

NERVE BIOPSY SURGICAL PROCEDURE

General information

NOTIFY THE NEUROMUSCULAR PATHOLOGY LAB at the AUBMC whenever **that a nerve biopsy is scheduled**. This is helpful in order to discuss the differential diagnosis with the referring physician, **to plan needed special procedures** and any required biochemical, histochemical or genetic studies.

A TISSUE PATHOLOGY REQUEST FORM should be completed with all known clinical, electrophysiologic, radiologic, and laboratory data.

List **location, side, and name of the nerve that is sent for evaluation**.

SELECTION OF THE NERVE TO BE BIOPSIED

- **A 4cm segment** of distal **sural nerve** at the ankle is most practical.
- A more **proximal segment** of the sural nerve is removed from the calf if the gastrocnemius muscle is biopsied in the same procedure.
- The **superficial peroneal nerve** is also easily accessible if biopsy of peroneal muscle is scheduled to be done simultaneously.
- In the upper extremities, the **radial nerve at the wrist** is sometimes used.
- Small branches of **distal motor nerve** may be required in rare cases of isolated motor neuropathies.

NB: Please indicate proximal end by inserting a **black silk suture**.

SURGICAL PROCEDURE

- **Use local 1% lidocaine anesthesia** to infiltrate overlying skin. **Avoid epinephrine**.
- **A 5 cm skin incision** of the posterior lateral lower third of the leg is used to dissect the distal retro-malleolar sural nerve. This wide approach enables the surgeon to cut a 4 cm segment for pathological evaluation, without pulling on the nerve.
- **Avoid rough handling** of the sural nerve, avoid **pulling** on the incised segment with the clamp.
- **Avoid electrocoagulation** of adjacent blood vessels before removing nerve segment.
- The resected segment **of nerve is gently stretched** over lightly **dampened** surgical gauze (with few drops of physiologic saline). Do not float the tissue in saline or any fixative.

- The proximal end of the nerve is indicated by a black **silk suture in the tip of the proximal end.**
- **The moist gauze** with the resected specimen is placed in a surgical specimen container and labeled with the patient's name, site and side of biopsy.
- **Do not use any fixative or ice.** The specimen should be carried fresh, promptly from the OR to the Neuromuscular Diagnostic Lab at the AUBMC

SPECIMEN PICK-UP

The specimen **should remain fresh, without immersion in any fluid or fixative. It is wrapped in surgical gauze, lightly dampened with saline, and then put in a plastic container to be sent to the AUBMC Neuromuscular Lab as soon as possible.**

- Specimen may be sent by courier, or with the patient's family, from the referring institution, as soon as possible following surgical removal. Hand delivery, ASAP, is the most reliable.
- Keep the specimen cool and moist during transport, but **avoid floating the specimen into any fluid, fixative or saline. Avoid using ice** in proximity to specimen.