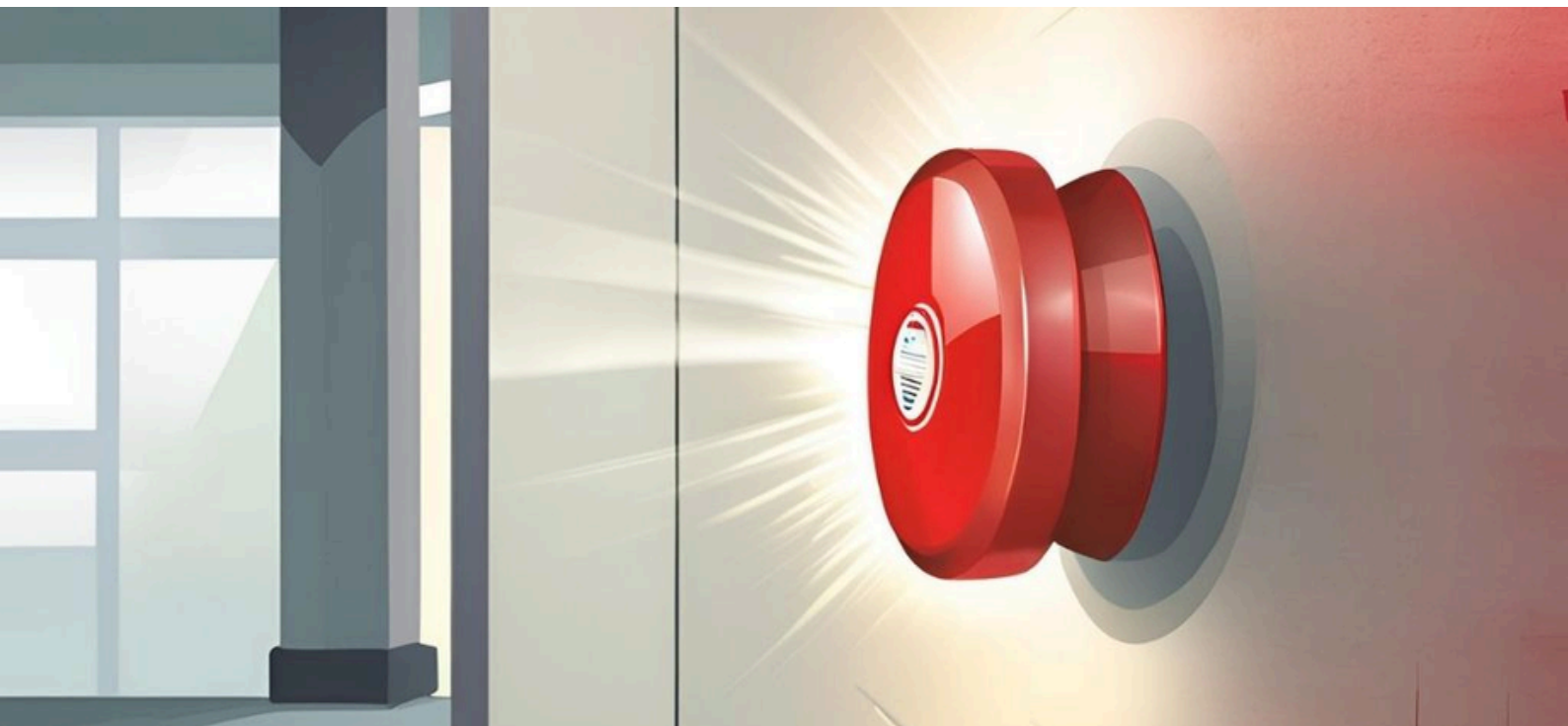


Resource 1: What is Pain?

First of all, your pain is real. If you've ever been told that it's "all in your head" or made to feel like it's not significant, know that you're not alone. Many people with ongoing pain have been dismissed or told that there's nothing wrong with them, but we understand how real and devastating your pain can be. We believe you, all pain is real, but also progress in pain management means we are seeing more and more people learn to manage and control their pain much better than in years gone by. This is your journey, and you set the course.

What is pain?

Pain is our body's natural protective mechanism and is vitally important – like an alarm system designed to protect us. For example, if we accidentally touch a hot frying pan, specific neurons are stimulated which send signals to our brain. These messages are interpreted in the brain, and the output is pain. This unpleasant sensation prompts us to quickly move our hand away, preventing further injury. This process, called nociception, is crucial for our safety. But it's more complicated than just a simple input-output system, because we are complex beings, not machines.

