

Easing a chronic problem

Dressed in a suffocatingly fitted jacket top and pants, I waddle over to my trainer. I wait anxiously as she attaches me to a machine via a multitude of wires and electrode discs on my body. With an enthusiastic nod, she asks me to squat. She turns on the machine and my body vibrates. Every single muscle contracts, and as electrical pulses fire through me, the burn is real. But will the result also be real? I hope so.

While SpeedFit, using electrical muscle stimulation (EMS), is primarily touted as the 20-minute work-out that surpasses hours in the gym, it's not the reason I'm here. I have a different goal. EMS has been shown to help alleviate pain, and that's something I've lived with for three years. But, I'm far from alone.

In Australia, chronic pain is common. According to a 2018 Deloitte report, 3.2 million Australians are living with chronic pain, costing \$140 billion a year for the health system, productivity and other factors. The loss of wellbeing is

For the 3.2 million Australians living with chronic pain, the daily challenges are relentless. But as **Jo Hartley** discovers, so are the efforts from doctors, scientists and healers dedicated to helping.

valued at an additional \$66.1 billion. Sadly, these figures are expected to increase as Australia's population ages. By 2050, as many as five million people will likely have disabling pain and the cost to the health system will rise to a staggering \$215.6 billion.

So, what exactly is chronic pain? It is defined as pain that lasts longer than three months, and it occurs for a variety of reasons. These include injuries, surgeries, musculoskeletal conditions such as arthritis, or other medical conditions such as cancer, endometriosis or migraines.

In some instances, the pain is

unexplained. "Chronic pain has been a hidden and invisible condition for many Australians for a long time," says Carol Bennett, CEO of PainAustralia. "Previously, I think it's been very misunderstood and, like mental health, somewhat stigmatised, but I think we're having a revolution because of the sheer numbers of people affected by it."

Daily struggle

Living with chronic pain is debilitating and relentless in so many ways. Every day, I feel mentally and physically exhausted. The brass band in my head

never lets up. My limbs groan every time I move. I can't remember the last time I slept soundly, and I don't remember what it's like to live pain-free. I know that my experience is pretty standard.

Research shows that people with chronic pain report significantly higher rates of limitations to daily activities than those without chronic pain. In fact, they're twice as likely to report their activities were "limited moderately" and almost five times as likely to report their daily activities were "limited a lot". Chronic pain can affect a person's ability to sleep, work,

socialise and exercise. Consequently, sufferers are more susceptible to mental health conditions such as depression, anxiety, sleep disturbance and fatigue.

Mind-body connection

Neuroscientists are exploring what's happening in our brains when it comes to ongoing pain. According to Dr Sylvia Gustin, Director of the Centre for Pain Impact at Neuroscience Research Australia (NeuRA), her research has shown that pain causes subtle changes in the thalamus and prefrontal cortex

regions of the brain. "The thalamus acts like a boom gate," Dr Gustin says. "With acute pain, for example, when you burn your hand in hot water, the thalamus boom gate opens, and the pain information gets forwarded to the prefrontal cortex, which gives us the experience of pain. When acute pain is healed, the boom gate normally closes."

Dr Gustin adds that, in people with chronic pain, the boom gate's 'motor' is no longer working because the 'petrol' (inhibitory neurotransmitter GABA) is missing.

"Our research shows that people with chronic pain have a loss in GABA, and so the boom gate is continuously open," she says. "All signals from the periphery are felt like pain and every touch and movement gets amplified."

Dr Gustin adds that ongoing pain can also be caused by an increase in the stress hormone cortisol, which can trigger structural and chemical changes in the brain.

However, pain doesn't just alter someone's physicality. It can alter their personality, too. Dr Gustin found that people with chronic pain have smaller amounts of the key chemical messenger glutamate in the brain region responsible for regulating thoughts and emotions. Consequently, these people may experience negative personality changes, becoming more fearful, pessimistic or worried.

Based on her research, Dr Gustin has developed a dialectical behaviour treatment (DBT-PAIN) program, teaching people with chronic pain to better manage their negative emotions. Her team has just completed the first clinical trial and it's proving effective.

