

Patient Guide to Peripheral Neuropathy

Lois Almadrones, RN, MS, FNP, MPA
Ramadevi Arcot, BFSN, ANP

Introduction

Peripheral neuropathy is a side effect of some cancer treatments. This booklet has information on its causes and symptoms. We have included safety tips you may find helpful. It also has a list of sources for more information or help and a glossary. Words that are underlined are defined in the glossary.

What Peripheral Neuropathy Is

Peripheral nerves are nerves that are outside of the brain and the spinal cord. If they are injured, you may have peripheral neuropathy. Most often, it is limited to nerves in your fingers, hands, arms, toes, feet, and legs.

There are two types of peripheral nerves, sensory and motor. Sensory nerves help you feel pain, touch, temperature, position, and vibration. Motor nerves help you move and maintain muscle tone.

Causes of Peripheral Neuropathy

Peripheral neuropathy has many causes. The most common is diabetes. Other causes are:

- Some drugs, including certain anticancer medicines
- Not having enough of vitamins B₁₂, B₆, B₁, or E in the diet
- Some forms of kidney disease
- Hypothyroid disease (an underactive thyroid)
- Alcohol abuse
- Lead poisoning
- External pressure on the nerves
- Auto-immune diseases
- Hereditary peripheral neuropathy (passed on to you from your mother or father at conception)

Sometimes there is no known cause.

If you have any of these conditions, be sure you talk to your doctor or nurse about them. Tell your doctor or nurse what medicines you are taking now and have taken regularly in the past.

Your doctor or nurse will ask if you have symptoms of peripheral neuropathy from any cause. If you do, the symptoms caused by a chemo drug may begin sooner or be more severe.

Symptoms of Peripheral Neuropathy

The symptoms depend on the types of nerves that are damaged. Sensory nerves are the ones usually affected. Changes in feeling in the toes, feet, fingers, and hands present in a “stocking-glove” pattern. These feelings generally do not go beyond the wrist or ankle. Common symptoms caused by sensory nerve damage are tingling, “pins and needles,” cold, prickling, pinching, burning, or electric shocks. These are called paresthesias. An unpleasant sensation sometimes brought on by touching or being touched is called dysesthesia. Numbness or diminished sensation is called anesthesia.

Commonly used chemo drugs that cause peripheral neuropathy are:

- cisplatin
- paclitaxel (Taxol®)
- vincristine
- vinblastine

These drugs can cause any symptoms of peripheral neuropathy. However, it is more common that each drug has its own set of symptoms.

Cisplatin

Sometimes people cannot tell where their hands and feet are. This is called position sense. You can slip out of shoes or slippers if they are not tied or do not come up over the instep of your foot. When you walk you may not be able to feel the floor under your feet. You may feel as if your bare feet have socks on them.

Paclitaxel

You may not be able to feel the shape of the object in your hand.

Vincristine, vinblastine, and paclitaxel

These may all make it harder for you to tell the difference between hot or cold temperatures.

All of these drugs can affect motor nerves and produce muscle weakness. You may have problems doing tasks that need muscle strength and coordination. An example of this may be difficulty lifting your foot from the gas pedal to the brake when you are driving. Some people describe a feeling of muscle cramps, heaviness, or weakness in the arms or legs, or both.

How To Manage With Peripheral Neuropathy

Because of sensory loss, you will depend more on visual cues. Try the following suggestions. They will help you make your surroundings safer and reduce the chance of injury.

Lights

Your rooms should be well lit so you don't fall.

1. Light switches or lamps should be at the door entrance. The light switch should be visible to you and easy to turn on with your fingers.
2. Turn lights on before you enter a room.
3. The room should be bright enough for you to see all the areas where you walk or do activities.
4. All stairways inside and outside of your home should have the lights on before you walk on them.
5. Use floor lights that shine light up from the floor toward the ceiling or wall to help reduce glare.

6. Keep a night light in your room and along the path you walk during the night if you get up to use the bathroom.
7. Keep a flashlight with you or within reach to use when lighting is not adequate.
8. Use a key chain with a light to help you see keyholes.

It may be helpful for you and a family member or friend to inspect each room in your house. Make sure each one is free of hazards. Also, inspect the garage, the yard, your car, and your place of work to assure that they are safe.

The following are some of the places you should check and tips you can use to make them safer.

Stairs

1. Handrails should be on both sides of all stairways and hallways.
2. Cover stairs with a non-slip surface.
3. Paint the stairs in a light color for easier visibility.
4. Clear stairways and hallways of objects, such as small area rugs, toys, and clutter.

