

What Is Peripheral Neuropathy:



And Is There Anything I Can Do About It?

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Have you or a loved one been diagnosed with Peripheral Neuropathy (PN), often known as Diabetic Neuropathy? This is one of the most frustrating conditions a person can face. Many people with PN end up feeling hopeless and even desperate as they continue to search for an answer to the pain. They are told that this is what they have to expect for the long term, and that is not a pretty picture. This short paper is intended to educate you about PN and offer some advice as to what you might be able to do to lessen the symptoms. There is hope and there may well be solutions to your PN.

WHAT IS PERIPHERAL NEUROPATHY?

Nerves are found in the Central Nervous System, which comprises the brain and spinal column, or in the Peripheral Nervous System, which comprises the nerves outside the spinal column. We have basically three types of nerves in our nervous system: Motor nerves – these are nerves that allow us to use the muscles of our body; Sensory nerves – nerves that relay sensory information from the nerve endings to the spinal cord and brain for processing; and, the Autonomic nerves – nerves that control digestion, breathing, and those types of things. Any of these nerves can become damaged but this paper looks primarily at the Sensory nerves.

PN, then, is understood in the following way. Peripheral refers to the nerves outside the CNS, primarily the sensory nerves. “Neuro” refers to nerves in general, and “pathy” refers to a disease. So, in short, PN refers to a disease or damage to the nerves outside the CNS. It is typically understood as a degenerative condition that affects the nerves in the lower extremities of the body, often from the knees down to the feet. It can also affect nerves in the hands and the lower arms to a lesser degree.

WHAT ARE THE SYMPTOMS OF PERIPHERAL NEUROPATHY?

PN will often begin with a tingling, numbness, or prickling in the toes and feet. Over time this may progress to feelings of freezing, burning, throbbing, and shooting pain. Some people experience one or more of these sensations to varying degrees in their neuropathy journey. No two people experience PN in the same way. For me it was primarily a deadness to my feet without a lot of the pain that many people feel. But regardless how a person experiences PN, it remains a terrible affliction with not a lot of options.

The following is a list of the major symptoms that may be experienced:

- Numbness or “dead” feeling feet – this can impact balance and coordination which can be a very serious problem related to falls and injury
- Burning sensation or freezing pain
- Muscle weakness and/or muscle wasting
- Extremely sensitive to touch – the slightest touch can give terrible pain

- Sharp, jabbing, searing pain – often worse at night when trying to sleep
- A feeling of tightness around the foot, like wearing a glove, sock, or even a tight band
- May have very sweaty feet even though there may be a feeling of cold feet
- Sometimes there can be abnormalities in blood pressure or pulse
- As mentioned, it may be difficult to get a good night's sleep because of the pain and discomfort in the feet and legs

Your symptoms will manifest and vary depending on the nerves that are being impacted and for how long you have had the symptoms. The longer you have been experiencing PN the more likely it is that the symptoms will increase. This is because the nerves die slowly over a period of time giving the various symptoms.

CAUSES OF PERIPHERAL NEUROPATHY:

There are many possible causes for PN, all of which can lead to the symptoms that we have been discussing. Some of these causes can be a gradual dying of the peripheral nerves while others can result from a sudden onset. Let's consider some of these causes.

