

Decoding Chronic Pain

by Jeff Williams, DC, FIANM, FABFP



When we think of chronic pain, we think about having pain beyond the point it should have disappeared. The fact is, it is so much more. The technical definition of chronic pain can vary but, in general, it is pain lasting beyond 3-6 months in duration depending on what expert or organization one cites.

Did you realize that chronic pain costs us more than cancer, diabetes, and heart disease globally? In case you didn't catch that, it costs us all more than those huge, very serious conditions **COMBINED**.

It is important to understand that nerves come from the arms and legs (and everywhere else in our bodies) and connect directly to our central nervous system. The central nervous system is made up of the brain and the spinal cord. When information comes in from the arms, legs, or anywhere else, the brain must make decisions about how important those signals really are. As a result, the brain determines whether or not to make it hurt and, if so, how badly it should hurt.

It is vital to appreciate all of these structures are connected to a central nervous system that **remembers previous injuries and threats, imprints them in the limbic system within our brains, and factors them into future decision-making with regard to the pain experience**. This system is constantly trying to predict the likelihood of injury to the mechanical parts, with varying degrees of surveillance, and then alters its tissue sensitivity to best match the perceived danger level.

It is constantly selecting certain movement behaviors over others in order to minimize the chance or risk of injury (also known as learned compensatory movements).

KEY POINT: the brain is what decides whether something makes you hurt.

The **'Pain Experience'** is a protection mechanism and this process is only a small part of the overall 'Pain Experience'.

Chronic pain is due to several things and, as just mentioned, the brain plays the biggest part. Another vital concept with regard to the brain is that of '**Neuroplasticity**'. Don't get bogged down with the term. Let's keep it simple. The term simply means that our nervous system can change in structure and function as it encodes new experiences. This means that not only can injury cause pain but it also means changes in the central nervous system (neuroplasticity) also play an active part in keeping you in pain.

That also means that treatment targeting the central nervous system has the potential to decrease pain and improve function by using neuroplasticity to our advantage.

When we discuss these points with patients, they think we're telling them that their pain is all in their head. That is not the case.

What it means is that our perception of ourselves and our capabilities combine with our past pain experiences. Past pain experiences could include injury and/or surgery. That information combines with what we have been told by doctors about ourselves. For example, "**You have the back of an 80 yr old.**" These factors can pile up to produce what is termed an '**up-regulated**' central nervous system. Some call it a '**sensitized**' central nervous system.

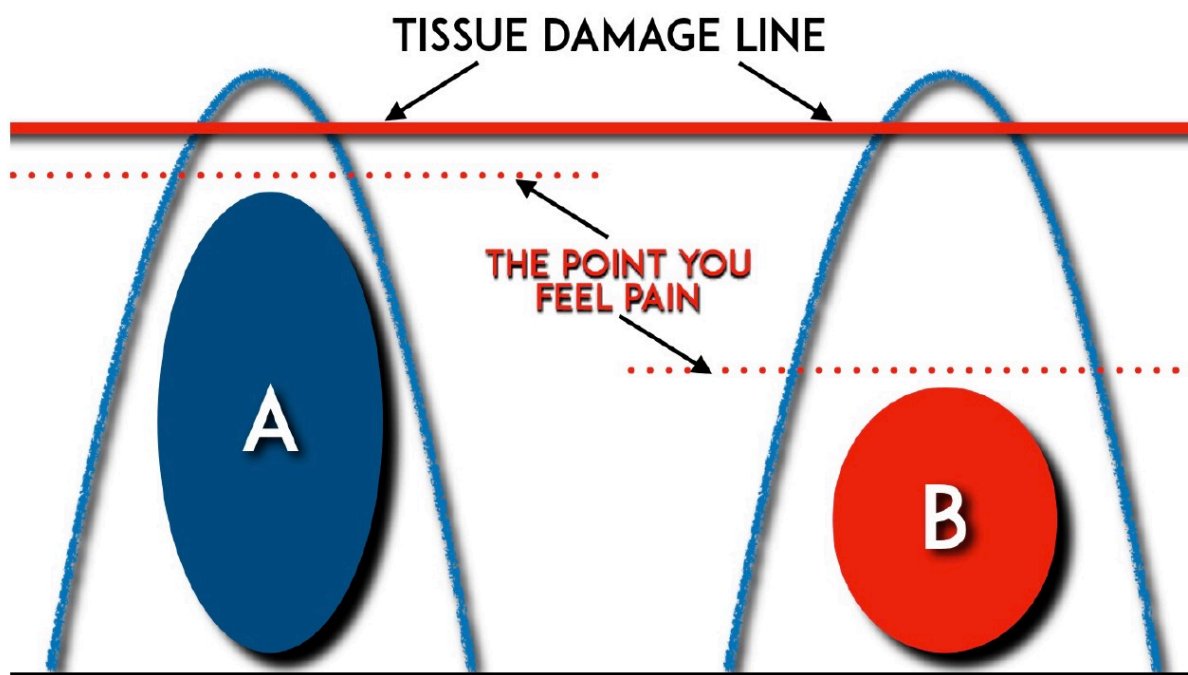
Basically, the volume knob on your pain got cranked up. Now it's too loud and we need to turn the volume back down.



This does **NOT** mean it is all in a person's head. Far from it, in fact. What it means is that your very real pain can be (and most likely is) made worse by your own central nervous system. The central nervous system that is in place to protect you.

