



Phantom Limb Pain: Hypnosis helps decrease pain by helping the brain adjust to the new territory

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Diane's story

The diagnosis of phantom limb pain did nothing to lessen the agonising shock-like sensations that Diane felt in the area where her leg used to be. Unable to sleep peacefully and on a cocktail of strong drugs she was exhausted when she first came to see me.

As she related the horror of the accident and subsequent amputation, it was her extraordinary optimism and sense of humour that radiated through. Her determination to survive was evident from the beginning. After a motorbike accident in Bali, an island in Indonesia, no one would take her to hospital because of the belief that blood carries bad spirits. A hefty bribe ensured that she got there but there were only minutes to spare. Over the following two weeks gangrene set in and the limb was amputated.

Five months on, the phantom limb pain was made barely tolerable by the drugs, though in Bali she had experienced profound relief through acupuncture. Back in the UK, her indomitable strength and open mind led her to explore more acupuncture and hypnosis.

Phantom limb pain is common in amputees

Diane's symptoms were not unusual. Phantom limb pain is more commonly associated with lower limb loss through surgery or trauma, but has been reported after the loss of a breast, ear, testicle and even organs that have been surgically removed.

Sensations are commonly described as shooting, cramping, burning or stabbing pains and these should be distinguished from stump pain that is local to the site of amputation. This is commonly caused by neuromas that grow in response to the nerve endings reaching out to try to find the other side of the cut.

What causes phantom limb pain?

No one could tell Diane what caused her phantom limb pain but there are several medical lines of thought

- Peripheral nerve dysfunction
- Spinal cord dysfunction
- The brain having to adjust its feedback system as its territory changes.

It is the latter that seems to hold the key to understanding why hypnosis can help phantom limb pain sufferers. The area of the brain that is responsible for a limb may receive information from other areas after amputation. This is called cortical remapping. And it may go some way to explain why sufferers feel increased phantom limb sensation from touching part of the face. For in the brain, the regions are very close.

Maps of the body are in the brain

Dr Ramachandran looked at a possible mapping of the body on the brain. His book *Phantoms in the Brain* describes how different areas of the body are governed by different parts of the brain. In this book, Ramachandran also describes a mirror box which reflects the remaining hand making the other hand appear still present. This reliably reduced phantom limb pain in hand amputees, indicating that the visual pathway was enough to convince the brain that its territory was undisturbed.

Hypnosis to reshape the brain's instinctive behaviour after losing a limb

If our brains are hard wired to expect a hand on the end of an arm, a leg below the hip, then it makes sense that when the body part is suddenly not there, the brain struggles to make sense of that.

As hypnosis works on the part of the brain that creates and reevaluates instinctive patterns, it makes sense that it can change these behavioural templates. There have been many studies done showing a hypnotised person overriding normal functioning. People can bypass the normal pain mechanisms and undergo operations without anaesthesia. Hypnosis has also been shown to help burns heal faster.

The brain's expectation plays a key part in behaviour and sensation, so when a client who is dreading a future exam has an experience under hypnosis of doing that exam whilst feeling relaxed and having great recall, he is likely then to go on and have that experience in real life.

When Diane had the hypnotic experience of her brain making a new map of her body with the new boundaries, she had a substantial decrease in her phantom limb pain.

Diane also had post traumatic stress disorder: this can exacerbate pain.

When Diane thought about the accident she felt very anxious, and was clearly suffering from post traumatic stress disorder. This is a condition in which the memory of an event continues to be processed by the brain as threatening, triggering the anxiety reaction again and again.

This fight or flight response is an ancient survival mechanism designed to get the body ready to defend itself or run away from perceived danger. The fear that causes the huge release of adrenalin into the body can be imagined or real. The rational part of the brain is bypassed as our body is directed to act instinctively to the threat.

For some, a traumatic event will cause natural distress and shock as the limbic system tries to deal with it, but over a period of days or weeks the brain will transfer the thinking about the event to the neo cortex. Once it can be processed here it becomes a memory that does not trigger the stress response.

Diane's brain kept replaying that accident as if it was yesterday. Every time it did this adrenalin flooded her system, causing sleeplessness, worry, pain and panic. Her brain was behaving as if she were under constant threat.

A reliable technique that gets rid of PTSD in one session, bringing instant relief

The Rewind Technique is amazingly effective for removing PTSD or phobic symptoms quickly. It reduced Diane's anxiety when she thought about the accident from the top of the scale at 10 to around 1 or 2. She reported that she was generally more relaxed afterwards when walking around the streets or heard a motorbike. Not only did she sleep more deeply but found that her energy levels increased as the days went by.

When relaxed, the body produces natural pain killers

Endorphins are produced when the body is relaxed; they can close pain gates and allow the immune system to work more effectively. In hypnosis a person is deeply relaxed and Diane soon noticed the benefits of this.

Key points

- An accident or pain prior to an amputation can cause PTSD. This must be dealt with as a priority whether phantom limb pain is present or not. PTSD causes sleeplessness, flashbacks and stress, all of which contribute to the experience of pain.
- Relaxation is key to good sleep and a healthy immune system. Sleep in turn speeds the recovery and healing process.
- To relieve phantom limb pain, the brain must map the new territory, yet still be able to function with the prosthetic.

The precise cause of phantom limb pain is not fully understood, but in my work with Diane I saw the immense relief that hypnosis bought. A calm mind that was able to remap the boundaries of her body changed her experience completely.

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