

Damage to nerves in hands and feet (peripheral neuropathy)

This factsheet gives information about peripheral neuropathy. This is damage to the nerves, especially in your hands and feet. There are many different causes of peripheral neuropathy. This factsheet only discusses ones related to cancer. If you have any other queries or concerns about it, please contact the National Cancer Helpline 1800 200 700 or speak to your cancer doctor or nurse.

What is peripheral neuropathy?

Peripheral neuropathy is damage to your peripheral nerves. The damage is mainly in the nerves to the hands and feet. The peripheral nerves are part of your nervous system.

What is the nervous system?

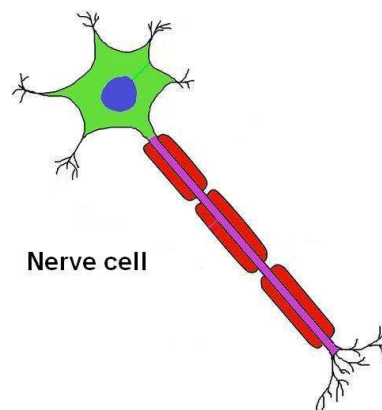
Your nervous system is made up of the central nervous system (CNS) and peripheral nervous system (PNS). The brain and spinal cord make up the CNS, whereas the PNS is a series of nerves that run throughout your body. These nerves carry messages from your body to your spinal cord. They do this when they are stimulated by heat or touch, for example. The message is sent to your spinal cord, then into your brain where it is read as pain, for example.

When people talk of nerves, these are usually peripheral nerves.

Are there different types of nerves?

There are three types of nerves.

- **Motor:** These carry messages from your brain to your muscles. They usually cause movement.
- **Sensory:** These send messages from your body to your brain, without you being aware of it. They are sensitive to pain, heat, touch, position and vibration.
- **Autonomic:** These carry messages between your internal organs and your brain. They are not under your control.



Nerve cell

What causes peripheral neuropathy?

Peripheral neuropathy is caused by a number of things. These include:

- Chemotherapy
- A tumour growing on a nerve
- Surgery
- Radiotherapy
- Vitamin deficiency
- Paraneoplastic peripheral neuropathy. This condition happens when your body makes a substance that affects your nerves

Your risk of peripheral neuropathy increases if you have:

- Diabetes
- A poor diet
- Drink a lot of alcohol
- Been treated with one or more chemotherapy drugs

Chemotherapy

This is the most common cause of peripheral neuropathy in people with cancer. The drugs that commonly cause it are:

- **Taxanes:** Taxotere and Taxol
- **Vinca-alkaloids:** vincristine, vinblastine, vinorelbine and vindesine
- **Platinum compounds:** oxaliplatin, cisplatin and carboplatin
- **Others:** Thalidomide, Velcade, Interferon, Sprycel and Yervoy.

What are the symptoms of peripheral neuropathy?

Your symptoms will depend on the nerves that are affected. They can develop over days, weeks or years and can include:

- **Pain:** This can be mild or severe. It is described as burning, sharp, stabbing or like an electric shock. Some people lose the sensation of pain.
- **Numbness:** This happens in your hands and feet first and then moves upwards. It is often described like wearing gloves or stockings when you are not. As a result, you may find it hard to do up buttons.
- **Muscle weakness:** This will depend on which muscle is affected. You may find it is difficult to walk, climb the stairs, hold a knife or fork, or that you are dropping things or stumbling.
- **Sensation changes:** You may feel heat or warmth when you touch something cold. You may also find that something that was not painful before now is. For example, bedclothes on your legs.
- **Other:** It may be difficult to keep your balance or you may get dizzy when you stand up. You may also feel very tired, have mood swings and have difficulty remembering things.

You will not get all of these symptoms. Remember that symptoms will vary between different people.

How will I know if I have peripheral neuropathy?

If you have any of the above symptoms, do tell your doctor without delay. The sooner it is treated the better the result. Your doctor will first have to examine you physically. After that he or she will assess your pain, your muscles reflexes, your balance, coordination, how you walk and if you have numbness in your hands and feet.

How can it be treated?

The best treatment is to prevent further damage from happening. There is no treatment that will heal the nerves already damaged by chemotherapy. But do tell your doctor your symptoms or if they are getting worse. Your treatment dose can be reduced or stopped for some time. For most patients, their symptoms will improve once the drug is stopped. But your symptoms may continue to get worse for a few weeks after the drug is stopped.

How can the pain be treated?

The pain can be treated in a number of ways. These include:

- **Drugs:** Medications such as tricyclic antidepressants, anticonvulsants, lidocaine patches, opioids and selective serotonin and norepinephrine reuptake inhibitors (SSNRIs) can be used.
- **Nerve blocks:** A local anaesthetic can be injected around a nerve to block the pain.

- **Transcutaneous electrical nerve stimulation (TENS):** An electrical impulse can be used to treat your pain.
- **Acupuncture:** Fine needles can be put on your skin at particular points to relieve any pain.
- **Psychological support:** Counsellors and psychotherapists can help to reduce your anxiety, fear and worry.
- **Massage:** This can improve your circulation and relax your muscles.
- **Other:** Physiotherapy or occupational therapy can also help.

Is there anything I can do?

There are many practical things that you can do to help in your daily life. These include:

- Keep warm by wearing gloves and stockings.
- Be careful with hot liquids. Wear gloves when washing the dishes and make sure the temperature is right.
- Wear proper fitting shoes to avoid falls, if you have numbness in your feet.
- Avoid injury. Do not walk around in your bare feet.
- Remove clutter from your rooms to prevent falls. Make sure the rooms have plenty of light.

- Wear clothes with zips or velcro if you are having difficulty with buttons.
- Speak to a physiotherapist about exercises and walking equipment.
- Speak to an occupational therapist for equipment for your house. For example handrails.
- Avoid pressure on your legs or hands for a long time. For example, do not cross your legs.
- Eat a healthy diet to prevent vitamin deficiency.
- Do not smoke as it reduces your circulation.

Support

Peripheral neuropathy can be hard to live with both physically and emotionally. It can reduce your mobility and prevent you from working. It can also make you feel angry, frustrated, fearful or depressed. It is important to talk about your feelings with your doctor or nurse. Remember to tell them if you start to get symptoms or if they are getting worse. Peripheral neuropathy is best treated by preventing further damage to your nerves. This can be done by reporting symptoms early.



Further information

Some helpful websites include:

- **Macmillan Cancer Support**
www.macmillan.org
- **Cancer Research UK**
www.cancerhelp.org
- **Cancer.Net**
www.cancer.net
- **Mayo Clinic**
www.mayoclinic.com
- **Neuropathy Association**
www.neuropathy.org

For more information about peripheral neuropathy or about cancer in general, call the National Cancer Helpline
Freefone

1800 200 700

(Monday–Friday, 9am–7pm;
Friday 9am–5pm) or email

helpline@irishcancer.ie

for confidential advice from our cancer
nurse specialists.

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