

THERAPIES FOR TREATING DIABETIC NERVE PAIN



This fact sheet is provided to help you understand which therapies help diabetic nerve pain. This condition is also known as diabetic nerve pain or neuropathy.

Neurologists from the American Academy of Neurology are doctors who identify and treat diseases of the brain and nervous system. The following evidence-based information* is provided by experts who carefully reviewed all available scientific studies on therapies for diabetic nerve pain.

Several therapies are available for diabetic nerve pain. Many of them can cut pain nearly in half. But some therapies work better than others, and many have side effects. Before choosing a therapy, talk to your doctor about which ones are right for you.

What is diabetic nerve pain?

Diabetic nerve pain is a condition that can develop in people who have diabetes. Diabetes leads to high blood sugar levels. This can lead to nerve damage in about 50 percent of people with diabetes. The damage occurs in the nerve endings in the feet and legs and sometimes in the hands and arms. Blood vessels that carry oxygen to the nerves also can become damaged. This damage can slow down nerve signals to the muscles. It also can cause the nerves to send signals at the wrong times, which can result in pain. Sometimes the nerves stop communicating completely. This can lead to numbness in the feet and hands.

People with diabetic nerve pain can develop many symptoms. Some people will have symptoms soon after starting treatment. However, symptoms tend to develop slowly over many years. They often are noticeable several years after diagnosis. These symptoms can disrupt sleep, which can lead to mood changes and lower quality of life. The main symptoms are painful tingling, burning, and numbness. As the condition worsens, weakness can occur in the legs. This may be experienced as feeling “unsteady.” Symptoms often start in the feet and, later, progress to the hands and arms. Other body parts also can be affected. These include the organs that control automatic body processes. Some people develop digestive problems such as nausea (upset stomach), vomiting, constipation, or diarrhea. Other problems include difficulty with bladder control or sexual function. Dizziness can happen when changing positions quickly.

About 25 percent of people with diabetes will have pain and numbness from nerve damage. Controlling blood sugar levels can help prevent diabetic nerve pain.

I have diabetic nerve pain. My doctor said there are many drugs that treat it. How do I know which are most helpful?

Many drugs are available to treat diabetic nerve pain. The evidence for how well they work varies. The evidence is best for drugs that treat seizures and depression and for some painkillers.

Seizure Drugs

Several seizure drugs can help treat diabetic nerve pain. Strong evidence shows the seizure drug pregabalin is helpful. To a small degree, it also can improve sleep and quality of life. There is moderate evidence that the seizure drug gabapentin can help treat diabetic nerve pain. Weak evidence shows that gabapentin may work better if taken with the antidepressant venlafaxine. There is moderate evidence that the seizure drug valproate is a helpful therapy. However, women who are pregnant or who plan to be pregnant should be aware that this drug can cause serious birth defects. People who take valproate also can experience weight gain and trouble controlling blood sugar levels. For these reasons, it may not be a good choice for treating diabetic nerve pain.

In contrast, other seizure drugs might not be helpful therapies for diabetic nerve pain. There is moderate evidence that the drugs oxcarbazepine, lamotrigine, and lacosamide likely do not help treat this condition. There is not enough evidence to show if the drug topiramate is helpful.

Antidepressants

Several antidepressants also can help treat diabetic nerve pain. There is moderate evidence that the drugs amitriptyline, venlafaxine, and duloxetine can be helpful. However, not enough evidence is available to show if any one drug is more helpful than another.

There is not enough evidence to show if the drugs desipramine, imipramine, or fluoxetine are helpful therapies. There also is not enough evidence to show if combining the drug nortriptyline with fluphenazine is helpful.

Opioids

Opioids are a type of painkiller. Although powerful at first, opioids can have less of an effect over time. There is moderate evidence that the opioids dextromethorphan, morphine sulphate, tramadol, and oxycodone controlled-release can help treat diabetic nerve pain. There is not enough evidence to show if any one drug is more helpful than another.

It is important to be aware that opioids can have serious side effects. For example, dextromethorphan and tramadol can cause sleepiness. This may be dangerous for certain common tasks such as driving. Tramadol also can cause upset stomach and constipation. What's more, opioids can lead to new pain problems such as rebound headaches. These are headaches that set in between drug doses. Over time, a person taking opioids can become dependent on them.

Other Drugs

Several other drugs are available for treating diabetic nerve pain. These include topical drugs, which are applied directly to the skin. There is moderate evidence that capsaicin cream and isosorbide dinitrate spray can be helpful. Some people who have used capsaicin cream described having burning pain in hot weather or when the skin comes in contact with warm or hot water. There is weak evidence that the lidocaine patch may help treat diabetic nerve pain.

In contrast, some drugs used for diabetic nerve pain have not been shown to be helpful. These include clonidine, pentoxifylline, and mexiletine, which mainly are used for heart or circulation problems. Moderate evidence shows that these three drugs likely are not helpful. There is not enough evidence to show if vitamins or alpha-lipoic acid are helpful therapies.

Are there any therapies other than drugs that help treat diabetic nerve pain?

Several nondrug therapies are available to treat diabetic nerve pain. One therapy is transcutaneous electric nerve stimulation, or TENS. A TENS unit is a portable device that sends an electrical current through wires to electrodes attached to the skin. There is moderate evidence that TENS can be helpful.

On the other hand, other nondrug therapies have not been shown to help diabetic nerve pain. There is moderate evidence that magnetic shoe insoles, laser therapy, and Reiki therapy (a form of alternative medicine) likely are not helpful. Not enough evidence is available to show if electrotherapy combined with the antidepressant amitriptyline is helpful.

I have diabetic nerve pain. Will any of these therapies improve my quality of life or daily functioning?

Overall, the studies examined in this guideline found that some therapies help treat diabetic nerve pain. Some studies looked just at the drugs' effects on pain and not on other problems such as lowered quality of life or ability to function. Other studies looked at the effects on these problems but found little or no evidence. It is clear that more research is needed to understand how well these therapies can help with problems other than pain.

Nerve pain is a chronic problem for many people with diabetes. More research is needed to know how well the therapies discussed here work over time. When choosing a therapy, be sure to learn about potential side effects. Remember to tell your doctor about any other health problems you may have. Finally, keep in mind that it takes time for a drug to take full effect. Depending on the person, a drug dose may need to be adjusted.

This statement is provided as an educational service of the American Academy of Neurology. It is based on an assessment of current scientific and clinical information. It is not intended to include all possible proper methods of care for a particular neurologic problem or all legitimate criteria for choosing to use a specific procedure. Neither is it intended to exclude any reasonable alternative methodologies. The AAN recognizes that specific patient care decisions are the prerogative of the patient and the physician caring for the patient, based on all of the circumstances involved.

*After the experts review all of the published research studies, they describe the strength of the evidence supporting each recommendation:

Strong evidence = more than one high-quality scientific study

Moderate evidence = at least one high-quality scientific study or two or more studies of a lesser quality

Weak evidence = the studies, while supportive, are weak in design or strength of the findings

Not enough evidence = either different studies have come to conflicting results or there are no studies of reasonable quality

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