



# Understanding Chronic Pain

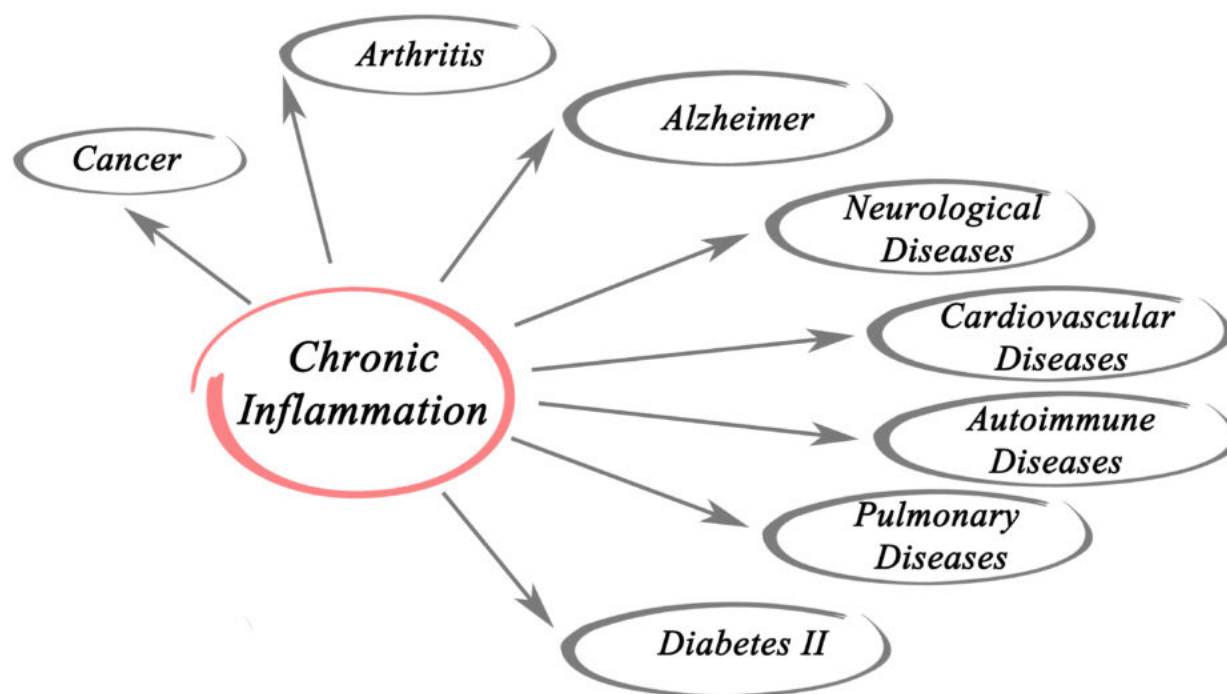
Although acute pain is necessary for staying safe and survival, there is nothing good to be said about experiencing chronic pain. Your protective system is way out of balance and the unpleasant sensory input is disconnected from the environment. There are few experiences in life than endlessly suffering from pain.

Chronic pain was traditionally defined as, “pain that lasted longer than the expected healing time.” We now know that this is incorrect. Based on current neuroscience research, chronic pain is, “...an embedded memory that becomes associated with more and more life experiences, and the memory cannot be erased.” This is why interventions focused on anatomy and structure cannot and will not work. (Mansour)

## Threat

When your body feels like it is under constant threat, we call this sensation, “anxiety.” Because anxiety is necessary for survival, the feeling is intended to be extremely unpleasant. Your attention is entirely focused on it, and the rapid-fire impulses signal barrage your nervous system. Your brain “learns pain” within a short period of time. These neural pathways are memorized and pain sensations can originate from any part of your body. Essentially, the source doesn’t matter.

Recently, sophisticated brain scans have demonstrated that there are dramatic, diffuse changes in the brains of patients with chronic pain (Hashmi). Your nervous system remains hyper-vigilant and causes your autonomic nervous system to simulate inflammatory proteins called pro-inflammatory cytokines (Pro-I’s). This constant state of high-alert has negative effects on your health, resulting in a variety of chronic physical and mental diseases.



## Same pain; different driver

One paper that summarizes the problem was published in 2014. One of the leading brain research centers in Chicago investigated brain activity with a test called a functional MRI (fMRI). They compared patients who had back pain for less than three months to those who had chronic lower back pain for more than ten years. In the acute back group, the pain center (nociceptive) lit up in a specific spot that correlated with back pain. In the chronic group, the pain center was completely quiet and the activity had shifted to only the emotional regions.

Then they followed the acute group with brain scans every three months. About half of them became chronic and the pain shifted to their emotional centers and their pain region became quiet. In those who become chronic, the shift happened consistently and quickly (3). These circuits are permanent and will become more complex over time. The classic example is phantom limb pain. Over half of patients with amputations will still feel the limb and the pain.



*Disabled man athlete taking a break. Paralympic Sport Concept.*

## Neuroplasticity

It doesn't matter in the slightest how your pain began. Once it is embedded in your brain, it is there permanently. This is a difficult reality. Fortunately, the brain is remarkably adaptable, and you can stimulate it to change, regardless of how long you have been experiencing pain.

We have watched this happen hundreds of times and often in patients that I thought had no chance of improvement. While a few have also needed surgery to correct some obvious structural problems, the vast majority has been able to “rewire” their brains and free themselves from pain. Mainstream medicine seems to be stuck on a paradigm of only making anatomical interventions. However, a recent paper documented that many of the current structural interventions that are done for chronic knee and spine pain are ineffective. Ironically, insurance companies generally do not cover proven, effective treatments for chronic pain.

Even though I routinely witness dramatic turnarounds, there is still a part of me that finds all of this hard to understand. I tend to feel that there is a certain limit as to what is possible, but time after time, I learn the depths of my patients’ strength and the commitment to their progress.

### **A remarkable turnaround**

Recently, a gentleman in his sixties reached out to contact me. He had suffered from severe chronic pain in almost every part of his body for over 20 years. He had undergone 27 surgeries, including six spinal surgeries. He was addicted to high-dose narcotics, had a drinking problem, and at one point in his life, made a serious suicide attempt in order to escape his pain.

Most people in this severe of a situation are not open to new ideas and won’t engage. However, not only is this gentleman currently doing fine without any significant pain, he is thriving. He can hardly contain his excitement. I was dumfounded. What happened?

A few years ago, he had begun to work with a rehab physician who took a similar approach to chronic pain, as I do with the DOC project. The essence of healing is connecting to your own capacity to heal. This allows you to feel safe, which optimizes your body’s chemical profile. You shift from producing stress hormones to ones that allow you to thrive. He had a positive initial response, which gave him some hope.

He then ran across my book and website and engaged with expressive writing, active meditation, and stopped discussing his pain. As he progressed into the forgiveness phase, his pain disappeared. He was stunned, as this was all well beyond his expectations. He told me that he has not felt this good since he was 30 years old.

Chronic pain is curable and anything is possible – be open to the process and make the change!

1. Mansour AR, et al. Chronic pain: The role of learning and brain plasticity. *Restorative Neurology and Neuroscience* (2014); 32: 129-139.
2. Hashmi, JA, et al. Shape shifting pain: chronification of back pain shifts brain representation from nociceptive to emotional circuits. *Brain* (2013); 136: 2751–2768
3. Giesecke T, et al. Evidence of augmented central pain processing in idiopathic chronic low back pain. *Arthritis and Rheumatism* (2004); 50: 613-623.