the further you dig, the less information that's there.

Melissa Knutson

So let's say research has been put out. How can chiropractors use that research to inform their patients or help their patients?

Dr. Brent Leininger

So that's a great question and something we struggle with because there's an enormous amount of research that's put out and it's getting to be more and more. And so how, if you're running a practice, how do you, how are you expected to keep up to date with this volume of new information that's coming out? And so there's probably the simple things you could do is, if you're reaching out and joining one of those evidence-based chiropractic networks, getting on their lists or getting on their, their blogs. So you just kind of keep up to date with new evidence as it's coming out. The other thing is being very mindful about what community education programs you take part in. You know, there's some that do a really good job at synthesizing the evidence and, and bringing that into their, their continuing education.

Melissa Knutson

What's the best advice you've ever received in your career?

Dr. Brent Leininger

I think to be patient, so undertaking research is especially clinical research is you have to be patient to see the process through. I mean, most of the projects we're working on. So you get an idea for the project, you develop a grant for it, that whole process can take anywhere between two to six months. Typically these projects are five to six years before it's all said and done, you've analyzed the data and then you're starting to publish even just the publication process can take months because he is submitted to us to go through peer review that can take a month or two to be comments back to you and you have to respond to all that.

Melissa Knutson

Yeah. So definitely being patient is going to be key. Otherwise you're never going to get through all of that. Right. What impact has the COVID-19 crisis had on your research activities?

Dr. Brent Leininger

That's a great question. It's had a big impact as you can see, I'm working from home, we had a number of clinical trials ongoing when COVID hit within clinic activities. One of them was a community based trial. So we were looking at increasing physical activity for adults, 50 and older. And so we were partnering with the YMCAs of the twin cities when that hit. And so we had to quickly figure out, you know, we do remotely. So our group was lucky enough that those interventions could be deliberate, could be transitioned to a remote delivery where we could get, instead of having participants show up at the YMCA, we got them all outfitted with technology where they could show up to a virtual class-based setting and actually partake in the educational programs over zoom. But we have another project looking at preventing acute back pain from turning chronic. And so that had a lot of clinic activity. And so right now that's all shut down. So we're looking at how can we do the screening through a remote process of screening people with acute back pain through zoom. And there are elements of the trial that can be delivered remotely. One of the arms is, is medical care. So that can be done via remote delivery.

Dr. Brent Leininger

The other one is more of a self-management. So it's a supported self-management program with physical therapists and chiropractors. So taking a whole person approach, teaching, teaching participants, how to care for their back pain, using a number of different mind body tools, which could be taught remotely through a zoom interface. So those sorts of things we're still pursuing, but it caused some, a lot of disruption. Because it's not just as easy as saying, okay, well, let's just do that like that way. Because there's other elements in the art in the trial that can't be done remotely. So you have to take a step back and look at what impact does that have on your and get approval from the funding agencies. And so we spent a lot of time working on that.

Melissa Knutson

Well, thank you, Dr. Leininger for joining us today. I sincerely appreciate all of the tidbits of information that you've provided us about research and, and how our listeners can either get into the research field or make better use of the research that's available to them. So thank you so much and stay safe and thank you for joining us.

Dr. Brent Leininger

Yeah. Thank you. It's my pleasure.

Melissa Knutson

Well, Chick, I don't know about you, but I didn't think I'd be spending so much time learning about research, but I'll tell you what, I'm glad that we did spend the time to talk to these researchers because it's incredibly important and vital for the chiropractic profession. So what were your thoughts as you talk to our guests?

Chick Herbert

Uh, one that I'm not nearly as smart as our guests, so I'm glad there's such intelligent people doing the research and involved in the research. All kidding aside in my conversation with Dr. Haavik, I took away the importance of research, the importance of funding for research and that the entire profession benefits from that research.

Melissa Knutson

Yeah. And what I learned the most from Dr. Leininger is that research, if you're passionate about research, there's a lot of ways that you can get involved. So you don't have to do that. Research yourself, you can partner with other researchers, you can submit ideas. And obviously the financial support is a good way to do that as well.

Chick Herbert

I couldn't agree more if you're interested in learning more about our guests and more specifically the information that they referenced in their interviews that is available at [NCMIC.com/Chiropractical](https://www.ncmic.com/chiropractical). So check it out and as always thank you for listening. We truly appreciate it. We encourage you to hit subscribe wherever you get your podcasts so that it will automatically be in your feed. And if you're so inclined, please leave a review. So it was great to spend time with you again today. And we look forward to talking to you again next month.

Melissa Knutson

I'll take care and stay well.