

FACT SHEET

Percutaneous Electrical Nerve Stimulation (PENS)



WHAT IS IT?

Percutaneous Electrical Nerve Stimulation (PENS) therapy is designed to manage a range of chronic peripheral neuropathic pain, including areas of hypersensitivity, various types of headache, and chronic post-surgical pain.

The PENS procedure is a minimally invasive, totally reversible and painless procedure. Treatment involves electrical stimulation targeting nervous tissue. The treatment is very effective, providing medication-free pain relief. The other benefit, is that treatment prompts the nervous system into healing itself, thereby magnifying the pain relief effect.

WHAT CONDITIONS DOES IT TREAT?

Those who will benefit for PENS treatment are patients who experience significant chronic pain, that is specifically peripheral neuropathic in nature. Many patients report greatly reduced pain levels after treatment. Patients who also find medication, or TENS ineffective, often find PENS beneficial.

HOW DOES IT WORK?

PENS therapy delivers low-voltage electrical current to the fatty tissue just below the skin, in the vicinity of a specific nerve, or to the nerve endings situated in the local area. This electrical stimulation alters the state of the nerves, inducing a pain-relieving effect.

The treatment will help your doctor determine whether electrical stimulation treatment will be of benefit to you. Treatment may be a single diagnostic treatment, a couple of treatments, or ongoing.

WHAT HAPPENS DURING THE PROCEDURE?

PENS therapy is performed under sterile conditions in an operating theatre using mild sedation and local anaesthetics. One or two thin probes (long needles) will be inserted under your skin – either near the affected nerve, or in the fatty layer underneath the painful area. Sometimes, it may be necessary to make a tiny incision to place the needle.

REFERENCES

Raphael J, Raheem T, Southall J, Bennett A, Ashford R, Williams S. Randomized Double-Blind Sham-Controlled Crossover Study of Short-Term Effect of Percutaneous Electrical Nerve Stimulation in Neuropathic Pain. *Pain Medicine*. 2011;12(10):1515-1522. doi:10.1111/j.1526-4637.2011.01215.x.

Electrical stimulation is then delivered to the affected area through the probes. This stimulation lasts for 25 minutes and is reasonably pleasant. You may feel a slight tingling or tapping sensation at or around the treatment site. Sometimes you may not feel anything at all.

WILL PENS THERAPY HELP MY PAIN?

Like all treatments, success of PENS therapy for pain relief varies from patient to patient. A single treatment may result in pain relief that lasts from a few hours to a few months, although it's not unusual for the patient to report total pain relief.

Studies have shown PENS therapy to be effective in providing short-term pain relief in chronic pain conditions. For the active PENS therapies, the median numerical rating scale (NRS) for pain changed from 7.5 (standard deviation [SD] ± 1) (range 6-10) before therapy to 0.5 (range 0-8.5) after therapy.¹

Relief may be immediate, or it may take a few days before there is any noticeable difference in your pain levels.

Following the procedure, you'll be encouraged to keep a daily diary to track your pain levels throughout the day. A commonly-used pain scale rates pain from 0 to 10. Zero (0/10) indicates no pain while 10/10 indicates pain that is almost unbearable. At 10/10 a person can't think, move or function at all. You should also report whether this pain rating is better, worse, or unchanged from the pain you experienced before treatment.

Sometimes, you may need repeated treatments in order to sustain your pain relief. Unfortunately, like all treatments, PENS therapy doesn't work for everyone.

ARE THERE SIDE EFFECTS?

The PENS procedure has very few side effects or risks associated with it, but some may include:

- Allergic reaction to the medications used in the procedure or sedation is possible but can be treated on the day: nausea is not uncommon following sedation.
- Infection is extremely unlikely with the possibility minimised by the use of sterile techniques in an operating theatre. The needles are all disposable.
- You may also experience bruising at the site of the needle entry.

Sometimes, patients experience a slight increase in their pain levels. However, this usually returns to normal or subsides.

Because PENS involves electrical stimulation, it shouldn't be used on patients with epilepsy, heart disease, pregnant women or children. Patients taking blood-thinning medication should also avoid PENS treatment.

For more information

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