

## Procedure for Handling and Shipping Muscle and/or Nerve Tissue to Vanderbilt Neuropathology

**Please notify the Neuropathology Lab that you are sending a sample:**

Division of Neuropathology 615-322-3998 or 1-800-551-5227, x8

**The Neuropathology lab receives biopsies until 3:30 Monday – Friday. The lab is closed on weekend and holidays. If the samples cannot be delivered by courier in that time frame, special arrangements need to be made with Neuropathology.**

**Questions should be directed to:**

**VPLS:** Tom Peters (account and shipping info) 615-936-0510 or 1-800-551-5227, x4

**Division of Neuropathology:** (technical) 615-322-3998 or 1-800-551-5227, x8

**Shipping Address: (ship frozen sample separate from formalin and glut. samples)**

**Use FedEx Priority Overnight**

VUMC Neuropathology  
1161 21<sup>st</sup> Ave. South  
C-2318 MCN  
Nashville, TN 37232-2561  
615-322-3998

**Supplies available from VPLS: (call 1-800-551-5227, x3 for supply orders)**

2% glutaraldehyde

Talcum powder

Shipping boxes

Pre-Addressed FedEx Air bills

## **Muscle biopsy samples for special histochemical analysis:**

Muscle samples should be fresh and be at least 1.0 cm in length, 0.5 cm in width, and 0.5 cm in depth for general studies. More material will be needed if metabolic or mitochondrial studies are required.

## **Method 1**

**Specimens that can be transported to Vanderbilt Neuropathology within 4 hours:**

- Fresh muscle should be placed in a saline-moistened (not soaked or watery-wet) 4x4 gauze pad and placed in a sealable container labeled with the patient name and another appropriate identifier.
- The container should then be placed in a zip lock bag to prevent the label from getting wet and placed should on a bed of regular ice (not dry ice) in another bag and placed in a Styrofoam shipping container.
- Seal the Styrofoam container with packing tape before placing it into the cardboard box to prevent leaking. If the ice leaks FedEx will ship the package back.
- Place the completed requisition form and any other information on top before sealing the cardboard box.
- For local area specimen pick up requests, please contact our courier service by calling 615-936-0510, x2.

## **Method 2** *(preferred method for overnight transport)*

### **Specimens for overnight FedEx transport, and the sending facility has the following:**

Liquid nitrogen	OCT freezing media
Plastic disposable molds, cork or non-corrugated cardboard	Unscented talcum powder 10% NBF 2% Glutaraldehyde

- Fresh muscle samples should be oriented and any excess fat removed. The sample should then be divided into **3 portions. (Any tools used cannot be contaminated with fixative since this interferes with staining)**

### **Part 1**

- Approximately 2/3 of the sample is to be frozen with OCT. Cover this sample with talcum powder keeping it oriented. Wait approximately 2-3 mins and then place the sample in the mold orienting it so that the cross-section is facing up (Do not remove excess talcum powder). (*See diagram 1*).  
\*\*VPLS can provide talcum powder. Omitting the talcum powder can cause ice artifact that can hinder diagnosis.

**NOTE: If the sample is needed for metabolic or mitochondrial studies, one piece must be frozen separate without talc and OCT.**

- With long forceps, submerge the whole specimen into the liquid nitrogen. (*See diagram 2*). Keep it submerged until the liquid nitrogen stops bubbling. 10-15 seconds.
- Place the specimen in a small sealable vial that is labeled with the patient's name and another appropriate identifier. Store in dry ice or at -80°C until ready to ship.

**Do not allow the specimen to thaw.**

- Place the frozen sample in a Styrofoam box filled with dry ice and seal with packing tape.
- Place the Styrofoam box into a cardboard box and include the completed form, insurance information and history and close with packing tape. The sample should be shipped via FedEx. For shipments with dry ice, federal regulations dictate that the following be visible on the outside of the container:

ORM-A-UN1845      DRY ICE FOR MEDICAL USE

- **Formalin and glutaraldehyde-fixed samples are to be shipped in a separate box from the frozen sample so they do not freeze.**
- All samples sent to Vanderbilt must be accompanied with a completely filled out consultation form and be accompanied with history and billing information.

