

## Section 8

### Types of Physiological Pain

- **Cutanenous pain:** Caused by injury to the skin or superficial tissues. The pain-detecting neurons are just below the skin where there is a high concentration of nerve endings. The pain is localized and short-term. Examples: paper cut, first-degree burn, exterior wound.
- **Somatic pain:** Comes from ligaments, tendons, bones, blood vessels and nerves. There are few somatic pain receptors in these areas, so the pain is a dull pain of longer duration. Examples: sprains, and fractured bones.
- **Visceral pain:** Visceral neurons are within body organs and cavities. Pain receptors in these areas are very diffuse, so pain is felt as an ache over a longer period of time. Visceral pain is difficult to localize, and is often called "referred pain." This means the sensation is unrelated to the injury site. For example, myocardial ischemia can be felt in the upper chest, or as an ache in the left shoulder, arm or hand.
- **Neuropathic Pain:** Caused by injury or disease of the nerve tissue. This can disrupt the sensory nerves from transmitting correct information to the thalamus.

### Phantom Pain

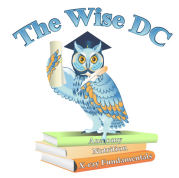
Phantom pain is pain from a part of the body that has been lost or from which the brain no longer receives signals. It is a type of neuropathic pain. Phantom limb pain is a common experience of amputees.

“The prevalence of phantom pain in upper limb amputees is nearly 82%, and in lower limb amputees is 54%.<sup>1</sup> Phantom pain and phantom sensations in upper limb amputees: an epidemiological study.<sup>2</sup> One study found that eight days after amputation, 72 percent of patients had phantom limb pain, and six months later, 65 percent reported it.<sup>3,4</sup>

Some amputees experience continuous pain that varies in intensity or quality; others experience several bouts a day, or it may occur only once every week or two. It is often described as shooting, crushing, burning or cramping. If the pain is continuous for a long period, parts of the intact body may become sensitized, so that touching them evokes pain in the phantom limb, or phantom limb pain may accompany urination or defecation.”<sup>5</sup>

Treatment of phantom pain includes local anesthetic injections into the nerves or sensitive areas of the stump which may relieve pain for days, weeks or, sometimes permanently, despite the drug wearing off in a matter of hours; vigorous vibration or electrical stimulation of the stump, or current from electrodes surgically implanted onto the spinal cord; and movement and touch in a phantom limb which in turn cause a reduction in pain.<sup>6</sup>

“Paraplegia, the loss of sensation and voluntary motor control after serious spinal cord damage, may be accompanied by girdle pain at the level of the spinal cord damage, visceral pain evoked by a filling bladder or bowel, or, in five to ten per cent of paraplegics, phantom body pain in areas of complete sensory loss. This phantom body pain is initially described as burning or tingling but may evolve into severe crushing or pinching pain, fire running down the legs, or a knife twisting in the flesh. Onset may be immediate or may not occur until years after the disabling injury. Surgical treatment rarely provides lasting relief.”<sup>7</sup>



## Psychogenic Pain

“Psychogenic pain, also called *psychalgia* or *somatoform pain*, is pain caused, increased, or prolonged by mental, emotional, or behavioral factors. Headache, back pain, and stomach pain are sometimes diagnosed as psychogenic. Sufferers are often stigmatized, because both medical professionals and the general public tend to think that pain from a psychological source is not "real". However, specialists consider that it is no less actual or hurtful than pain from any other source.”<sup>8</sup>

Studies suggest that chronic pain sufferers frequently display psychological disturbance, with elevated scores on the Minnesota Multiphasic Personality Inventory scales of hysteria, depression and hypochondriasis (the "neurotic triad"). Additionally, it was noted that when long term pain is relieved by therapeutic intervention, scores on the neurotic triad and anxiety fall, often to normal levels. Self-esteem, often low in chronic pain patients, also shows improvement once pain has resolved.<sup>9</sup>

“The term 'psychogenic' assumes that medical diagnosis is so perfect that all organic causes of pain can be detected; regrettably, we are far from such infallibility... All too often, the diagnosis of neurosis as the cause of pain hides our ignorance of many aspects of pain medicine.”<sup>10</sup>

### Types of Psychogenic Pain

Headaches, muscle pains, back pain, and stomach pains are some of the most common types of psychogenic pain.