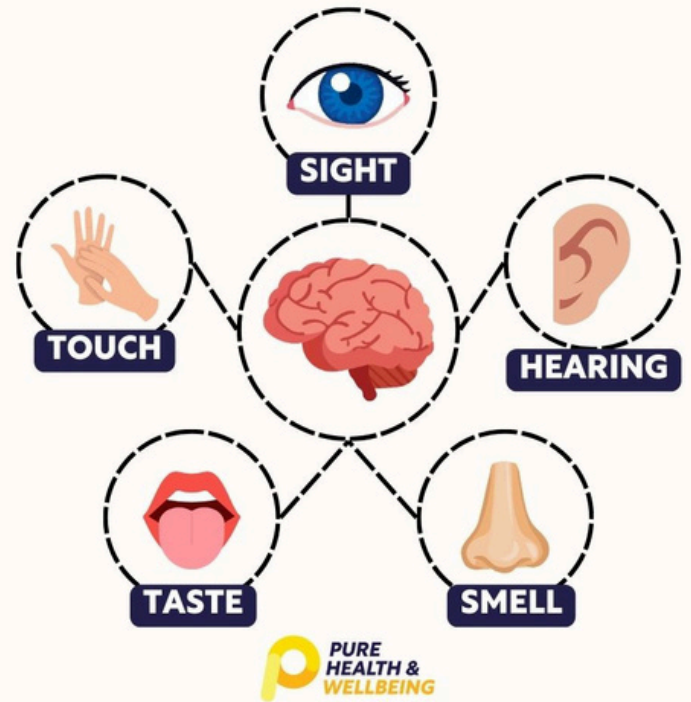


So, the messages into our brain are the input, but the actual experience of pain is an output – a result of how our brain perceives the threat.

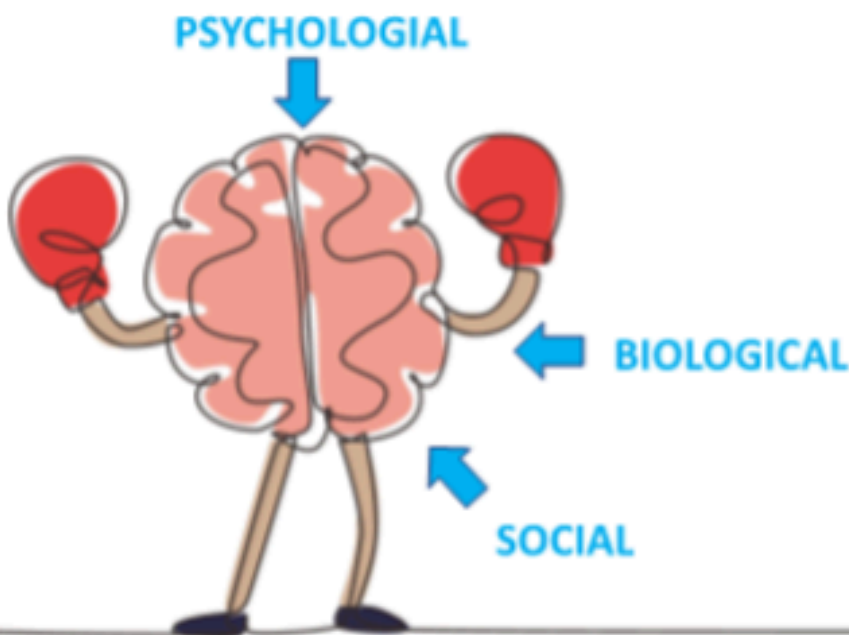
We can think of pain as one of our senses, or our "6th sense"! When we see, hear, taste, smell or touch we have a sensory input which is then processed in the brain. Pain is no different to this.

Since pain is our brain's perception of danger, it is influenced by many factors. Our past experiences, emotions, and beliefs all contribute to how much of a threat we perceive and, therefore, how much pain we feel. Pain is a deeply human experience that responds to all aspects of our internal and external environments. This means that every person's pain is different, individual, and unique to each person.

Five Senses



The Protective Brain



Biopsychosocial inputs



The Over-Protective Brain → Unhelpful Pain

Many things can influence pain and if we feel threatened, depressed, or are grieving, our pain system or alarm system may try to tell us there is a threat. This can be expressed as pain or amplify our sensation of pain.

Over the past century, our understanding of how emotions, expectations, and beliefs affect pain has grown significantly. During World War II, a surgeon called Dr Beecher studied 225 severely wounded soldiers in a military hospital in Italy who were awaiting transport home. He found that, despite their serious injuries, $\frac{3}{4}$ of them experienced very little pain and didn't need pain relief.

Beecher concluded that the best explanation for the men's lack of pain involved their emotional state. They were not suffering because their wounds represented an escape "from an exceedingly dangerous environment, one filled with fatigue, discomfort, anxiety, fear and real danger of death," and their injuries provided them with "a ticket to the safety of the hospital".

Beecher later went on to discover the placebo effect. In a shortage of morphine, he gave his patients a saline solution but told them it was morphine. Remarkably, 40% reported less pain, highlighting the power of expectation.

The placebo effect is now well known, and more research has shown that, among other things, our expectation has a key role to play – when we believe a treatment will work, it is more likely to reduce pain!



Another example of pain's complexity is phantom limb pain, where someone feels intense pain in a limb that's been amputated. Even though the limb is gone, the pain is very real to the person experiencing it.



While we still don't fully understand everything about pain, we do know that it is influenced by our emotions, beliefs, and experiences. Think about a time when you were anxious or frightened... how did you respond physically? Sweaty palms, butterflies in your stomach... These physical reactions are clear signs that our minds and bodies are connected, and pain operates in a similar way.

We know that pain can also be influenced by sleep, nutrition, stress, anxiety, depression, and many other factors. The good news is that by understanding these influences, we can learn ways to positively impact our pain.

In summary, pain is:

- **A protective mechanism that alerts us to danger**
- **Processed in the brain**
- **A personal perception of threat, often a response to that threat**
- **Influenced by various factors**

Can you think of anything that might have influenced your pain when it started, or more recently?

Starting to reflect on our pain and some things that may have influenced our pain along our journey can be really useful and sometimes eye opening.

Over the following pages we will explore myths associated with pain and learn the differences between acute pain and chronic pain (pain which has been present for more than 3 months).