1. **DIABETES:** By far, the most common cause of PN is diabetes. The statistics show that as many as 50 – 60% of people dealing with diabetes will develop some form of PN over a period of time. It is typically a slow gradual process and is often related to the time a person has been a diabetic and how well their blood sugars are being maintained.
2. **CHEMOTHERAPY:** There are obviously many challenges a person faces when given the cancer diagnosis. In our current medical system the three treatment options offered are surgery, chemotherapy, and radiation – with a combination of these therapies the norm. A person may come through these treatments with a successful result only to find that the chemotherapy treatments have caused the development of PN, which might reverse over time for some patients or remain long term.
3. **HYPERTENSION:** High blood pressure is something that is rampant in our society today. Often, it can go undiagnosed for some period of time before treatment is initiated. When high blood pressure is treated it may cause a quick lowering of blood pressure. This change in blood pressure can impact the movement of blood to and from the extremities, decreasing both oxygen and nutrient flow resulting in PN.
4. **ALCOHOL ABUSE:** Alcohol abuse can have negative consequences on many parts of the body including nerve endings. Over time continued abuse can result in PN.
5. **VITAMIN DEFICIENCY:** One important area of research is the impact that specific vitamin and mineral deficiencies can have on the development of PN. Key vitamins are B12, B3, and B6, as well as folate with magnesium a critical mineral. Low levels of these key nutrients can be an important cause of PN.
6. **TOXINS:** In some cases, a person may be exposed to toxic substances that can damage the health of the nerves.

7. **AUTOIMMUNE DISEASES:** Autoimmune diseases like lupus or Rheumatoid Arthritis, for example, have also been related to the development of PN over a period of time. When the body does not recognize its own cells, the immune system can begin to attack them as a defense mechanism. This attack can sometimes be directed to the nerve cells.
8. **HEREDITY:** While our genetics do not define us completely some people may have a genetic predisposition for the development of PN.
9. **SEVERE TRAUMA OR INJURY:** If there is a crushing or shearing of the limbs then that can result in nerve damage that may result in PN. In this case the PN results more of a sudden onset rather than over a period of time.
10. **STATIN DRUGS:** Statin drugs are used for the treatment of higher cholesterol levels. They are designed to interrupt the production of cholesterol in the liver (which produces about 70 – 80% of the cholesterol in the body). However, one of the unfortunate side effects of statin drugs can be the development of PN.
11. **LOW BACK PAIN (Lumbar Nerve Radiculopathy):** Sometimes conditions in the lower back area can be causing problems that manifest in neuropathy further down in the feet. That is why it is critical that a careful assessment of presenting symptoms be considered when dealing with the treatment for PN. It is easy to miss this aggravating condition when looking at neuropathy.
12. **IDIOPATHIC:** Whenever you see the word “idiopathic” used to describe your condition it simply means that the root cause is unknown. Your physician can tell from assessment that you have PN but may be unable to determine the cause.

As you can see, there are many possible causes for PN. Each of the causes listed is a study onto itself and is beyond the scope of this short paper. However, regardless of the cause, the treatment protocol is very similar.

TREATMENTS FOR PERIPHERAL NEUROPATHY:

Any neuropathy treatment must keep a few things in mind if it has any hope of being successful. First, optimum blood flow is critical for a number of reasons. A nerve is nourished properly when there is plenty of oxygen and critical nutrients available. If you deprive a cell of these then you are going to have problems. Virtually all the causes of PN impact the ability of a cell to obtain the vital oxygen and nutrients it needs to function properly. Ensuring that treatment protocols address this concern is essential.

Second, after addressing the need to deal with oxygen and proper nutrients, we then look at efforts to rebuild the nerve endings themselves. This is not necessarily an easy process. If you can imagine an electrical wire where the coating around the wire itself is breaking down, then you have an idea of what is happening to your nerve endings. The sheath around the nerve, known as the myelin sheath, slowly degrades with the PN process. The result is a “frayed” aspect to the nerve which allows for a myriad of misfiring of signals that you might experience as pain.

This treatment section is divided into two parts: first, things that you can do at home to help with your PN, and, second, an approach I use in the clinic if you were coming in to see me for treatment. My experience has shown me that there is a good likelihood that you can get some level of relief from using these various approaches. So let's start with the home remedies first.

