



DISTAL SYMMETRIC POLYNEUROPATHY

This fact sheet may help you understand which tests are best to find the cause of distal symmetric polyneuropathy (DSP). This disorder is also known as neuropathy or neuritis.

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 screening and diagnosis of DSP.

What is DSP?

DSP is a type of nerve problem that causes numbness, tingling, and weakness. It can also cause pain. These symptoms usually start in the feet and move to the hands. The symptoms spread slowly and evenly up the legs and arms. Other body parts might also be affected. Muscle “wasting” (breakdown) may also happen. Most people who develop DSP are over age 55. But people can be affected at any age.

What causes DSP?

DSP has many forms and causes. Some of the causes are still unknown. The most common cause is diabetes. Other common causes are alcohol abuse, poor nutrition, and genetics. DSP can also result from an allergic disorder. This is when the immune system mistakenly attacks healthy tissue in the body.

My doctor told me I have DSP. How will the doctor find out what’s causing it?

Many tests can check for a cause of DSP. Certain blood tests may point to common causes. Weak evidence shows these blood tests may be done for all patients with DSP. These tests check your levels of blood sugar, blood proteins, and vitamin B12. Talk to your doctor about how your test results fit in with the bigger picture of your medical history and doctor’s exam.

Your doctor may consider doing more tests. Especially if your blood sugar results are normal, your doctor may want to do a glucose tolerance test (GTT). The GTT checks for possible problems with processing blood sugar that do not show up on a routine blood sugar test.

There is not enough evidence to decide which additional lab tests help to diagnose DSP. Talk to your doctor about other tests he or she thinks would be useful.

Is genetic testing available for DSP?

DSP can run in a person’s family. So when your doctor considers genetic testing for you or others in your family, several tests are done to look for possible genetic problems. There is strong evidence that genetic testing is accurate for diagnosing nerve diseases known to run in families. Tell your doctor about your family medical history. Your doctor should strongly suspect a hereditary nerve disease before ordering genetic testing.

Most types of polyneuropathy that run in families are forms of Charcot-Marie-Tooth (CMT) disease. CMT takes many forms. Symptoms range from mild to severe. Sometimes, few signs of nerve disease are found. A person can develop CMT disease without having a family history of nerve disease.

What kinds of genetic testing are available? How do I know if I should be tested?

Your doctor may consider genetic testing if someone in your family also has polyneuropathy. Genetic testing for CMT may be done even if you have no family history of polyneuropathy. There are two main types of CMT that run in families. The most common type damages the protective coating around certain nerves. A second type damages the part of the nerve that carries signals.

The cause of your polyneuropathy may not be known. But your doctor may suspect that your disease runs in your family. Weak evidence supports genetic testing in cases like this. Ask your doctor what steps should be taken before ordering genetic testing. Your doctor may decide to do an office exam and certain screening tests. This will help to know which part of the nerve has been damaged. The type of nerve damage may suggest a certain inheritance pattern.

Genetic testing to diagnose polyneuropathy does not always give answers. You may have a form of polyneuropathy other than CMT that runs in families. There may also be few signs of nerve disease. If so, your doctor likely will not order genetic testing.

My doctor says I might have autonomic disorder. What is this, and how can I be tested?

DSP can affect the autonomic nervous system. This system controls the body's automatic processes such as sweating, heart rate, blood pressure, and circulation. Many tests can be done to check for damage to these automatic processes. The tests check for damage to nerves that regulate the heart and certain glands.

There is good evidence for testing patients with DSP to see if the autonomic system is involved. Good evidence shows that doctors should consider these tests for patients who may have autonomic nerve diseases. There is weak evidence that these tests may be useful for patients who may have small fiber sensory polyneuropathy (SFSN). Ask your doctor which of these tests may be useful for you. A combination of tests may offer better information than any single test. There is good evidence that the composite autonomic scoring scale (CASS) should be used for the most accurate diagnosis of autonomic nerve disorders.

My doctor says I should have a biopsy done. What is this, and how does it help?

Skin biopsy is an office procedure that can detect certain nerve diseases. In skin biopsy, a small core of skin is removed from the leg. A specialist determines the health of the nerve endings in the skin core. There is weak evidence that skin biopsy may be considered to diagnose polyneuropathy. Weak evidence shows that skin biopsy may be considered particularly to diagnose SFSN.

Nerve biopsy is a procedure that checks for the cause of a nerve problem. The doctor removes a piece of a nerve from the skin near the ankle. Nerve biopsy can help diagnose some nerve problems. However, there is not enough evidence to support use of nerve biopsy to find the cause of DSP in routine cases.

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

Good 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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