

## Our new understanding of chronic pain

Chronic pain can persist even after an injury has healed due to **neuroplastic** pain, a condition where the brain and nervous system continue generating pain signals despite the body being physically safe. This shifts the focus from damaged tissue to a hypersensitive nervous system. The pain is real and linked to measurable brain activity, but it results from a “false alarm” created by maladaptive neuroplasticity—where the brain strengthens pain pathways over time.

Unlike structural (nociceptive) pain, which directly reflects tissue damage and improves as healing occurs, neuroplastic pain is often inconsistent, widespread, or disproportionate to medical findings. It may fluctuate, migrate, and worsen with stress, anxiety, or poor sleep. Conditions like fibromyalgia, chronic fatigue syndrome, IBS, and some chronic back or neck pain are commonly associated with this mechanism.

The key underlying process is central sensitization, where the nervous system becomes overly responsive after repeated pain signalling. This can lead to allodynia (pain from non-painful stimuli) and hyperalgesia (exaggerated pain from mildly painful stimuli).

## What approaches work?

Treatment focuses on retraining the brain and calming the nervous system. Approaches such as Pain Reprocessing Therapy (PRT), cognitive behavioural therapy for pain (CBT-P), graded exposure, and somatic tracking aim to reduce fear, re-establish a sense of safety, and weaken maladaptive pain pathways. This provides opportunities to undertake adaptive behaviours and re-engage with life.