

## **Phantom Limb Pain / Stump Pain**

**Overview:** Research shows virtually everyone who undergoes an amputation of an extremity will describe some measure of phantom limb sensation. These are sensory illusions giving the person a sense that the missing limb is still present. The underlying cause of this disorder is not known. However, doctors suspect it may be linked to parts of the central nervous system that retain the memory of the limb before it was amputated. In many cases, the experience is not particularly troublesome and over time the sensation fades. For other patients, the phantom limb sensations become a source of severe pain that can persist for months or years. People who suffered a sudden traumatic amputation or those who have complications following a surgical amputation, are more likely to suffer from this syndrome. The intensity and quality of phantom limb pain are not the same for everybody. The patient may indicate they feel a lengthening or shortening of the phantom limb and its pain.

**Diagnosis:** Doctors often find during a physical examination of a patient with phantom limb pain that the stump is tender and there is deterioration of tissue around the wound at the tip of the stump. Patients with phantom limb pain may have neuromas or abnormal clusters of nerve cells at the ends of the nerves that have been cut during the amputation. Patients with significant stump pain may respond to diagnostic and therapeutic nerve blocks or injections of anesthetic medication around the painful structures. Phantom limb pain may also respond to nerve blocks used diagnostically to help reduce the irritability of the nerves that lead from the spine to the painful limb.

**Treatment:** The treatment of phantom limb pain should focus on correcting underlying predisposing conditions, including the development of neuromas or painful bone spurs in the stump. Some of the effects of phantom limb pain can be alleviated with the use of oral medications, which help reduce pain from nerves. The patients are usually started on a low dose and gradually given larger doses to provide the best overall results. Traditional pain medications and nonsteroidal anti-inflammatory agents have a limited use when prescribed in conjunction with other therapies. Nerve block treatments can be extremely valuable for stump pain and phantom limb pain. Injections of anesthetics with anti-inflammatory medications around the painful areas of stump neuromas can provide long-term relief in selected patients. Epidural injections or sympathetic blocks containing anesthetics, sometimes in conjunction with anti-inflammatory or pain medications, can be used in the treatment of phantom limb pain. These injections are usually performed near the spine where the nerves originate. These injections are usually given in a short series over several weeks until the symptoms subside or a plateau is reached. Research shows treatment of stump pain occurring immediately after the amputation can be effective in preventing the development of long-term phantom limb pain. This treatment is often performed through a continuous epidural infusion, through a catheter placed either before or immediately after surgery. Earlier placement seems to be more effective. For some patients surgery is considered in order to remove the painful neuromas at the tip of the stump or to revise the scar at the end of the stump. Rehabilitation efforts to desensitize the painful area, including physical therapy methods, are sometimes utilized.

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For patients who have severe pain affecting their ability to perform daily life activities, a combination of physical therapy and behavioral therapy can be utilized. Patients may be asked to complete broad examinations to help determine physical and mental statuses in order to determine what type of behavior modification will be most helpful. Most often patients will find counseling, biofeedback and relaxation techniques the most beneficial.