

# THRIVE

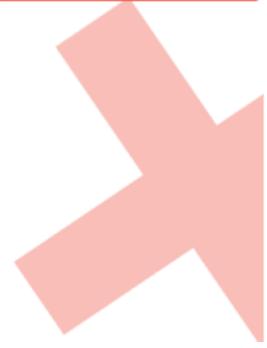
## Arthritis- do we need to think outside the joint?

How can two people who have the same amount of arthritis on a scan have very different experiences? One experiences a lot of pain and day to day activities are hugely affected; another has milder symptoms and can do most of their daily activities, or even has long periods of no pain. Now, of course we know that the severity of arthritis **can** matter greatly. But in these two people, their x-rays look the same, so what's going on?

This is a question we set about answering in two papers I published with colleagues recently. In one (<https://link.springer.com/article/10.1007%2Fs00482-018-0275-9>), we reviewed the research to date to understand what other factors contribute to how much pain people experience, and whether we need to really start incorporating this into treatment plans. What we found was that the following factors were important in influencing people's pain and function:

- **High comorbidity load**- in other words how many other health conditions a person has. Conditions like heart problems and diabetes are particularly relevant as they seem to influence a person's overall level of inflammation. Obviously, this can affect joint pain. Being overweight is a double negative- as well as adding more load to the joint, being overweight also causes more overall inflammation. Reducing weight is well established as an effective way to reduce joint pain. Not easy, we know but reducing body weight by as little as 5-10% can really have meaningful effects.
- **Nervous system sensitisation** – when we have pain, our nervous system can adapt and get better at sending warning signals. It starts to behave like a faulty alarm going off when it's not supposed to. A person with arthritis and nervous system sensitisation will typically experience more pain and more widespread pain than a person without. Things that drive this sensitisation can be sustained input from the affected joint, but also factors like our mood, how we think about our joint, whether we worry about it a lot, our sleep, and general physical activity.
- **Sleep** – There isn't a system in our body that isn't badly affected by poor sleep and our nervous system (drives pain) and immune system (drives inflammation) are no exception. In people with arthritis and insomnia, improving sleep (which can be done without using medication by the way!) by more than 30% has been shown to significantly reduce pain.

# THRIVE



- **Psychological distress**- this is linked again to nervous system sensitisation where our mood and levels of distress influences how well our natural pain relief system works. High levels of distress or low mood can mean that our bodies don't produce the same level of natural pain relief as they would otherwise, so joint changes being equal, the person with high levels of distress will likely experience more pain.

In this paper, we conclude that we need to advance treatments for arthritis related pain. While exercise, improving mobility, injections and even surgery are still appropriate at times, considering broader factors that influence pain are likely to be much more effective.

In the second paper of this series, we looked at whether nervous system sensitisation acts as a barrier for successful treatment. The study recruited people with moderate arthritis who were suitable for conservative treatment i.e. physiotherapy consisting of exercises, self-management advice, gait re-training and manual therapy. People were free to take their normal medications too. The study followed people up after treatment and 6 months later.

What did we find? Well, those who had nervous system sensitisation were less likely to respond to physiotherapy treatment. This is actually like what's been shown for knee surgery. So, what's the answer.....well, we think we need to look at the drivers of nervous system sensitisation and start addressing these in tandem with our core treatments like exercise, weight loss, injections etc.

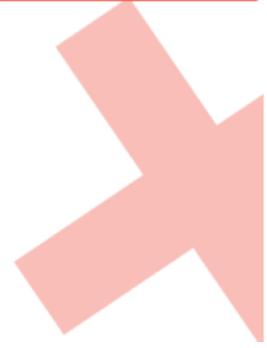
## What does that mean for you?

The first thing is to make sure your current treatment is evidence-based. If exercise isn't one of your core treatments, then that's a good change to make.

Have a think about whether you have other factors that might be influencing your pain:

- Do you worry a lot about your pain / arthritis?
- Do you have other health problems?
- How is your mood?
- Is life stressful?
- Are you overweight?
- How do you sleep?
- Is your pain spreading, getting worse or are you becoming more sensitive to gentle movements or light touch? These are signs your nervous system may be sensitive.

# THRIVE



If any of these may be an issue, talk to your healthcare professional about how you might go about tackling these issues.

See our website for more information on how pain works, and how we can address some of these factors.

## 1. References:

Mills, Huebscher, O'Leary & Moloney (2018). Current Concepts in joint pain in knee osteoarthritis. *Schmerz* (Epub ahead of print)

<https://link.springer.com/article/10.1007%2Fs00482-018-0275-9>

2. O'Leary, Smart, Moloney, Blake, & Doody (2018). Pain sensitization associated with non-response following physiotherapy in people with knee osteoarthritis. *Pain* (Epub ahead of print)

<https://insights.ovid.com/pubmed?pmid=29794610>