Why Chronic Pain is Such a Pain and What You Can Do about It

The pain is in your head.

Seriously, it is.

Knee pain, lower back pain, sciatica pain, and even stomach pain would never exist if it wasn't for the brain.

However, any practitioner who says your pain is in your head without giving you a means to deal with it, shows their ignorance.

Let's explore what is really meant by *"the pain is in your head*".

Pain is the Brain's Way of Protecting You

You are walking without shoes on and suddenly your pinky toe slams into the corner of a wall. Small nerves in your toe called nociceptors send this noxious stimulus (potentially dangerous information) to your spinal cord, which then relays the message to the thalamus of your brain. The brain receives the message that something dangerous has happened in the area of your left pinky toe. At this point, there is a brief pause as your brain decides how to react, and then… ouch! you feel the pain intensify so fast that you can't help but yell.

It hurts, but as you keep moving, it begins to feel better. After 15 minutes, you forget that it even happened. A couple hours later, you go to put your shoes on and… ouch! The pressure on your pinky toe feels as if you stubbed your toe

again. This is a natural protection mechanism called central sensitization that is elicited by the brain to keep you from overusing the damaged tissue as it heals. After a few more days, your pinky toe is back to normal.

This is the stereotypical story of pain and it is referred to as nociceptive pain. The tissue is damaged in some way, the brain receives the signal and creates pain and inflammation for healing, and it heals.

Simple.

It may even sound too simple, and that's because it is.

Pain Is Your Brain's Opinion

> *Pain is an opinion on the organism's state of health rather than a mere reflective response to an injury. There is no direct hotline from pain receptors to 'pain centers' in the brain." – Vilayanur S. Ramachandran, Neuroscientist*

The pain that your brain creates depends on many more factors than just tissue damage. These other factors are what can turn nociceptive pain into chronic pain. For more on brain health, check out *Increase your IQ with the Right Foods, Herbs, Vitamins, and Exercises for Your Brain.*

When Pain Becomes Chronic

Chronic pain is usually defined as pain lasting longer than 12 weeks. There are at least two ways to create chronic pain in the body:

1. Chronic Re-injury

One cause of chronic pain is chronically re-injuring damaged tissues. If you keep stubbing your toe, your toe will never

heal, and you will continue having pain.

Chronic pain with the primary cause being chronic tissue re-injury usually has these attributes:

- There are specific movements that always make the pain worse (ex. it hurts hurts every time the lower back is rounded forward.)
- The pain is consistently in one area, and there is no pain anywhere else.
- The pain slowly gets worse with an increase of demand on the tissues (ex. lifting more than usual or working more often)
- Pain is relieved when the painful tissues are not being used.
- There is inflammation around the site of pain.

If your pain is consistent with these criteria then letting the injured tissue heal will most likely relieve the pain. For this type of chronic pain, it is best seek guidance from a skilled physical therapist that can help provide you with treatments to speed the healing process, exercises to strengthen your body, and lifestyle modifications that relieve your pain.

It makes sense that the brain would create pain in cases of chronic tissue re-injury, but what happens when pain cannot be explained by tissue damage?

2. Chronic Central Sensitization

Central sensitization is one of the processes our body carries out in response to tissue damage. When you stub your toe, your toe (and the tissues around it) becomes hypersensitive to any other stimulus like hot, cold, or pressure, so that your body can heal the damaged tissue without interruption. This is absolutely necessary for your survival because if your body can’t move properly due to damage then you can’t protect

yourself from danger.

However, there is one important caveat to mention – your brain cannot tell the difference between real danger and perceived danger. This means that the mechanism of central sensitization can become active even when there is no tissue damage.

Pain is a Response to Danger, Not Damage

The perception that you have hurt yourself can create a pain response even when there is no real damage.

