



Method for Sending Muscle or Nerve Biopsy

1. Please notify the Neuromuscular Pathology Office ON THE DAY you plan to send a biopsy, Jacob Bockhorst, **303-724-2188**. **We are available to receive specimens between the hours of 8 a.m. and 5 p.m. Monday thru Friday.** After hours specimen can be delivered to Gross Room drop off.
2. **Providers have a couple of options for sending biopsy.** For the best result, we prefer same day delivery. If this is not possible, please keep biopsy in the refrigerator overnight & courier to us the next morning. Another option is to send the biopsy via FedEx overnight to be arrive the following morning.

Address for delivery via courier service:

University of Colorado Hospital – AIP
Surgical Pathology - