

Neuropathic Pain

Introduction

Neuropathic pain ('neuralgia') is a pain that comes from nerve problems. There are various causes. It is different to the common type of pain that is due to an injury, burn, pressure, etc. Traditional painkillers such as paracetamol, anti-inflammatories, codeine, morphine, etc, may help, but often do not help very much. However, neuropathic pain is often eased by antidepressant or anti-epileptic medicines - by an action that is separate to their action on depression and epilepsy. Other pain relieving techniques are sometimes used.

What is neuropathic pain?

Pain is broadly divided into two types - nociceptive pain and neuropathic pain.

Nociceptive pain - This is the type of pain that all people have had at some point. It is caused by actual, or potential damage to tissues. For example, a cut, a burn, an injury, pressure or force from outside the body, or pressure from inside the body (for example, from a tumour) can all cause nociceptive pain. The reason we feel pain in these situations is because tiny nerve endings become activated or damaged by the injury, and this sends pain messages to the brain via nerves. Nociceptive pain tends to be described as sharp or aching. It also tends to be eased well by 'traditional' painkillers such as paracetamol, anti-inflammatory painkillers, codeine, morphine, etc.

Neuropathic pain - This type of pain is caused by a problem with one or more nerves themselves. There is often no 'injury' or tissue damage that triggers the pain. However, the function of the nerve is affected in a way that sends pain messages to the brain. Neuropathic pain is often described as burning, stabbing, shooting, aching, or like an 'electric-shock'. Neuropathic pain is less likely than nociceptive pain to be helped by traditional painkillers. However, other types of medicines often work well to ease the pain (see below). The rest of this leaflet is just about neuropathic pain.

What causes neuropathic pain?

Various conditions can affect nerves and may cause neuropathic pain as one of the features of the condition. These include the following:-

- Trigeminal neuralgia
- Post herpetic neuralgia (pain following shingles)
- Diabetic neuropathy—a nerve disorder that develops in some people with diabetes
- Phantom limb pain following an amputation.
- Multiple sclerosis
- Pain following chemotherapy
- HIV infection
- Alcoholism
- Cancer
- Atypical facial pain

- Various other uncommon nerve disorders
- Infiltration or compression of nerves by a tumour

Note: you can have nociceptive pain and neuropathic pain at the same time, sometimes caused by the same condition. For example, you may develop nociceptive pain and neuropathic pain from certain cancers.

More about the nature of neuropathic pain

Related to the pain there may also be

- **Allodynia.** This means that the pain comes on, or gets worse, with a touch or stimulus that would not normally cause pain. For example, a slight touch on the face may trigger pain if you have trigeminal neuralgia, or the pressure of the bedclothes may trigger pain if you have diabetic neuropathy.
- **Hyperalgesia.** This means that you get severe pain from a stimulus or touch that would normally cause only slight discomfort. For example, a mild prod on the painful area may cause intense pain.
- **Paresthesia.** This means that you get unpleasant or painful feelings even when there is nothing touching you, and no stimulus. For example, you may have painful pins and needles, or electric shock like sensations.

In addition to the pain itself, the impact that the pain has on your life may be just as important. For example, the pain may lead to disturbed sleep, anxiety and depression.

How common is neuropathic pain?

It is estimated that about 1 in 100 people in the UK have persistent (chronic) neuropathic pain. It is much more common in older people who are more prone to developing the conditions listed above.

What is the treatment for neuropathic pain?

Treatments include

- Treating the underlying cause - if possible
- Medicines
- Physical treatments
- Psychological treatments

Treating the underlying cause

If this is possible, it may help to ease the pain. For example, if you have diabetic neuropathy then good control of the diabetes may help to ease the condition. If you have cancer, if this can be treated then this may ease the pain. Note: the severity of the pain often does not correspond with the seriousness of the underlying condition. For example, postherpetic neuralgia (pain after shingles) can cause a severe pain, even though there is no rash or signs of infection remaining.

Medicines used to treat neuropathic pain

Painkillers - The usual 'traditional' painkillers may be tried at first such as paracetamol, anti-inflammatory painkillers, codeine, morphine, etc. These may help. If they do not, or only partially help, then an antidepressant or anticonvulsant medicine is usually advised.

Antidepressant medicines - An antidepressant medicine in the 'tricyclic' group is a common treatment for neuropathic pain. It is not used here to treat depression. Tricyclic antidepressants ease neuropathic pain separate to their action on depression. It is thought that they work by interfering with the way nerve impulses are transmitted. There are several tricyclic antidepressants, but amitriptyline is the one most commonly used for neuralgic pain. In many cases the pain is stopped, or greatly eased, by amitriptyline. Imipramine and nortriptyline are other tricyclic antidepressants that are sometimes used to treat neuropathic pain. A tricyclic antidepressant may ease the pain within a few days, but it may take 2-3 weeks. It can take several weeks before you get maximum benefit. Some people give up on their treatment too early. It is best to persevere for at least 4-6 weeks to see how well the antidepressant is working. Tricyclic antidepressants sometimes cause drowsiness as a side-effect. This often eases in time. To try and avoid drowsiness, a low dose is usually started at first, and then built up gradually if needed. A dry mouth is another common side-effect. Frequent sips of water may help with a dry mouth. See the leaflet that comes with the medicine packet for a full list of possible side-effects.

Anti-epileptic medicines (anticonvulsants) - An anti-epileptic medicine is an alternative to an antidepressant. For example, gabapentin, pregabalin, sodium valproate, and carbamazepine. These medicines are commonly used to treat epilepsy but they have also been found to ease nerve pain. An anti-epileptic medicine can stop nerve impulses causing pains separate to its action on preventing epileptic seizures. As with antidepressants, a low dose is usually started at first and built up gradually if needed. It may take several weeks for maximum effect as the dose is gradually increased.

Sometimes both an antidepressant and an anti-epileptic medicine are taken if either alone does not work very well. Sometimes a traditional painkiller such as codeine is combined with an antidepressant or an anti-epileptic medicine. As they work in different ways they may compliment each other and have an additive effect on easing pain better than either alone.

Capsaicin cream - This is sometimes used to ease pain if the above medicines do not help, or cannot be used because of problems or side-effects. Capsaicin is thought to work by blocking nerves from sending pain messages. Capsaicin cream is applied 3-4 times a day. It can take up to 10 days for a good pain relieving effect to occur. Capsaicin can cause an intense burning feeling when it is applied. In particular, if it is used less than 3-4 times a day, or if it is applied just after taking a hot bath or shower. However, this side-effect tends to ease off with regular use. Capsaicin cream should not be applied to broken or inflamed skin. Wash your hands immediately after applying capsaicin cream.

Other drugs - Some other medicines are sometimes used on the advice of a specialist in a pain clinic. These may be an option if the above medicines do not help. For example, ketamine injections. Ketamine is normally used as an anaesthetic, but at low doses can have a pain relieving effect.

Physical treatments

Depending on the site and cause of the pain, a specialist in a pain clinic may advise one or more physical treatments. These include -

- Physiotherapy
- Acupuncture
- A TENS machine (Transcutaneous Electrical Nerve Stimulation)
- Nerve blocks with injected local anaesthetics
- Spinal cord stimulation

Psychological treatments

Pain can be made worse by stress, anxiety and depression. Also, the perception ('feeling') of pain can vary depending on how we react to our pain and circumstances. Where relevant, treatment for anxiety or depression may help. Also, treatments such as stress management, counselling, cognitive behaviour therapy, and pain management programmes sometimes have a role in helping people with chronic (persistent) neuropathic pain.