

Skin Biopsy Specimen Shipping

Specimens should be returned the same day that they are taken in the original kit (with the provided ice pack). Ship via overnight express mail to:

Cleveland Clinic
Cutaneous Nerve Laboratory
Attn: David Polston, MD
9500 Euclid Ave. Lab TT3-05
Cleveland, OH 44195

The completed request form should also be included. After specimen collection, please call 216.444.5353 to notify us of the shipment.

Specimens must be returned immediately (the same day they are taken) for quality-control purposes. Do not ship specimens on Fridays, weekends or holidays.

If same-day return is not possible, please contact us for further instructions. Call 216.444.5353 with questions.

Specimen Processing and Reporting

Our staff will do a gross examination of skin biopsy specimens, which will be processed per our protocol. Damaged, over-fixed or poorly labeled specimens will not be processed and the referral office will be notified.

The biopsy will be interpreted and a biopsy report generated within two to three business days after processing is complete. The original copy of the biopsy report will be mailed and/or faxed to the referring physician, generally within two weeks after biopsy.

Contact Us

For more information, please contact David Polston, MD, at 216.444.5353 or 800.223.2273, ext. 45353. Visit us online at clevelandclinic.org/skin-biopsies.

Cleveland Clinic's Neuromuscular Center specializes in the diagnosis, treatment and research of neuromuscular disorders requiring a unique combination of medical expertise and compassion, including amyotrophic lateral sclerosis (ALS), peripheral nerve injury, myasthenia gravis and myopathies. To assist in the accurate diagnosis of these disorders, our specialists rely on modalities such as electrodiagnosis (EMG) and autonomic testing as well as muscle, nerve and skin biopsies to supplement the history and physical evaluation.

Specialists at the Neuromuscular Center offer comprehensive workups to achieve accurate diagnosis of nerve disease and rely on state-of-the-art treatment modalities to optimize quality of life. Both inpatients and outpatients benefit from well-orchestrated teamwork among Cleveland Clinic specialists and allied health professionals.

Neurologists, pulmonologists, rheumatologists, pathologists, anesthesiologists, surgeons and orthopaedists join forces with orthotic specialists, physical and occupational therapists, speech pathologists, dietitians, nurse clinicians and social workers to offer comprehensive and compassionate care for those with neuromuscular disorders.



Every life deserves world class care.

9500 Euclid Ave., Cleveland, OH 44195

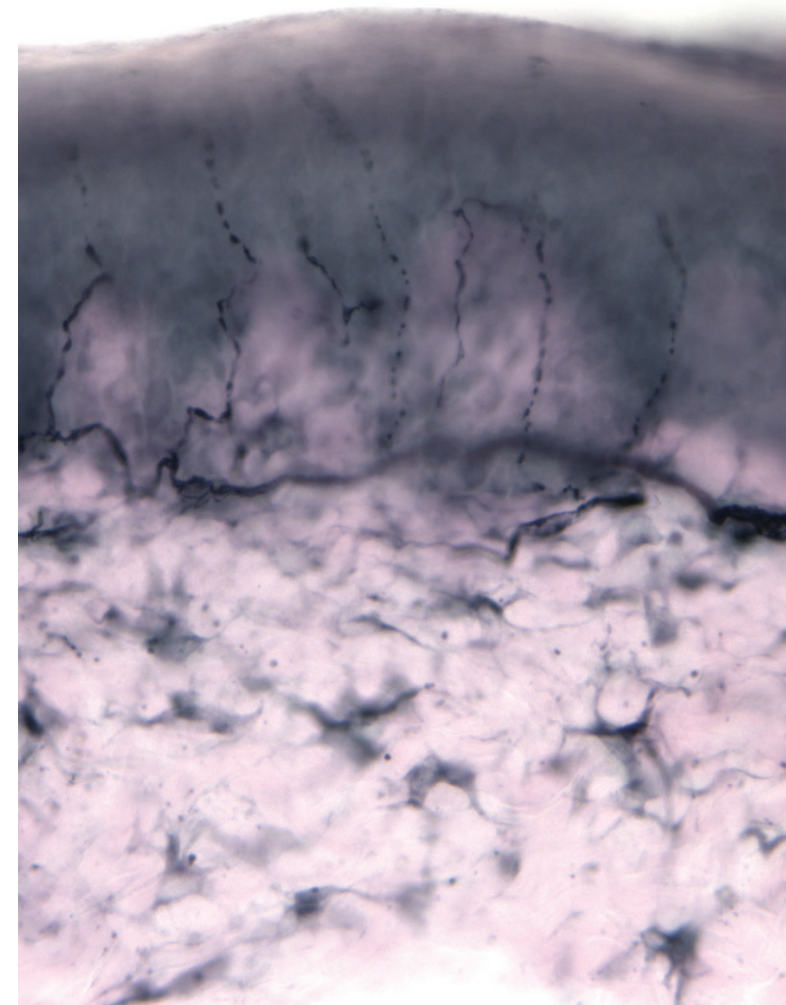
The Neurological Institute is a leader in the diagnosis and treatment of common and complex neurological disorders of adult and pediatric patients. Its more than 300 medical, surgical and research specialists combine expertise and compassion to achieve measurably superior results. By promoting innovative research and integrated care models, the Neurological Institute accelerates the adoption of new treatments and technologies into patient care. The Neurological Institute is one of 27 institutes at Cleveland Clinic, a nonprofit, academic medical center ranked among the nation's top hospitals (*U.S. News & World Report*), where more than 4,000 physicians and researchers in 140 specialties collaborate to give every patient the best outcome and experience. clevelandclinic.org

