

When Protection Becomes Pain

A few days ago, I made a video about hyperalgesia.

I attempted to explain, in significantly fewer words than I will use here, how someone with chronic pain may begin to feel more pain from something that was already painful. Not because they are dramatic, imagining it, or secretly trying to ruin everyone's day, but because the nervous system can actually become more sensitive.

Afterward, I kept thinking about it.

Not only about chronic pain, but about how often the brain seems to do something similar in the rest of our lives.

I thought about how one person can make an innocent comment and, somehow, your brain hears an entirely different sentence. I thought about how a delayed text can feel like rejection when you have been abandoned before. I thought about how someone can raise their voice only slightly, but your entire body reacts as though something terrible is about to happen.

How can one small thing feel so big?

First, the pain science.

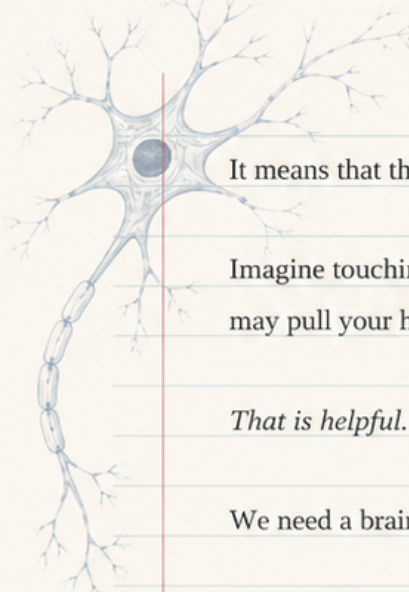
Hyperalgesia is defined as increased pain from a stimulus that is already normally painful.¹ Basically, something that should hurt a little hurts much more. This can occur alongside changes in how the nervous system processes painful information. Researchers use the term central sensitization to describe an increased responsiveness of pain processing neurons in the central nervous system.²

In significantly less scientific language, the volume is turned up.

The pain is real. The person is truly experiencing more of it. However, the intensity of the pain may no longer correspond perfectly with the amount of injury or damage occurring in that exact moment.

This does not mean the pain is "all in their head."

Technically, all pain involves the brain, but I will save that argument for another day.



It means that the nervous system learned to become protective.

Imagine touching a hot stove. Your brain should remember that. The next time you reach toward the stove, you may pull your hand away before consciously checking whether it is even turned on.

That is helpful.

We need a brain that learns from danger.

However, what happens when the nervous system becomes so good at protecting us that it begins sounding the alarm before an actual threat has been established?

This is where I started thinking about emotional trauma.

To be scientifically accurate, hyperalgesia is a pain term. The mental response following trauma is more commonly discussed through terms such as hypervigilance, hyperarousal, and attentional bias toward threat. These are not the exact same mechanism, so I am not arguing that emotional trauma and chronic pain are interchangeable.

I am saying that there is a fascinating similarity between them.

After trauma, the brain may become increasingly attentive to possible danger. Research involving people with posttraumatic stress disorder has found altered attention toward threatening information.³ One influential model of PTSD proposes that symptoms can persist when the trauma is processed in a way that creates a continuing sense of current threat, even though the original event is over.⁴

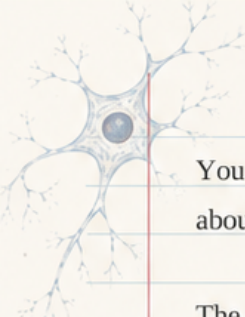
Current threat.

I think those words explain so much.

A person may not only remember what happened. Their brain may continue searching for evidence that it is happening again.

One person betrayed you, and now you inspect every pause, facial expression, and slightly unusual text from someone new.

You spent years around unpredictable anger, and now you can identify a shift in the atmosphere of a room before anyone else notices it.



You were humiliated once, and now one harmless laugh across the room feels suspiciously like it could be about you.

The original pain taught the brain what to look for.

Now it looks everywhere.

Again, this is protective. Or, at least, it began that way.

The brain does not want to wait until betrayal, humiliation, violence, or loss happens again. It would rather warn you too early than recognize the danger too late.

So, it turns up the sensitivity.

In chronic pain, a nervous system may respond more intensely to painful input. After trauma, a person may respond more intensely to something that resembles an earlier threat.

The pressure is real.

The tone did change.

The text did take longer than usual.

However, the reaction may contain more than what is happening in the present. It may also contain everything the brain learned from the past.

