

## PERSONALISED TREATMENT, COLLABORATION, AND PUZZLES: A CHAT WITH NANNA FINNERUP

*Nanna Finnerup, MD, DrMedSc, is a Professor in pain research at the Danish Pain Research Center, Department of Clinical Medicine, Aarhus University, Denmark and Chair of the Neuropathic Pain Special Interest Group for the International Association for the Study of Pain (NeuPSIG). Her research primarily focuses on the pathophysiology and therapy of neuropathic pain. Finnerup sat down with Lincoln Tracy, a research fellow from Monash University, Australia, at the 2019 Australian Pain Society Annual Scientific Meeting, which took place April 7-10, 2019, on the Gold Coast, Australia. Finnerup discussed how she got hooked on research, her current research interests, and her love of TV crime dramas. Below is an edited transcript of their conversation.*



NANNA FINNERUP

### What was your path to pain research?

It was by chance, honestly. I was in Copenhagen doing my training in neurology but wanted to move back to Aarhus. I was considering doing a PhD and heard that [Professor Troels Staehelin Jensen](#), was looking for a PhD student to study spinal cord injury pain. I interviewed for the position and started shortly after that. I was originally planning on doing the PhD and then go back to finish my neurology training. I found research to be so interesting, and eventually I realised that I wasn't going to go back to working clinically. That was 1998, and I've been in research ever since.

### What are you currently focusing on in your research?

One research area I'm currently involved in relates to stratification and personalised treatment. We want to try and identify patients with a specific sensory profile and see if they respond better to certain drugs. We are currently trying to repeat a previous randomised trial of ours where we looked at this and if we could get better outcomes for patients.

Another area of work we're just starting is looking at identifying potential different

biomarkers in assessing peripheral pain mechanisms like nerve excitability testing. Some of the researchers are looking into spinal reflex mechanisms, whereas others are using evoked potentials and fMRI to look at underlying brain mechanisms to investigate how different drugs affect different targets and areas in the brain. The main goal of this avenue of research, which is a European Union collaboration, is to look back to the preclinical studies and see if we can improve drug development.

### What are some of the big challenges in pain research at the moment?

I think that while we know a lot about different types of pain—acute and chronic pain, for example—we still lack good and safe tools for efficient treatment. For some people it isn't possible to treat the cause of the pain, but what we can do is learn how to minimise the impacts and the influence of pain. Having listened to many people who are in pain, and what they do about their pain, has made me realise how important [pain self-management](#) is. Getting to work their way through learning what is good for them—and what's not good for them—is very important. I think that it's also good for them to talk about their pain with other people—it's incredibly helpful for them to know that they aren't the only

one who feels like this. There are some things that we know anecdotally are helpful for pain, but we don't have the evidence to back it up. It makes it difficult to say, "you should do this, because it works", but it means that we can say "you should try this because other people do this and have found it effective."

### Is there anything about pain that you have changed your mind on since you started your PhD?

That's a good question, because I don't really remember how I thought about things back then [laughs]. I'm not sure if my thoughts are really that different. But one thing I feel I have changed my mind about is how important it is that we are self-critical of our own research. I think as a community we really need to reduce what's been called "waste" in research and really ask ourselves, "is this study going to make a difference, or is it just going to be one out of a hundred that examine the same thing?" How we spend the money we get for research is something that has received increasing amounts of focus over the past few years.

We really need to think about what has already been looked at and ask if our studies are powered enough to actually make a change. At times it's important to go back to the literature, because many studies have asked questions we haven't thought of or forgotten about. This is something that I really try and teach the students that I work with—to really highlight the importance of doing a systematic search before diving into a trial or study. This is sometimes difficult because of the rules or expectations placed on PhD students. In an ideal world all of your studies would have thousands of patients, right? That means that multicentre studies are those with the greatest impact—but these are the most difficult to do as part of a PhD. Sometimes

you have to compromise, but I think it's important to consider that we use our resources carefully.

### What would you like pain research to be doing differently in 5 or 10 years?

One crucial thing is the power of collaboration and doing multicentre trials. While these studies have a lot of benefits, they are becoming more and more difficult because of different data protection and privacy rules. I certainly think that it is important to have things like privacy regulations covered, we don't want the ability to collaborate and do research to be impeded by these processes.

I also think we need to make sure we keep doing is to be very clear on what our hypotheses are and what our primary outcome measure is at the outset of a study. You can always find something interesting in exploratory analyses and that's important—but we need to make sure that any results we find through these analyses are treated as such.

### What do you do when you're not doing research?

Well I have three daughters, which kept me busy for several years [laughs]. But now the kids are all grown up, which means I have to try and remember what I did for fun before they were born. In the winter I like to do puzzles. I'm a big fan of some of the crime dramas on TV—*The Americans*, *Breaking Bad*, and *House of Cards*. There's also a great Danish show called *The Killing*, but I'm not sure if you have that in Australia

*Lincoln Tracy is a postdoctoral research fellow in the School of Public Health and Preventive Medicine at Monash University and freelance writer from Melbourne, Australia. He is a member of the Australian Pain Society and enthusiastic conference attendee. You can follow him on Twitter (@lincolntracy) or check out some of his other writing on his [website](#)*