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Skin Biopsy in the Diagnosis of Small Fiber Neuropathy:

A Guide for Providers



Why a Skin Biopsy Can Be Useful and Convenient

Cleveland Clinic's Cutaneous Nerve Laboratory, a College of American Pathologists-accredited laboratory, is dedicated to improving diagnosis and research in small fiber sensory neuropathy. Small fiber sensory neuropathy is a common neuromuscular disorder associated with many medical conditions, including diabetes mellitus, amyloidosis, HIV infection, connective tissue diseases and pharmacological neurotoxicity.

The clinical presentation usually consists of cutaneous pain, sensory loss and autonomic dysfunction, which can lead to functional impairment. Some patients may present with pain as the primary or only symptom, but pain is inherently subjective and difficult to measure or quantify. A sensitive and specific diagnostic tool is thus essential for making a correct diagnosis and providing appropriate subsequent management.

Small caliber nerve fibers cannot be evaluated by nerve conduction studies, but histological examination of skin allows quantitation of intra-epidermal nerve fiber density to confirm a diagnosis of small fiber sensory neuropathy. It can be safely repeated to monitor disease progression or treatment response.

3-mm punch biopsies are easy-to-learn, minimally invasive, reimbursable procedures that can be performed in an outpatient office. An outline of the collection process is included.

Our new specimen collection protocol allows you to request free kits in advance, keep them in your office at room temperature (constituents included are stable for up to one year), and then ship specimens overnight directly to our lab. This revised protocol will allow you to perform the biopsy during the same clinic visit, making it more convenient for you and your patients.

Alternatively, you may refer a patient directly to our skin biopsy clinic to have specimens collected.

Requesting a Skin Biopsy Kit

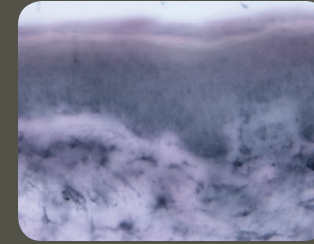
You may call us at 216.444.4131 or 216.444.5353 to notify us of your desire to obtain a skin biopsy kit.

The kit will be shipped to you and may be stored at room temperature (for up to one year) until you are ready to perform specimen collection.

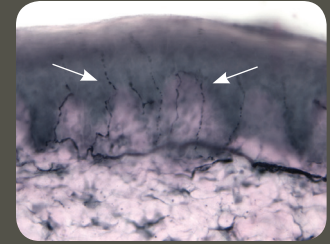
Skin biopsy kits contain a 3-mm biopsy punch tool, a scalpel, forceps and specimen tubes filled with fixative solution, an ice pack (to be kept frozen until used), a patient referral form and a return shipping label.

Skin Biopsy Specimen Collection

- a. Place the patient in a lateral position.
- b. Identify three standard biopsy sites in one leg: distal leg (10 cm proximal to the lateral malleolus), distal thigh (7 cm proximal to the lateral knee) and proximal thigh (7 cm distal to the lateral greater trochanter). You may collect and send fewer specimens, but interpretation is optimal when all three specimens are collected.
- c. Clean the biopsy sites with alcohol swabs and prepare the areas with local anesthesia.
- d. Perform the biopsy using a 3-mm punch.
- e. Remove biopsy specimens using a surgical blade and forceps technique. (Avoid pinching the epidermis.)
- f. Put each specimen into a tube containing fixative solution immediately after removal.
- g. Label the tube with the patient's name, DOB, and biopsy side and site (e.g., "left distal leg").
- h. Bandage the sites. No stitch is needed. Patient may shower after 24 hours.



Representative section from a patient with severe small fiber neuropathy. Note that the specimen is devoid of nerve fibers in the epidermis.



Representative section from a patient with normal nerve fiber density. Note the presence of the nerve fibers as indicated with arrows.

Patient Referral

You may choose to refer patients directly to us to have specimens collected in our skin biopsy clinic.

To do so, please either (1) call our clinic at 216.444.5353 or (2) complete the patient referral form at clevelandclinic.org/skin-biopsies and fax it to 216.445.1563. We will then contact the patient and schedule the biopsy.

For additional information, see our downloadable protocols at clevelandclinic.org/skin-biopsies under "Resources."