### **Part 2**

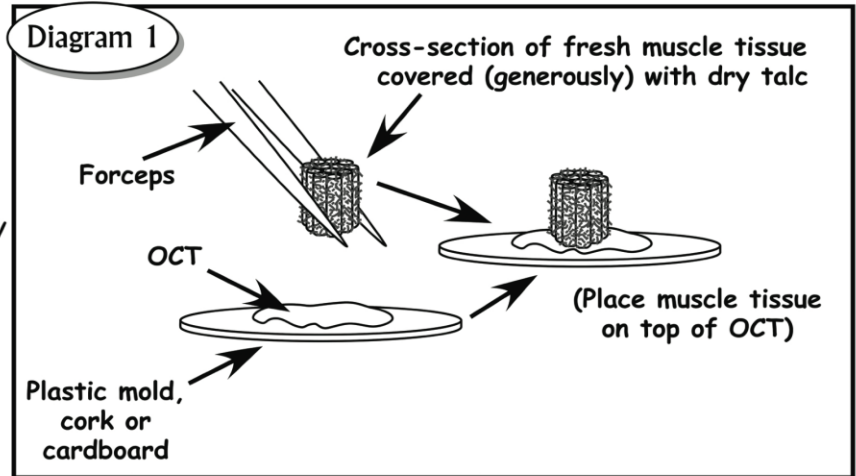
A smaller piece measuring approximately 0.5 cm x 0.5 cm placed in a container of 10% NBF that is labeled with the patient's name and another appropriate identifier.

### **Part 3**

If 2% glutaraldehyde is available, place a very small piece measuring approximately 0.1cm x 0.1cm in a container that is labeled with the patient's name and another appropriate identifier.

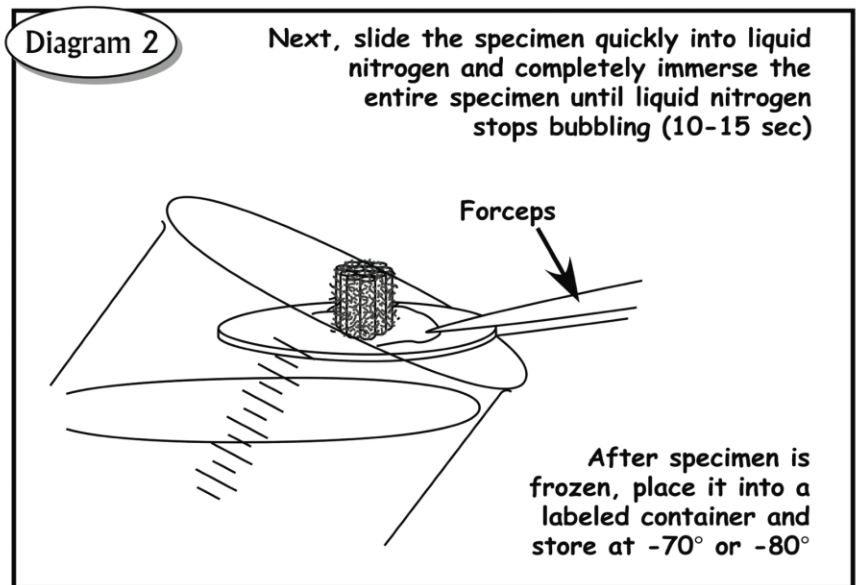
NOTES:

1. When covering specimen with dry talc, cover generously and do not shake off excess talc before placing into the OCT.



2. Immerse specimen quickly for freezing. After freezing, do not allow specimen to thaw.

Store the specimen immediately at  $-80^{\circ}\text{C}$  or ship immediately in dry ice.



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## Method 3

**PLEASE NOTE:** This is not the preferred method for receiving overnight muscle samples.

If the sending facility does not have liquid nitrogen or other needed supplies, samples can be shipped on wet ice via FedEx Priority Overnight shipping. See Method 1 for packing instructions. Please record tracking number. Delays in processing or shipping will adversely impact quality of the biopsy specimen.

# Nerve Biopsies

At least a 2 centimeter length of peripheral nerve (usually sural nerve) should be sent:

## **Method 1** (*preferred method*)

- Lay the nerve out straight on a wooden tongue depressor or other similar item. There is no need to attach the nerve since a fresh nerve will stick to the wood.
- Place in a container of 4% glutaraldehyde labeled with the patient name and another appropriate identifier. (*NOTE: if 4% glutaraldehyde is not available 2% is acceptable*)
- Please include the completed requisition and any other information in package.

The samples should be sent FedEx priority overnight:

VUMC Neuropathology  
1161 21<sup>st</sup> Ave. South  
C-2318 MCN  
Nashville, TN 37232-2561  
615-322-3998

## **Method 2**

- The nerve should be placed in a saline-moistened (not soaked or watery-wet) 4x4 gauze pad and placed in a container labeled with the patient's name and another appropriate identifier.
- The container should be then placed in a zip lock bag to prevent the label from getting wet and placed should on a bed of regular ice (not dry ice) and then placed in a Styrofoam shipping container.
- Seal the Styrofoam container with packing tape before placing it into the cardboard box. Place the completed requisition form and any other information on top before sealing the cardboard box.
- The sample should be sent FedEx Priority Overnight see above.

*For more information or assistance with referring Muscle or Nerve biopsies, please contact VPLS at 1-800-551-5227 or visit us on-line at [www.labVU.com](http://www.labVU.com)*