

Introduction

Muscle biopsies are performed in the evaluation of patients with neuromuscular or metabolic disease. The procedure is requested by the treating physician, usually a neurologist or rheumatologist, and performed by a surgeon.

These specimens require highly-specialized tissue handling and staining procedures and interpretation by a neuromuscular pathologist. A comprehensive panel of enzyme histochemistry and special stains is performed on all specimens.

Additional studies, including electron microscopy and immunohistochemistry for dystrophy-associated antigens, will be performed at the discretion of the neuromuscular pathologist based upon the light microscopic findings and clinical information provided.

The best value for the patient is achieved when the treating physician provides pertinent clinical information, the surgeon removes an adequate specimen, and the local pathology laboratory packs the specimen properly and ships it promptly.

Peripheral nerve biopsies are often performed at the time of muscle biopsy. Nerve biopsies have different handling requirements and are described on the sheet entitled "Information Sheet for Nerve Biopsy Specimens."

Treating Physicians and Surgeons

Prior to requesting a biopsy, the treating physician should obtain a Muscle/Nerve Surgical Requisition from the local pathology laboratory or online at clevelandcliniclabs.com.

Fill it out completely and provide it to the surgeon prior to the date of surgery. Whenever possible, biopsies should be scheduled Monday–Thursday. If the biopsy must be performed on a Friday, or if the specimen is originating from outside the continental United States, ask the local pathology laboratory to contact the Surgical Pathology Desk for additional information.

Muscle Specimen Requirements

The biopsy specimen should be a longitudinal piece of muscle 0.8 to 1.0 cm in diameter and at least 2.5 to 3.0 cm in length. For young children, a strip 0.5 cm in diameter and 2 cm in length is acceptable. If the initial sample is too small, additional should be taken.

The surgeon should be instructed to place the specimen on Telfa gauze moistened with saline and deliver promptly to the Pathology Laboratory. The specimen **MUST NOT** be immersed in saline. Muscle clamps **SHOULD NOT** be used unless

the surgeon requires their use. The Muscle/Nerve Surgical Requisition should accompany the specimen.

Pathology Laboratory Handling and Shipping Instructions

Fresh specimens should be shipped for arrival in our laboratory prior to 5 p.m. by same day or overnight courier service. Contact the Surgical Pathology Desk to alert the lab for any case expected to arrive on a Saturday.

For your convenience, we can provide shipping kits containing all supplies needed for the following steps:

1. Wrap the tissue in a saline-moistened Telfa pad and place in a screw cap container. A minimum of two of three identifiers (patient's name, date of birth, social security number) must be present on both the specimen container(s) and requisition. Biopsies from separate sites should be placed in separate specimen containers, but shipped in one shipping container.
2. Place specimen container(s) in sealable plastic bag with absorbent pad. Place in a Styrofoam shipping container with sufficient wet ice or cold packs to keep specimen at 4–8°C for 24–48 hours. **Do not freeze.**
3. Place completed requisition on top of styrofoam. If a nerve biopsy was performed during the same procedure and is being shipped separately, indicate this on the requisition.
4. Seal box. Address air bill for overnight courier service (UPS/FedEx) as follows:

Surgical Pathology
Cleveland Clinic Laboratories, L15
2119 East 93rd Street
Cleveland, OH 44106
Phone: 216.444.4767

Cleveland Clinic Laboratories Contact Information

Client Services
800.628.6816

For general inquiries and shipping kits.

Surgical Pathology Desk
216.444.2836

For technical tissue handling and shipping questions.

Neuromuscular Pathology Secretary
216.444.2843

To speak to a neuromuscular pathologist regarding medical pathology questions, including specific tests offered, their indications, and interpretation.