Here is a perfect example of how the brain does this from the *British Medical Journal* in 1995:

> *A builder aged 29 came to the accident and emergency department having jumped down on to a 15 cm nail. As the smallest movement of the nail was painful he was sedated with fentanyl and midazolam. The nail was then pulled out from below. When his boot was removed a miraculous cure appeared to have taken place. Despite entering proximal to the steel toecap* ***the nail had penetrated between the toes: the foot was entirely uninjured.***

Throughout our daily lives, we tend to do the same thing as the builder. We react to danger when danger is not there, which leads to more pain and tension. If danger begins to paint every moment of our day, it can lead to chronic pain and symptoms of depression like helplessness. This explains why depression has been found to be a better predictor of low back pain than MRI findings.

Another factor that can increase pain sensitivity and make pain chronic is chronic inflammation. Inflammation is necessary for the body to heal damaged cells from the cells of a stubbed toe to the cells that are damaged by toxic exposure.

When the damage becomes chronic so does the inflammation. This only adds to the “DANGER!” messages that the brain is already receiving. Not only does this make pain more intense and stick around longer, it lengthens the healing process as well.

Become Your Own Pain Relief Specialist

Everything you do, you become better at. The longer you are in pain, the better your brain gets at creating the pain.

Luckily, the opposite is true as well. You can reverse and, in most cases, completely relieve chronic pain by practicing these simple pain relief principles:

1. Give Your Brain More Pain-Free Input

Have you ever hit your hand on something and immediately began rubbing it with your other hand? This actually helps, but not in the way you think.

Rubbing our hand when it is in pain feeds our brain with non-threatening information. According to the Gate Control Theory of pain, this stimulation provides enough non-threatening information to the brain that it overwhelms the “DANGER!” signals. In response, your brain decreases pain.

Although relieving pain is more complex than simply giving your brain pain-free information all the time, applying these ideas to chronic pain can be very effective. For example, instead of focusing on what you can’t do because of the pain, focus on things that you can do that you enjoy. This will show your brain that you are not in danger, while you give it more positive information than threatening information.

For the activities that are painful that you can’t do without, try new ways of moving that don’t provoke pain. If this doesn’t work, try the other suggestions on this list before

doing the activities that are normally painful.

2. Stimulate the Parasympathetic Nervous System

Pain is a response to danger. When we experience life as a persistent string of dangerous and uncertain events then our brain will chronically respond with pain and sympathetic nervous system activation. In this state of uncertainty, our brain will not allow our parasympathetic nervous system to activate. This makes it impossible for our bodies to rest, digest, and recover.

The simplest way to activate your parasympathetic nervous system is by breathing. Try letting go of all the air in your lungs for the longest exhale of your life. Inhale through your nose, deep into your abdomen, and finish the breath by letting your rib cage gently expand. Finally, let go of your air once again for an even longer exhale than before.

When you have a nagging pain or even a nagging thought, bring your attention to your breath. This will activate your parasympathetic nervous system and relieve pain and tension.

3. Reduce Chronic Inflammation

In order to reduce inflammation we must be mindful of our diet and environment. Refined foods, sugar, oxidized fats, pesticides, commercial bread products, factory farmed animal products, and other toxic ingredients like aspartame and MSG all damage the cells in our body and lead to inflammation. If we decrease our consumption of these foods, we will be able to stop the accumulation of damage and inflammation. Environmental factors that cause cell damage like polluted air can be removed by using indoor plants like Sansevieria trifasciata laurentii and Areca palm, which have been found to improve air quality and reduce pollution tremendously.

4. Cognitive Functional Therapy

Cognitive functional therapy is one of the most effective treatments for reducing chronic low back pain and is most likely effective for other forms of chronic pain as well. This kind of therapy targets the beliefs and fears of each individual regarding their pain and how it effects their lives.

The first step in cognitive functional therapy is to understand the different causes of pain and how chronic pain can be related more to fear, anxiety, and negative beliefs than actual damage. Motivational interviewing is also used to find new ways of moving and relating to the body that make activities more enjoyable. During this process, the person who has chronic pain gains confidence in themselves because they realize that they are not broken. In fact, their body is strong and adaptable.

Becoming Your Own Cognitive Functional Therapist

To come up with your own solutions right now, make a list with 2 columns.

Label one column “Danger” and the other “Safety”. Under the “Danger” column right down everything that makes your pain worse and everything that makes you feel stressed from a smell to an activity. In the “Safety” column write all the activities or things that you enjoy, feel safe doing, and that don’t create pain. Add more of the things in your “Safety” column to your life while reducing the amount of “Danger” you experience.