Floors

1. Floors should have non-glare and non-skid surfaces.
2. If area rugs are used around sinks or in a bathroom, they should have non-slip backing.
3. Tape or tack down carpet edges securely.
4. Avoid surface drops between a carpet and other flooring.
5. Wipe up spills and liquids immediately.

Bedroom

1. Do not use chairs, tables, night stands, or over-bed tables with wheels.
2. Clear small area rugs, stools, clothes, shoes, and clutter from walkways through your bedroom.
3. If you use extension cords, secure them with electric tape along the edge of the floor.
4. Remove furniture with sharp edges or corners.

Bathroom

1. Bathtub or sink area rugs should have non-slip backing.
2. Tubs and showers should have non-skid strips or mats.
3. Use portable hand grips over the tub or install shower grips.
4. Use a nonbreakable thermometer to check your bath water. Make sure the temperature is below 110° F (43.3° C).
5. Use a liquid soap dispenser, soap on a rope, or a washmit to hold your soap.
6. Use long brushes for hard-to-reach areas of your body.
7. Use adapted nail clippers to cut your nails. You can buy these at a health supply store.
8. Avoid slippery, wet floors. Wipe up liquids immediately.

Kitchen

1. Area rugs near the sink should have non-slip backing.
2. Use rubber gloves to wash dishes.
3. Use a nonbreakable water thermometer to check the dishwasher temperature before you wash dishes. Make sure the water is not hotter than 110° F (43.3° C).
4. Use light-weight, nonbreakable glasses, utensils, and plates.
5. Shield your fingers when cutting foods.
6. Open jars or soda cans with easy jar openers, grippers, or tab grabbers.
7. Use heavy duty pot holders and oven mitts to handle items such as hot pots or pans.

Garage or Yard

1. Absorb oil spills with sand or kitty litter.
2. Store rakes, shovels, and other garden equipment off the floor.
3. Place nails, screws, and other hardware in containers with covers.
4. Keep walkways clear of toys, wet rags, rope, hoses, buckets, and other clutter.
5. Always wear rubber shoes or work boots when you work in the garage or garden.
6. Avoid the use of lawn mowers, electric branch trimmers or saws, and snow blowers.

General Safety Tips

1. You may purchase special equipment at health supply stores to help you dress. Examples of equipment you may find useful are:
 - Zipper pulls
 - Buttoners
 - Molded sock aids
 - Elastic shoe laces
 - Velcro® straps
 - In-step supports for slippers and shoes
 - Cuff and collar extenders
 - Lightweight dressing sticks to put on garments without bending
2. Special pens, pencils, and utensils can help you hold these objects more easily.
3. Wear shoes that go over the instep of your feet.
4. Wear gloves and warm socks in cold weather.
5. Wear jewelry, such as those without fasteners, which you can put on without help.
6. Ask your healthcare provider if it is safe for you to drive based on your symptoms.

Exercise and Massage

1. Walking is good exercise for your health and helps keep your muscles flexible.

2. Low-back stretches and calf stretches will also help keep your muscles flexible.
3. If you exercise in a gym, tell the instructor that you have peripheral neuropathy. Get instructions on the use of safe equipment that may help you keep your muscles toned.
4. In addition to exercise, foot and hand massages may help relieve stiffness. Clean slippery lotions and creams off your hands and feet after the massage.

Referrals

There are many people who can further assist you. Your doctor or nurse may have some suggestions. Physical therapists can help with exercise programs and assistive devices. Occupational therapists may help you find adaptive devices for work or home.

A rehabilitation specialist may need to assess you to see if it is safe for you to drive. You may wish to have a podiatrist care for your feet. Finally, The Neuropathy Association can give you general information. They also have support groups. Call 1 (800) 247-6968 to learn more.

Glossary

Anesthesia – Numbness or diminished sensation

Coordination – Balance and equilibrium

Dysesthesias – Unpleasant abnormal sensations brought on by touching or other external stimuli

Motor nerves – Peripheral nerves that help you move and maintain muscle tone

Paresthesias – Sensations of tingling, pins and needles, prickling, burning, cold, pinching, sharp, deep stabs, electric shocks, or buzzing

Peripheral nerves – Nerves that are located outside of the brain and spinal cord

Peripheral neuropathy – Disorders resulting from injury to peripheral nerves

Position sense – An awareness of where your feet, legs, hands, and arms are

Sensation – Feeling and perception

Sensory nerves – Peripheral nerves that help you feel pain, touch, temperature, position, and vibration and communicate them to your brain

Stocking-glove pattern – Refers to the most common areas on your body where peripheral neuropathy is sensed; usually does not go above your wrist (the glove area), or over your ankle (the stocking area)

