



Royal Orthopaedic Hospital NHS Foundation Trust Patient Information

# Phantom Limb Pain

Welcome to the Royal Orthopaedic Hospital (ROH).  
For further information please visit [www.roh.nhs.uk](http://www.roh.nhs.uk)

## What is phantom limb pain?

It is normal to feel that the limb you have lost is still there. Almost everyone feels this so called **phantom limb**. Usually these sensations are felt as soon as the anaesthetic wears off, though it may take time (even weeks) for them to appear. Sensations may change and fade in time, or they may continue for years, even a lifetime.

Everyone's experience is unique to them, though there are some common experiences. Your phantom limb may feel stuck in a fixed position or it may move independently, the movement may be appropriate (eg: reaching out for something) or quite random. Your limb may feel bigger or smaller, it may be in a natural position or an impossible position. It is often in a similar position to when you last saw it and if your limb was painful before amputation, this can be associated with phantom limb pain.

No-one really understands exactly what causes phantom limb pain. It has been suggested it may be caused by changes in the residual limb or in the central nervous system. However, this doesn't really explain why the sensations seem to come from the space occupied by the missing limb.

## What causes phantom limb pain?

The brain is ultimately responsible for creating all of our experiences, including our sensations of movement, pain and touch. We know that losing a limb is associated with changes in the brain. Neurologist V.S. Ramachandran found that using a mirror to create an illusion of the missing limb moving often relieves phantom limb pain.

It is thought that when the brain is 'starved' of feedback from a missing limb, it sends a painful message to get you to move it. This may be why tricking the brain with feedback that the limb is moving stops the brain sending pain messages, at least for a while and is useful addition to painkillers in managing phantom limb pain.

### Managing phantom limb pain

Jack Tsao guiding a patient to use Mirror Therapy.

As much as possible the limb reflected in the mirror needs to align with where the phantom limb is felt to be. This is not possible if the phantom limb is in a bizarre position. Then in moving the remaining limb, the phantom limb appears to move too.

It can be a very emotional experience to apparently see the missing limb again. Some people say it is as if the limb is “plugged back in.”



### Using "Guided Imagery"

Guided Imagery uses the “mind’s eye” to achieve the same illusion. It has been theorised that mirror neurons in the brain create this helpful effect.

You can do this by relaxing deeply (which in itself is known to be helpful in reducing all kinds of pain) and imagining all the sensations of the limb moving, in as much detail as you can. You can also imagine soothing pain by anything you feel might help, such as imagining a burning sensation being soothed by cool waves of water. It is a skill you can use anywhere.

**Carol Hughes**  
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