If you can’t eliminate specific things in the “Danger” column from your life, try using the other suggestions in this article like breathing. Deep breathing will reduce the amount of danger you feel while you are doing the activity, which will lead to parasympathetic activation and less pain.

For example, is the action of bending over in the “Danger” column because it creates pain? Try taking deep breathes before and while you are bending over, it will most likely feel better.

5. Find a Quality Health Practitioner

If you want some guidance on your journey to becoming pain-free, find a quality health practitioner (physical therapist, doctor, chiropractor, etc.) that meet these criteria:

- They look at the body from a biological, psychological, social, and environmental perspective and how each one can contribute to your pain.
- They make sure you understand what is going on in your body and let you know why they are doing a certain treatment or prescribing a specific exercise.
- They don’t religiously use one modality or another. Instead, they use the appropriate modalities for you.
- After every session, you have a decrease in symptoms, more confidence, and know exactly what to do to progress on your own.
- They admit to you if they cannot help you and refer you to someone who can.

If most of these criteria are met by your health practitioner then you are probably good hands. If you are not sure, then check in with yourself by asking yourself these questions.

- Do you have a clearer understanding of what is going on in your body?
- Are you feeling better than you did before you started seeing that practitioner?
- Do you know what to do to continue the progress on your own?
- If you can’t confidently answer these questions then that practitioner may not be right for you.

Conclusion

Pain is the brain's response to danger, whether it is perceived or real. A real danger like the damage caused by stubbing your toe will provoke a pain and inflammation response that decreases and disappears as the damage is healed. A perceived danger may lead to a pain response as well, but if perceived dangers become chronic, so will the pain.

Chronic pain can be relieved by activating the parasympathetic nervous system, doing more of what you love, moving in different ways that don't provoke pain, reducing chronic inflammation by changing your diet and environment, and removing perceived dangers from your life. If you need guidance, don't hesitate to find a skilled practitioner to help you relieve your pain.

Most importantly, we must remember that we are not damaged goods. Our bodies are strong and adaptable. Just because you feel pain now does not mean that you have to feel pain for the rest of your life.

Related Reading:

- *Mercury Fillings, Root Canals, Cavitations – What You Need to Know*
- *What Causes Chronic Inflammation, and How To Stop It For Good*
- *Understanding Stress, Chronic Stress, and Adrenal Fatigue*
- *Naturally Treat Multiple Sclerosis – Therapies, Diet, Pain Management, Alternative Medicine*
- *How to Cure Lyme Disease and Virtually Any Other Bacterial Infection, Naturally*

Sources:

- *Efficacy of classification-based cognitive functional*

therapy in patients with non-specific chronic low back pain: A randomized controlled trial. – NCBI
- *Pain and Why It Hurts* – University of Washington
- *Three-year incidence of low back pain in an initially asymptomatic cohort: clinical and imaging risk factors.* – NCBI
- *Central sensitization: Implications for the diagnosis and treatment of pain* – NCBI
- *A pain neuromatrix approach to patients with chronic pain.* – NCBI
- *Learned Helplessness in Humans: Critique and Reformulation* – Appalachian State University
- *Is there a link between pain and depression? Can depression cause physical pain?* – Mayo Clinic
- *MRI Reveals Relationship Between Depression And Pain* – Science Daily
- *Longitudinal associations between incident lumbar spine MRI findings and chronic low back pain or radicular symptoms: retrospective analysis of data from the longitudinal assessment of imaging and disability of the back (LAIDBACK).* – NCBI
- *Depression Can Lead To Back Pain* – Science Daily
- *Chronic Pain: Symptoms, Diagnosis, & Treatment* – NIH Medline Plus
- *Pain is Weird* – Pain Science
- *The sympathetic nervous system and pain.* – NCBI
- *A study of interior landscape plants for indoor air pollution abatement* – Archive
- *DIM SIMs* – Noijam
- *Classification based cognitive functional therapy for back pain* – Body in Mind