"We know there's an association between negativity and anxiety and pain intensity," Dr Gustin says. "Generally, when people are down, their pain increases. Teaching them how to regulate negative emotions can help decrease that. It's about retraining the brain to cope with all the emotional distress that's come from ongoing pain. It's basically like when you have a stroke and your brain needs to learn movement and touch again." →

Hopeful endeavours

Since my surgery and the subsequent injections that failed to provide relief, I have tried a multitude of therapies. I've tried acupuncture, cupping and dry needling. I've tried heat lamps, massage guns and meditation, and I've visited health professionals and holistic healers. I'm yet to find relief. But it could be that I need to take a different approach.

According to Carol, research suggests that multidisciplinary care is still the gold standard for treatment of chronic pain conditions. "Medicine may be one element of treatment, but people need to address the physical, social and psychological elements of their condition," she says. "It's different for every individual, but it may mean a mix of psychologists, nutritionists, occupational therapists and/or physiotherapists."

Despite this approach being ideal, Carol notes that many people choose the easiest, most affordable option: medication. But adopting the "there's a pill for every ill" philosophy can result in a different pain altogether.

Opioid-related harm has become a public health crisis. In Australia, there has been a 25 per cent increase in hospitalisation related to opioid poisoning, and three people die of opioid overdose every day. This is despite a lack of evidence about the effectiveness of opioid use for managing pain. In fact, opioids may not offer any additional pain relief to non-opioid medications like non-steroidal anti-inflammatory drugs.

Mind over matter

The complementary therapy options for chronic pain are endless: yoga, massage, meditation, mindfulness, TENS machines, homeopathy and

7 tips to manage pain

1. Exercise regularly for feel-good endorphins.
2. Limit alcohol and cut out processed food.
3. Join a support group.
4. Meditate or practise mindfulness.
5. Surround yourself with a multidisciplinary health team.
6. Be realistic about what you can do.
7. Be kind to yourself.

laser, to name a few. More recently, hypnotherapy has shown to be effective. A study published in *The Journal of Pain* found that adding hypnosis to pain education enhanced the treatment effects.

"Hypnosis is a safe, drug-free method which we've shown can help reduce pain intensity, disability, and catastrophising of pain by those receiving the combined treatment," says James McAuley, Associate Professor at NeuRA. "Hypnosis helps the brain to calm the noise of pain, providing respite for the patient."

Another therapy offering a holistic approach is Amino Neuro Frequency Therapy (ANF). Developed using science, ANF therapy works with the nervous system, utilising frequency emitting devices to heal nerves that have been damaged through injury, illness or disease. Patients may

experience up to a 50 per cent reduction in pain within 15 minutes.

"Every organ and tissue in your body has a specific resonance frequency, when they're operating at their best," explains Claire Dunkley, ANF Therapy Specialist and Clinical Nurse Consultant. "If they're not working at their best, this changes. By applying ANF discs, we can work with each nerve cell to remind the body of the frequency where it performs optimally. The body copies this frequency and starts healing, reducing inflammation and pain."

Online platforms and apps are also popular for pain management. Pain psychology app Curable adopts a 'biopsychosocial' approach, allowing people to address their pain from all angles. After 30 days, 68 per cent of users experience physical pain relief, and 82 per cent have improved quality of life.

Back to the future

While Australia has some way to go in managing chronic pain, there is hope. Low-dose cannabidiol (CBD) is now available over the counter in pharmacies, providing a welcome increase in options for pain sufferers.

Similarly, a national action plan addressing chronic pain as a health priority is up for review. Carol believes this could be a world first. "We're really at the forefront of trying to tackle what is a very complex issue and it would be great to see Australia leading the charge," she says.

As for me, I finish my work-out. I'm sweating and breathless, and my pain has dulled slightly. I'm not sure if that's a reality or I'm just distracted by the relief of removing my suit. I've only had two sessions, so it's too soon to tell. Ironically, it all comes down to "no pain, no gain". **AWW**

Women vs men

Research shows that women suffer more chronic pain than men. So, why is this?

"We don't really know if women's pain is simply more reported than men's, but there are certainly underlying elements that mean women are genetically predisposed to pain," Dr Gustin says. "Throughout their lives, women's bodies go through significant changes, so chronic pain can happen any time." Hormones, reproductive status, menstrual cycle and menopause can all cause pain. And as women age, they experience more loss of bone mass and osteoarthritis than men.