



## Peripheral Neuropathy (PN)

Written by: Alan Franciscus, Editor-in-Chief

### Forward

Peripheral neuropathy is a medical term for any disease that affects the nerves. There are four major types of neuropathy – polyneuropathy, autonomic neuropathy, mononeuropathy, and the most common form, peripheral polyneuropathy – more commonly called peripheral neuropathy (PN). There are 20 million Americans that have some form of peripheral neuropathy. Peripheral neuropathy can affect nerves throughout the body including the feet, hands, or legs and cause problems with the heart, sex organs and digestive system. In other words, any organ that has nerves can be affected.

This article will discuss the HCV-related form of peripheral neuropathy including the cause, symptoms, and treatments.

Peripheral neuropathy can affect nerves throughout the body, causing numbness and sometimes pain in the hands, arms, feet, and legs.

### Causes and Risk factors for peripheral neuropathy include:

- Infections such as hepatitis C, Lyme disease, shingles, Epstein-Barr, and HIV
- The most common cause of PN is diabetes. It is estimated that 60-70% of the diabetic population will develop some form of peripheral neuropathy.
- Autoimmune diseases
- Kidney diseases

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### HCSP FACT SHEET

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**EXECUTIVE DIRECTOR,  
EDITOR-IN-CHIEF,  
HCSP PUBLICATIONS**

*Alan Franciscus*

#### DESIGN

*Leslie Hoex,  
Blue Kangaroo Design*

#### PRODUCTION

*Leslie Hoex*

### CONTACT INFORMATION

Hepatitis C Support Project  
PO Box 15144  
Sacramento, CA 95813  
alanfranciscus@hcvadvocate.org

The information in this fact sheet is designed to help you understand and manage HCV and is not intended as medical advice. All persons with HCV should consult a medical practitioner for diagnosis and treatment of HCV.

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- Cancers and tumors
- Chronic alcohol abuse
- Vitamin B deficiencies
- Various autoimmune diseases such as lupus and rheumatoid arthritis
- Environmental toxins
- Medications, such as HIV medications

**HCV and Peripheral Neuropathy**

The exact cause of HCV-related peripheral neuropathy is poorly understood. The speculation is that the hepatitis C virus produces inflammation of the nerves and that it is an HCV-related immune disorder.

In the past, peripheral neuropathy was believed to be confined to people only infected with hepatitis C-related cryoglobulinemia, but now it is known that peripheral neuropathy may occur even in the absence of cryoglobulinemia. Studies have found that 40% to 75% of the people infected with hepatitis C have peripheral neuropathy. Up to 44% of people without cryoglobulinemia are estimated to have peripheral neuropathy. The highest percentage of peripheral neuropathy is found in people who have evidence of cryoglobulinemia—estimated at up to 75%.

If you have another disease that has been linked to peripheral neuropathy such as diabetes or HIV it can greatly increase the risk of peripheral neuropathy. Early treatment of hepatitis C may reduce the risk of developing extrahepatic conditions that have

been linked to peripheral neuropathy. This is why it is important to test, treat and cure hepatitis C as early as possible.

**Symptoms**

The most common symptoms of peripheral neuropathy are numbness, tingling, buzzing, sharp pain or cramps, loss of balance and coordination. Patients report the pain as a steady burning, ‘pins and needles,’ and like an electric shock. The symptoms of peripheral neuropathy are usually worse at night. Peripheral neuropathy can also cause muscle weakness, loss of reflexes (especially in the feet and ankles), and foot problems including sores and blisters that could eventually lead to infections of the skin and bone. Peripheral neuropathy doesn’t always progress or become worse; just because a person develops symptoms of peripheral neuropathy, it doesn’t mean that it is going to advance to serious disease consequences such as amputation. The key to preventing severe disease progression of peripheral neuropathy is to monitor the affected areas on a daily basis and take immediate action. In the case of diabetes, the key is to keep sugar levels under control.

