

# The psychology of pain

## Unmasking Central Sensitivity Syndrome

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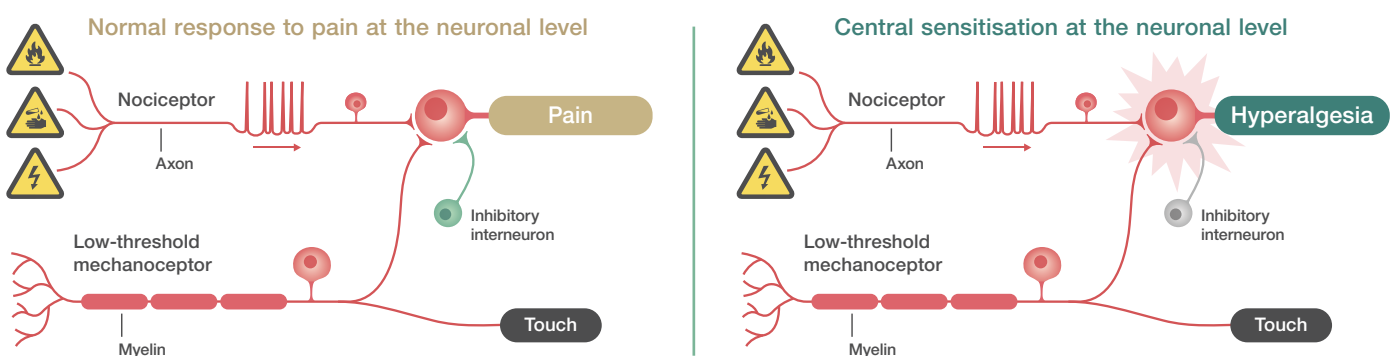
**Chronic pain** affects 20% of people. Approximately 50% of adults report having pain in the previous 3 months, with 11% reporting daily experiences of pain.<sup>1,2</sup> In a significant portion of chronic pain cases, however, definitive peripheral causes of chronic pain cannot be identified. Many people reporting severe pain do not have objective markers consistent with the report of pain.<sup>3,4</sup> For example, over 80% of people with chronic back pain reveal no evidence of objective pathology. These findings indicate that other factors are at play apart from medical.

The **biopsychosocial approach** purports pain and pain-related behaviour results from an interplay among biological, psychological, social, and contextual factors.<sup>5-7</sup> Everyone has a unique genotype and life history, varying life circumstances, worries, and stresses. These dimensions interact influencing a person's response to chronic pain.

Central sensitivity syndrome (CSS) is an increased response of the pain neurons (nociceptive) in the central nervous system to sensory stimuli.<sup>5</sup> (See Figure 1). A significant portion of people with chronic pain, including those suffering from fibromyalgia, chronic fatigue syndrome, irritable bowel syndrome, chronic pelvic pain, temporomandibular joint disorder, and migraine experience CSS.<sup>5,8,9</sup> In CSS, the peripheral nerves function normally, however the functioning of neurons in the spinal cord and brain is affected.

**Central Sensitivity Syndrome patients experience heightened pain sensitivity and pain diffusion, along with lowered pain thresholds.**

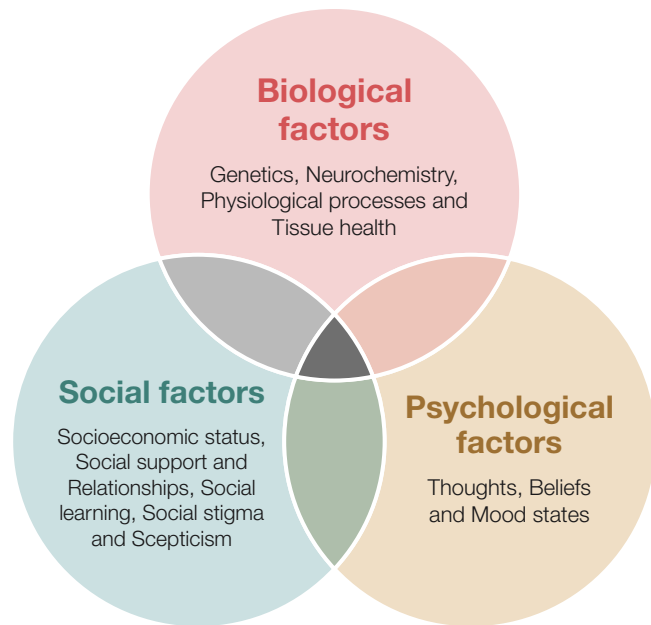
**Fig. 1. Normal response to pain vs Central sensitisation at the neuronal level**



## Factors affecting central sensitivity

Central sensitivity is influenced by biological, psychological, and social factors.<sup>5</sup> (See Figure 2).

Fig. 2. Biopsychosocial model



**Biological factors:** include genetics, neurochemistry, physiological processes and tissue health.

**Psychological factors:** include the patient's thoughts, beliefs and mood states.

Self-efficacy around pain refers to a person's confidence in their ability to manage pain; research shows low pain self-efficacy is associated with increased pain perception.<sup>10</sup>

Pain-catastrophic thinking occurs when people dwell on the worst possible outcomes; again associated with increased pain perception and disability.<sup>11</sup> Pain catastrophisers magnify difficulties associated with their pain, constantly obsess about the pain, and have an increased sense of helplessness. There exists a bi-directional relationship between mood and pain.

Depression or an anxiety disorder increases the risk of suffering from chronic pain. Depression exacerbates mental health disorders and pain-related treatment outcomes.

A patient's history impacts these psychological factors. Childhood maltreatment and past traumas affect mood, beliefs and thoughts. Research confirms past trauma is associated with increased pain sensitivity and an increased risk of suffering from chronic pain.<sup>12,13</sup>

**Social factors:** affecting central sensitivity include socioeconomic status, social support and relationships, social stigma and scepticism, and social learning.

Being around others with stigmatising attitudes toward pain or scepticism increases pain severity and disability. Alternatively, those given positive social support generally have a better prognosis.<sup>14</sup>

The attitudes of family, partners, friends and health professionals are important in a person's pain recovery.

**Changes in diet, lifestyle behaviours, sleep quality, and appropriate nutraceutical and phytoceutical supplementation also impact the best outcomes for our patients.**

The biopsychosocial approach forms an integral part of the psychological treatment of pain. Cognitive-behaviour therapy and other psychological treatments for pain attempt to modify people's thoughts, beliefs, and behaviours that contribute to increased pain sensitivity, reduce overall quality of life, and negatively impact social, psychological, and occupational functioning. Pain psychology is not about minimising pain and denying its existence. The pain sensation is real, but the biopsychosocial factors that can affect pain must be considered to optimise treatment.

### Pain Reprocessing Therapy: rewiring neural pathways

Psychological approaches have regularly demonstrated effective pain reduction and suffering, improved mood, and overall quality of life<sup>15-17</sup>. A recent treatment, the 'Pain Reprocessing Therapy' was provided to patients with chronic back pain. After 4 weeks, 66% of participants were pain-free or nearly pain-free, as compared to 20% randomised to a placebo intervention and 10% randomised to usual care. These gains were largely maintained at a one-year follow-up.<sup>18</sup>

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