

## What are we studying?

In the Nerve Injury Unit at Massachusetts General Hospital we are trying to understand the connection between chronic pain and nerve damage, to improve diagnosis and treatment. A general term for this type of nerve damage is Peripheral Neuropathy.

## What are “small-diameter nerve fibers”?

Nerve damage causes different symptoms depending on which type of nerve fiber is damaged. Our laboratory is interested in damage to the small-diameter pain-sensing nerve fibers. Damage to these small nerve fibers can cause chronic pain and other symptoms. This kind of nerve damage is not detected by standard nerve tests such as EMG/NCS (electromyography and nerve conduction study).

## How can skin biopsies detect nerve damage?

Since small fiber damage cannot be measured, the only way to diagnose it is by biopsy. The standard way of detecting damage to small-fibers is to count how many there are within a tissue biopsy and to compare to expected values. The simplest way to do this is using skin biopsies taken under local anesthesia. The small nerve fibers penetrate into the skin so the skin can be biopsied rather than a nerve itself. The skin biopsies are turned into microscope slides that are specially labeled to show the nerve fibers within. Their numbers are counted and compared to normal values to determine if there is any nerve damage.

## Who can participate?

Most adults at least age 18.

You can participate whether or not you have pain symptoms

You cannot participate if you are taking blood-thinners (but one aspirin a day is OK)

You cannot participate if you have hemophilia or other cause of slow blood-clotting

This is *NOT* a treatment study.

There are no medications or new procedures being tested. We do not stop or change any medications your doctor may have prescribed.

## What does the study involve?

We will first speak with you by telephone to see if you meet the study requirements. We may ask permission to review your medical records.

If you are interested and accepted for study, you will come to the Massachusetts General Hospital for a visit that usually lasts about an hour.

An area above the ankle will be numbed by local anesthetic and one or two punch biopsies are removed from the anesthetized skin. The biopsies are about the size of the head of a pin (3 millimeter diameter) and do not need stitches. The area is covered with a sterile bandage that falls off after about a week.

Subjects will receive \$50 for each site biopsied or may volunteer for the study. We will also pay for parking costs at the Mass. General garage.

## Whom can I contact about the study?

If you are interested in more information about this research study, call The Nerve Injury Unit at 617-726-9391 and talk to one of our study staff, or email us at [NerveUnit@partners.org](mailto:NerveUnit@partners.org).

Partners Human Research Committee  
APPROVAL Effective Date  
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MASSACHUSETTS  
GENERAL HOSPITAL

## Skin-biopsy study of small-diameter nerve fibers

### Information about participating

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