

# Patient Guide

## Why do I Need a Nerve Conduction Study?

Your doctor has determined that you need a nerve conduction study to evaluate the cause of your symptoms. You may have experienced pain, tingling, weakness, or numbness – these are common consequences of nerve conduction deficiencies.

## What is the cause of the pain and/or discomfort I am feeling?

There are many possible reasons for discomfort or pain. Some symptoms may be muscular in origin; others may be nerve related. Sometimes pain and discomfort may be the result of abrupt trauma and other times symptoms result from cumulative trauma or a repetitive stress injury that develops over time.

Your doctor is conducting a thorough evaluation, which includes a nerve conduction study, to help determine the precise cause of your symptoms.

## What is a nerve Conduction Study?

A nerve conduction study is a simple test that allows your physician to evaluate the health of specific nerve fibers. The procedure involves delivering a small electric pulse at one point on a nerve and measuring the response at another point.

For most conditions, it is necessary to test multiple nerves. On average, you will have 3-4 nerves tested using the same procedure. In all, the entire test, including the skin prep time and biosensor application, can generally be accomplished in 15 minutes or less.

## How is a Nerve Conduction Study performed?

A trained staff member will perform your nerve conduction study in your doctor's office. A special biosensor will be placed on your skin. The biosensor has a conductive gel that allows it to detect small signals from your nerve, and strong adhesive to keep the biosensor in place.

Your symptoms will determine which biosensors are used. Nerves originate in your spine and extend to your hands and feet. By placing the biosensors on your wrist or ankle, the entire length of a nerve can be evaluated. If you have symptoms in your low back, buttocks, legs or feet, biosensors will be placed at your ankle. Generally both the left and right sides are evaluated to provide a comparison.

Your skin will be cleaned with a special skin prep pad. The biosensor will then be applied and connected to the testing device, called the NC-stat.

When the test begins, you will feel slight electrical pulses that cause a short, mild, tingling sensation. These pulses will increase in strength until they cause your muscle to twitch. The pulses repeat approximately 15-20 times with about 5 seconds between each one. When testing for certain types of back pain, a few additional pulses may be necessary. It is important for you to remain relaxed during the entire procedure.

The results of this test will help your doctor determine whether your symptoms are related to nerve function.

## Will the test hurt?

Patients who have had nerve conduction studies with the NC-stat system describe the test as painless. Some patients describe a slight tingling sensation or a mild electrostatic shock. A few patients find the procedure to be somewhat uncomfortable. The test is harmless and each nerve can be evaluated in less than two minutes.

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