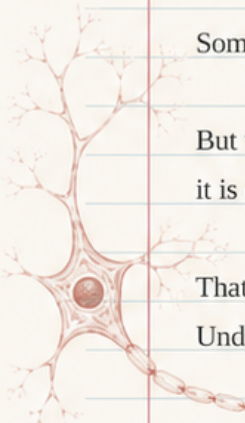
I think we are often cruel to ourselves for this.

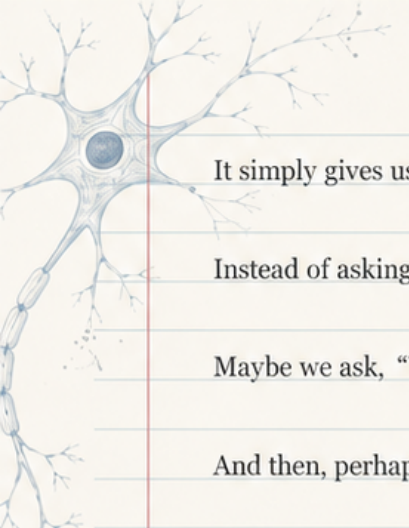
We call ourselves dramatic. Too sensitive. Difficult. Irrational.

Sometimes other people call us those things first.

But what if sensitivity is not always evidence that something is wrong with our character? What if, sometimes, it is evidence that our nervous system learned its lesson a little too well?

That does not mean every reaction is accurate. It does not mean we should allow fear to make every decision. Understanding why a response exists is not the same as surrendering our lives to it.





It simply gives us somewhere more compassionate to begin.

Instead of asking, "Why am I like this?"

Maybe we ask, "What did my brain learn to protect me from?"

And then, perhaps, "Is that protection still necessary here?"

The nervous system learned through experience, which means new experiences may matter too.

A movement that ends safely.

A disagreement that does not become abandonment.

A mistake that does not end in humiliation.

A relationship where honesty is not punished.

One experience will probably not undo years of learning. The brain is annoyingly committed to its evidence. But each safe experience can offer new information.

Maybe healing is not forgetting the danger.

Maybe it is slowly teaching the brain that danger is no longer the only possible ending.

This is the beginning of a new series in The Lab.

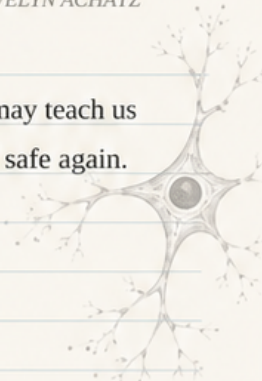
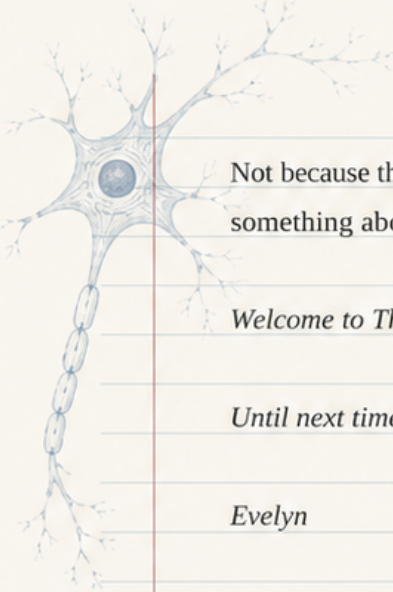
Here, I want to explore the science that appears in places we do not always think to look for it. Not only in journals, laboratories, and brain imaging, but in our relationships, our habits, our fears, our faith, and the ordinary moments that somehow feel much larger than they appear.

We will talk about chronic pain and emotional pain.

Avoidance after injury and avoidance after heartbreak.

Pain memories and emotional triggers.

Why the body braces before movement and why the mind braces before love.



Not because these experiences are scientifically identical, but because studying them together may teach us something about the way human beings learn, protect themselves, and eventually begin to feel safe again.

Welcome to The Lab.

Until next time,

Evelyn

References

1. International Association for the Study of Pain. IASP Terminology. Hyperalgesia is defined as increased pain from a stimulus that normally provokes pain. (IASP)
2. Woolf CJ. Central sensitization: implications for the diagnosis and treatment of pain. *Pain*. 2011;152(3 Suppl):S2–S15. Central sensitization can produce pain hypersensitivity, including secondary hyperalgesia and enhanced temporal summation. (PubMed)
3. Lazarov A, et al. Attention to threat in posttraumatic stress disorder as indexed by eye tracking: a systematic review. *Psychological Medicine*. 2019;49(5):705–726. (PubMed)
4. Ehlers A, Clark DM. A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*. 2000;38(4):319–345. The model proposes that persistent PTSD involves processing trauma in a way that creates a sense of serious current threat. (PubMed)