

DIABETIC NEUROPATHY

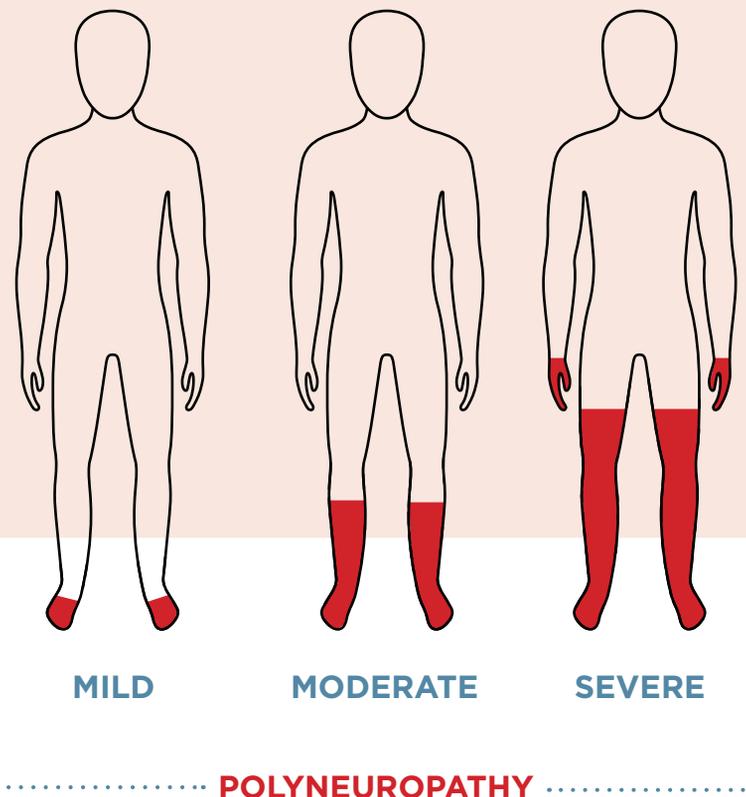
by: Dr. Katharine Leppard

Between 60-70% of patients with diabetes will have some type of nerve disorder according to the National Institute of Diabetes, Digestive, and Kidney Disease. Some patients will not notice any symptoms, and for others, symptoms can be painful, debilitating and even fatal.

Diabetes can cause a number of different nerves issues. The most common is peripheral neuropathy which affects the longest nerves in the limbs. Diabetes can also affect the autonomic nerves, these are the nerves that control our internal body functioning. Diabetic amyotrophy is an injury to the nerves close to the spine, causing pain with muscle weakness. There can be a sudden attack to an individual nerve in an arm or a leg. Diabetes also increases the risk of carpal tunnel syndrome.

Diabetic Peripheral Neuropathy

Peripheral neuropathy is damage to the nerves in the legs and arms. This is the most common diabetic nerve disorder. Symptoms typically begin in the longest nerves first, usually in the toes. Symptoms can include numbness, tingling, pain, oversensitivity to touch, altered sensations (the bunched sock



feeling when you're not wearing a sock) and loss of balance. Some people do not notice any symptoms but gradually lose balance. Symptoms can progress to weakness, hammer toes, and foot deformities. Loss of sensation in the feet is very serious. A person can develop a sore on the foot that they do not feel even if it becomes seriously infected. Wound healing is also impaired in diabetes, and this in combination with the sensory loss can lead to amputation of toes, legs, and even to death. The loss of balance is also very serious as this puts a person at higher risk of falls. Falls can have catastrophic consequences.

Treatment

- Controlling blood sugars is the number one mainstay of treatment.
- Monitoring feet daily for any sores or cuts, and vigilant care if a wound is discovered.

- » There are medications that can help neuropathic pain. These include Neurontin (Gabapentin), Lyrica (Pregabalin) and Cymbalta (Duloxetine). These medications only help with pain. They do not correct numbness or balance problems. These medications do not slow the progression of the neuropathy as we age. These medications also have a risk of dizziness, which can increase fall risk even further.
- » Checking for other treatable causes of peripheral neuropathy. It is important to rule out a vitamin B12 deficiency, the goal with a vitamin B12 blood test is 400 - 1,000. Rule out hypothyroidism and have a serum protein electrophoresis test.
- » Avoiding excess vitamin B6. Vitamin B6 doses greater than 100 mg per day are toxic to the nerves and actually cause nerve damage. Vitamin B6 is included in prescription medications such as Metanex (used for neuropathy) as well as vitamin tablets and supplements
- » Avoiding falls - eliminate throw rugs, have a night light, use a cane or walker for safety. Most falls occur inside the home.
- » Laser treatment may help temporarily with pain, it does not fix numbness or cure neuropathy.
- » Supplements such as alpha lipoic acid are available, but uncertain to be of benefit.
- » Exercise - regular exercise, such as walking, improves circulation, helps control weight, can improve blood sugar levels and helps maintain balance.
- » Avoid smoking and limit alcohol.

Autonomic Neuropathy

The autonomic nerves are the nerves that control internal body functions such as digestion rate, blood pressure, and sweating. These are “autopilot” nerves that help maintain homeostasis in our bodies. When they are injured, symptoms can include slow stomach

emptying (gastroparesis), low blood pressure, bladder and sexual dysfunction. Autonomic testing can include a tilt table test, ultrasound and sweat tests.

Prediabetes

Prediabetes (AKA borderline diabetes or glucose intolerance) is when your blood sugar is elevated, but not completely to the level where full blown diabetes is diagnosed. The best test for this is a hemoglobin A-1 C test. Without lifestyle changes, most people with pre-diabetes will progress to full-blown diabetes. A diagnosis of pre-diabetes is a wake-up call. Weight loss, eating healthy foods and exercise can help prevent progression to full-blown diabetes in some patients. With pre-diabetes long-term damage to the heart, kidneys and nerves may already be starting.

The reasons for diabetic nerve injuries are not fully understood. Diabetic nerve issues can develop at any time during the course of diabetes. The risk increases the longer one has diabetes, and is higher if blood sugars are not controlled. Treatment can help with some of the symptoms, but at this time there is no cure for the majority of diabetic neuropathies. [D](#)



ABOUT THE AUTHOR

Dr. Katharine Leppard is Board Certified in Electrodiagnostic Medicine, Physical Medicine & Rehabilitation and Neuromuscular Medicine.

MEDICAL REHABILITATION SPECIALISTS
 3470 CENTENNIAL BLVD. SUITE 110
 COLORADO SPRINGS, CO 80907
 719.575.1800
 WWW.MEDICAL-REHAB.COM



Q: What type of Neuropathy damages the nerves in the legs and arms?

Q: Can Autonomic testing include an ultrasound test?