**Diagnosis**

Peripheral neuropathy is usually diagnosed on the basis of physical symptoms and direct examination. It is important to know that many people with peripheral neuropathy have no signs or symptoms in the early stage so it may be difficult to diagnose. An extensive examination of the affected area is the most common way peripheral neuropathy is

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diagnosed. A doctor will look for specific signs including skin lesions, circulation problems, and test the degree of sensation by touching a filament to different areas of the foot, leg, hand, or arm. Other tests can be conducted to determine the type and extent of nerve damage to study the degree damage to the nerves, and other organs.

**Treatment**

There are no drugs that can treat the cause of peripheral neuropathy or reverse the damage. The most common treatment strategy of peripheral neuropathy consists of managing the symptoms and pain. A medical provider may recommend aspirin, acetaminophen, or a non-steroidal anti-inflammatory drug (NSAID). There are other measures to control the more severe symptoms, and pain including topical creams, lidocaine patches, opioid analgesics, tricyclic antidepressants, anticonvulsants, and another class of antidepressants called serotonin-norepinephrine reuptake inhibitors (SSNRI). Other measures include transcutaneous electrical nerve stimulation (TENS), which uses electricity to block pain signals, hypnosis, biofeedback, and acupuncture. In general, antidepressants seem to work better to manage the constant burning pain. Talk with your medical provider to find out which medications approved to treat peripheral neuropathy and which ones are liver friendly and safe for you to take.

Weight control and exercise such as walking has been found to benefit peripheral neuropathy.

Talk with your medical provider about a diet and exercise program.

Treatment for most HCV-related extrahepatic manifestations is to treat the underlying cause (hepatitis C) with direct-acting antiviral medications. However, there is no evidence that curing hepatitis C will lessen the pain or symptoms of peripheral neuropathy. But curing hepatitis C may help to stop the progression of peripheral neuropathy. But if you have diabetes—curing hepatitis C has been found to benefit some type 2 diabetes patients. For instance, some studies have found that curing hepatitis C in type 2 diabetes patients reduced their dose of type 2 diabetes medications for some patients.

**Self-Care Tips:**

The American Diabetes Association (ADA) recommendations for foot care include:

- Check all the areas of the feet every single day. Look for red spots, cuts, swelling, and blisters. If you cannot see the bottom of your feet, use a mirror or ask someone to inspect them for you.
- Be more active (exercise and stretching).
- Wash your feet every day. Dry them carefully, especially between the toes.
- Moisturize your feet daily (but not between the toes).
- Never go barefoot – always wear comfortable shoes and socks. This is because people with peripheral neuropathy can cut or damage their

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feet and may not notice or feel the pain.

- Keep toenails trimmed so that the toenails don't rub or cut nearby toes.
- Be careful not to expose your feet to hot or cold temperatures.
- Keep the blood circulating throughout the feet.
- The American Diabetes Association (ADA) recommends wiggling your ankles up and down for 5 minutes – two or three times a day. Don't cross your legs for long periods of time.
- Stop smoking cigarettes.
- Stop drinking alcohol.
- Check with your medical provider about the need for special shoes or orthotics (inserts for shoes).

**Related publications:**

**Extrahepatic Manifestations Glossary**

<http://hcvadvocate.org/resources/glossaries/extrahep-glossary/>

**Fibromyalgia**

[http://hcvadvocate.org/hepatitis/factsheets\\_pdf/fibromyalgia.pdf](http://hcvadvocate.org/hepatitis/factsheets_pdf/fibromyalgia.pdf)

**Patient Assistance Programs**

<http://hepatitiscmedications.hcvadvocate.org/patient-assistance-programs/>

**For more information**

- **Americans with Disabilities Act**  
[www.ada.gov](http://www.ada.gov)
- **Centers for Disease Control and Prevention**  
[www.cdc.gov](http://www.cdc.gov)
- **Mayo Clinic**  
[www.mayoclinic.com](http://www.mayoclinic.com)
- **MedlinePlus**  
[www.nlm.nih.gov/medlineplus](http://www.nlm.nih.gov/medlineplus)

**GET TESTED  
GET TREATED  
GET CURED**

**Extrahepatic Manifestations of HCV**