Thanks to Dr. Anthony Nicholson and Dr. Matthew Long with Clinical Development International online continuing education, we can put this idea on paper. The image below represents a simplification of the patient pain experience.

THE PAIN EXPERIENCE



The arcs represent your body's total ability. The bold red line is the point of tissue damage. Meaning that you can operate normally until you reach the tissue damage line. If you reach that line or go beyond it, you are likely to tear ligaments, muscles, etc.

The red dotted line represents the **point of pain**. **We reach the point of pain just before we reach the point of tissue damage.** Again, this is our body using pain as a protection mechanism.

If you notice, there is a little bit of space where the arc extends above the tissue damage line. That is the point where you can operate pain-free but you are damaging tissue. This is the space one operates in when they are picking a car up off of a child or performing some superhuman feat.

For most of us mere mortals, we are able to operate normally without a lot of pain as 'A' demonstrates. We have an expansive range wherein we are able to live, work, and play without hurting. If we get too close to tissue damage, we hurt enough to back us off and then we continue to live, work, and play pain-free again

When we enter the realm of chronic pain syndrome, through all sorts of different influences, our pain point (our red dotted line) is moved down. We may have been told we will eventually need surgery no matter what we do to avoid it. We may have seen our parents deal with awful back pain and have a perception that we will suffer

the same malady. Maybe we have had past pain experiences like some sort of prior surgery or an injury from years ago that we still have imprinted firmly in our mind.

In this sort of scenario, your central nervous system moves that red-dotted line down to protect you. It moves it down because you have subconsciously told your body that you need to be protected. Now, as 'B' represents, you have much less space in which you can live, work, and play before you start hurting.

As mentioned before, this is a '**sensitized**' nervous system. Also known as an '**up-regulated**' nervous system. This is when more and more things that do not normally trigger pain are now allowed to pass through to the central nervous system and start causing a painful response.

Now, describing this to patients that are hurting can elicit a couple of big responses. One response is that of **relief**. There is relief that we have helped put a name to the problem. Relief that we have provided a path that just might lead out of pain someday.

The other main response is that of anger. Anger because they believe, as previously mentioned, that we are suggesting their pain is purely in their head. If it's all in their head, then how could they hurt so badly? They also think we are suggesting they are somehow crazy. That could not be further from the truth. There is almost always a real reason for the onset of pain. But, the long-term maintenance of that pain is typically more centralized in the nervous system. That is exactly what chronic pain is. **Chronic pain should be treated with methods that address centralized pain.** Not only with methods that treat pain out in the periphery, as in at the arm or leg.

There are all kinds of ideas on how to treat centralized chronic pain. One physician with some great research and ideas in his arsenal is **Dr. David Hanscom, MD**. Dr. Hanscom is an orthopedic spinal surgeon from Washington State. He has authored a book we highly recommend called '**Back In Control**'. Dr. Hanscom is actually a **spinal** surgeon who just happens to be on the war path against spinal surgery. To be more specific, he is against surgery being performed for the wrong candidate.

He shares a shocking statistic as an example. He cites research showing that, when a chronic pain sufferer undergoes surgery and **EVERYTHING** goes beautifully, the patient will **STILL** experience chronic pain at the new site of surgery in **60% of the cases**.

**That's a 60% failure rate for successful surgeries!
THAT'S a sensitized central nervous system!**

He also has a website we recommend to our chronic pain patients. It can be found at **www.backincontrol.com** where he provides more clarification and therapeutic

ideas. Some ideas are as getting adequate sleep, creative writing, or what he has termed 'active meditation.'

In addition to Dr. Hanscom's book we typically recommend the patient undergo a **broad treatment management strategy**. This broad, multimodal pain management strategy which typically includes spinal manipulative therapy, exercise, massage, and acupuncture combined with medical treatment when appropriate.

Broad multimodal management include **targeted exercise** regimens. Regimens urging **movement**. Movement in ways they have not moved in some time. As patients build confidence in these new movements, **their pain point (red dotted line) begins to rise back up** and the patient begins to have more confidence. That gives them more space to live, work, and play before feeling pain.

It is always important for the patient to **remember the difference in 'hurt' vs. 'harm'**. If an exercise or activity hurts, yet clearly shows improvement, it is likely worth continuing. If an exercise or activity is harmful, it should either be modified or avoided completely. When a patient is recovering, many movements will hurt. That does not mean it is harmful and movement and activity should be continued.

Broad management may also include **medical management, acupuncture, massage, proprioceptive rehab, balance rehab**, as well as **cognitive behavioral therapy**.

Chronic pain syndrome can be difficult for the patient as well as the healthcare provider. The pathways laid down in the nervous system are permanent. That means there will always be work to do in order to stay above the pain and to keep the red-dotted line as high as possible. But, with practitioners that know and understand the complexity of chronic pain and with a toolbox of techniques to help, there is hope and there is a way to begin climbing back out of the hole.

When the patient is a solid teammate, is consistent, and driven to recover, Creek Stone can provide them with every tool and recommendation required to give them the very best chance at a normal life again.

Jeff Williams, DC, FIANM, FABFP

Creek Stone Integrated Medical

3501 SW 45th St., Ste. T

Amarillo, TX 79109

806-355-3000

www.creekstonecare.com



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