Home care recommendations:

1. **WATER:** For me, the very best place for you to start is to ensure that you are getting sufficient water, on a daily basis. Every cell in our body needs optimum hydration in order to function at an optimum level. Nerve cells are no different. Hydration is also related to blood flow which is critical for nerve health.
2. **SUPPLEMENTS:**
 - Alpha Lipoic Acid:** Supplements can play an important role in regaining relief from neuropathic pain. Perhaps the best researched supplement for PN is Alpha Lipoic Acid. This antioxidant is made by the body and found in every human cell. It helps convert glucose into energy and helps reduce "free radicals" which can have a negative impact on healthy nerve function. There is reasonable evidence to suggest that it should be a key supplement for combatting PN. You would need between 400 – 800 mgs per day, starting with the lower amount.
 - MAGNESIUM:** Magnesium is a vital nutrient that is required in literally hundreds of functions in the human body. It is indicated in PN in a number of ways. First, it is critical for the proper utilization of insulin and may help with blood sugar maintenance. Second, it is important in proper nerve conduction and health. Third, it is essential in the proper functioning of muscles, tendons, and ligaments, which can have an impact on nerve function. There is some research to show that magnesium not only can help halt or reverse PN symptoms but can act in a preventative way.
 - B12:** B12 is an important nutrient for many functions in the body. For nerves, B12 is critical for the maintenance of a healthy myelin sheath that surrounds the nerve. Low levels can cause a breakdown of the myelin sheath which can manifest as PN.
 - OTHER SUPPLEMENTS:** I am a big believer in the use of supplements to support a good diet – but they should be used strategically. What do I mean by this? For example, a person with diabetes will often be placed on medication to help with controlling blood sugar concerns. One of those medications is Metformin, which by itself can cause feelings of neuropathy for some people. In addition, one of the side effects for Metformin is developing Vitamin B12 deficiency, another known cause of PN. Further, many diabetics are also taking statin drugs which can also cause PN. In short, the use of pharmaceutical drugs should be considered when thinking about supplementation.
3. **EXERCISE:** Exercise has been shown to have some real benefits for those dealing with PN. But the obvious challenge is that many people find it too difficult to do much because of the pain they are experiencing. Exercise helps the heart and all the various blood vessels function better. This allows for better movement of oxygen and nutrients to the nerve cells and the removal of the many waste products generated by the cells. As discussed, this is very important.

4. **REST AND SLEEP:** There is a particular exercise/stretch that I recommend for people who have lower back problems. And it can also benefit anyone dealing with PN, because it helps with blood flow. First, lay on your back with the back of your thighs resting against something that supports your lower legs. For example, lay on a mat on the floor with your legs up against and lower legs resting on a couch. Or you can lay in a bed with a chair or footstool sitting on the bed. Then, you just lay there for 20 minutes. Try doing this once a day and it can help with lower back issues and may also help with your PN.

Clinic Neuropathy protocol:

The clinical process begins with an examination and assessment to determine where things are and to get a sense of a baseline from where we are starting. The program is multi-faceted, comprehensive, and specific to the individual. While the overall protocol is very similar from one person to the next the exact program is unique to you.

There are basically five areas I focus on from a clinical perspective, several of which we have discussed as part of the Home care section.

1. **The Rebuilder:** this safe non-invasive device sends tiny signals to nerves and muscles, re-establishing normal nerve function, strengthening muscles, and restoring local blood flow. Used for years by Cancer Treatment Centers of America it helps patients suffering from PN.
2. **Cold Laser Therapy:** this device activates cellular energy while increasing blood flow, bringing vital oxygen and nutrients that support nerve healing.
3. **Nutrition:** we recommend well-researched supplements that have been shown to help support nerve and muscle health. This becomes specific to the person based on a number of factors known to impact nerve health.
4. **Bowen Therapy:** this gentle, non-invasive therapy helps relax connective tissue which may help with nerve function. This therapy is especially helpful if there are muscular problems originating in the lower back or legs.
5. **Lifestyle Changes:** in some cases blood sugar abnormalities or other lifestyle habits may need to be addressed with lifestyle changes.

Combined, this multi-faceted approach has provided excellent results for people suffering from the pain of Peripheral Neuropathy.