



PATIENT & CAREGIVER EDUCATION

About Peripheral Neuropathy

This information describes peripheral neuropathy, including its causes and symptoms.

Peripheral neuropathy (peh-RIH-feh-rul noor-AH-puh-thee) is the term used to describe changes that happen when your peripheral nerves are damaged. Peripheral nerves are all the nerves outside of your brain and spinal cord. They send messages from your brain and spinal cord to the rest of your body. There are 3 types of peripheral nerves:

- **Sensory nerves** that help you feel pain, touch, temperature, vibration, and position (knowing where your hands and feet are, and how they're positioned in space).
- **Motor nerves** that help you move and keep your muscle tone.
- **Autonomic nerves** that control things that happen naturally, such as how fast your heart beats and how much you sweat.

Causes of Peripheral Neuropathy

The most common cause of peripheral neuropathy is diabetes (also called diabetic neuropathy). Other causes of peripheral neuropathy include:

- Certain types of chemotherapy. For more information, read the "Chemotherapy agents" section.
- Some medications that treat certain conditions, such as

anticonvulsants (phenytoin), heart or blood pressure medications (amiodarone), and antibiotics (metronidazole).

- The Foundation for Peripheral Neuropathy® has a full list of medications that may cause peripheral neuropathy. For more information, visit www.foundationforpn.org/causes/other-drugs

- Lung cancer
- Multiple myeloma (a type of blood cancer)
- Alcohol abuse
- Some other forms of cancer (for example, leukemia-induced neuroleukemiosis)
- Brain or spinal cord tumors
- Lyme disease, if left untreated
- Multiple sclerosis

If you have any of these possible causes of peripheral neuropathy, talk with your healthcare provider. Tell them what medications you're taking now and have taken in the past. Include over-the-counter medications and supplements.

Sometimes, there's no known cause of peripheral neuropathy.

Symptoms of Peripheral Neuropathy

Many people with peripheral neuropathy have changes in the feeling in their toes, feet, fingers, hands, or face. These changes in feeling may not go past your wrists or ankles.

The symptoms of peripheral neuropathy are different depending on which peripheral nerves are damaged. Sometimes, just 1 type of nerve is damaged. More often, several types are damaged. You

may also have a few other symptoms. Some examples are:

- If your sensory nerves are damaged, you may have a feeling of “pins and needles” or “electric shocks.” You may also feel coldness, prickling, pinching, or burning in your hands and feet. Some people become very sensitive to touch, while other people feel numbness.
- If your motor nerves are damaged, you may have muscle weakness, cramping, and twitching. You may also have loss of balance and coordination (control of your body movements). This may make it very hard to walk, drive, or handle small objects (such as holding a pen or buttoning a shirt).
- If your autonomic nerves are damaged, your heart may beat faster or slower than usual. You may sweat more or less than you usually do. You may also see changes in your bowel and bladder function (changes in how you’re pooping and peeing).

Be sure to discuss your symptoms with your healthcare provider. They can suggest ways to manage them.

Symptoms of peripheral neuropathy can happen quickly or grow slowly over time. They may come and go, or get better or worse, at certain times. Depending on what caused your peripheral neuropathy, your symptoms may get better over time, or they may be lifelong. These symptoms are not life threatening.

Chemotherapy agents

Some common types of chemotherapy drugs can also cause peripheral neuropathy. We’ve listed some of them here, along with the symptoms they cause.

- Bortezomib, carfilzomib

- You may have a feeling of numbness, pain, or burning in your feet or hands.
- Cisplatin, carboplatin, oxaliplatin, and thalidomide
 - You may have trouble knowing where your hands and feet are, and how they're positioned in space. This is called position sense. If this happens, you could slip out of your shoes or slippers if they're not tied or if they don't come up past the middle of the top of your foot (your instep).
 - When you walk, you may not be able to feel the floor under your feet. You may feel like your bare feet have socks on them or like you're walking on broken glass.
- Paclitaxel, docetaxel, and nab-paclitaxel
 - You may have trouble feeling the shape of an object in your hand or picking up small objects.
- Vincristine, vinblastine, and paclitaxel
 - You may have trouble telling the difference between hot and cold temperatures.

With all these medications, you may also have problems doing things that need muscle strength and coordination. For example, you may have trouble lifting your foot from the gas pedal to the brake pedal while driving. Some people also have a feeling of muscle cramps, heaviness, swelling that isn't there, or weakness in their arms or legs.

There's no way to prevent these symptoms from happening while you're getting chemotherapy treatment. If your symptoms get worse, your healthcare provider may stop your treatment or decrease your dose of chemotherapy.

Some of these symptoms may get better over the first 6 to 18 months following your treatment.

Managing Peripheral Neuropathy

At this time, there's no known cure for peripheral neuropathy. There are ways to manage symptoms and stay safe while you have peripheral neuropathy. Read the resource *Managing Peripheral Neuropathy* (https://sandbox18.mskcc.org/pe/managing_peripheral_neuropathy) for more information.

Resources

The Foundation for Peripheral Neuropathy®

www.foundationforpn.org

This organization can give you general information about peripheral neuropathy. They also have support groups. For more information, call 877-883-9942 or visit www.foundationforpn.org

If you have any questions, contact a member of your care team directly. If you're a patient at MSK and you need to reach a provider after 5 p.m., during the weekend, or on a holiday, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

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