### Psychogenic Pain Diagnosis

The diagnosis of psychogenic pain is made when other causes of pain are ruled out. A person with a pain disorder will complain of pain that does not match his or her symptoms. Medical doctors and mental health specialists working together are often most helpful to those with this disorder.

### Psychogenic Pain Treatment

Treatment for psychogenic pain may include:

- Psychotherapy
- Individuals with more social support experience less cancer pain, take less pain medication, report less labor pain and are less likely to use epidural anesthesia during childbirth or suffer from chest pain after coronary artery bypass surgery.<sup>11</sup>
- Suggestion can significantly affect pain intensity. About 35% of people report marked relief after receiving a saline injection they believe to have been morphine. This "placebo" effect is more pronounced in people who are prone to anxiety, so anxiety reduction may account for some of the effect, but it does not account for all of the effect. Placebos are more effective in intense pain than mild pain; and they produce progressively weaker effects with repeated administration.<sup>12</sup>

“**Cognitive behavioral therapy (CBT)** is a psychotherapeutic approach: a talking therapy. CBT aims to solve problems concerning dysfunctional emotions, behaviors and cognitions through a goal-oriented, systematic procedure in the present. The title is used in diverse ways to designate behavior therapy, cognitive therapy, and to refer to therapy based upon a combination of basic behavioral and cognitive research.

CBT has been identified as a treatment of choice for a number of mental health difficulties, including post-traumatic stress disorder, OCD, bulimia nervosa, and clinical depression. There is empirical evidence that CBT



is effective for the treatment of a variety of problems, including mood, anxiety, personality, eating, substance abuse, and psychotic disorders.

- Antidepressants
- Non-narcotic painkillers <sup>13</sup>



---

<sup>1</sup> Kooijman CM, Dijkstra PU, Geertzen JH, Elzinga A, van der Schans CP.

<sup>2</sup> *Pain*. 2000;87(1):33–41

<sup>3</sup> Jensen TS, Krebs B, Nielsen J, Rasmussen P. Phantom limb, phantom pain and stump pain in amputees during the first 6 months following limb amputation. *Pain*. 1983;17(3):243–56. doi:10.1016/0304-3959(83)90097-0. PMID 6657285.

<sup>4</sup> Jensen TS, Krebs B, Nielsen J, Rasmussen P. Immediate and long-term phantom limb pain in amputees: incidence, clinical characteristics and relationship to pre-amputation limb pain. *Pain*. 1985;21(3):267–78.

<sup>5</sup> Wall PD, Melzack R. *The challenge of pain*. 2nd ed. New York: Penguin Books; 1996.

<sup>6</sup> Ramachandran VS, Rogers-Ramachandran D. Synaesthesia in phantom limbs induced with mirrors. *Proc. Biol. Sci.*. 1996;263(1369):377–86

<sup>7</sup> Wall PD, Melzack R. *The challenge of pain*. 2nd ed. New York: Penguin Books; 1996.

<sup>8</sup> "International Association for the Study of Pain | Pain Definitions".

<sup>9</sup> Wall PD, Melzack R. *The challenge of pain*. New York: Penguin Books; 1996.

<sup>10</sup> Wall PD, Melzack R. *The challenge of pain*. New York: Penguin Books; 1996.  
— Ronald Melzack, 1996.

<sup>11</sup> Eisenberger, NI; Lieberman (2005). "Why it hurts to be left out: The neurocognitive overlap between physical and social pain" In Williams, KD; Forgas, JP; von Hippel, W. The social outcast: Ostracism, social exclusion, rejection, and bullying. New York: Cambridge University Press. pp. 109–127.

<sup>12</sup> Melzack, R; Wall, PD (1996). *The challenge of pain* (2 ed.). London: Penguin. pp. 26–28.

<sup>13</sup> <http://www.webmd.com/pain-management/guide/pain-management-psychogenic-pain>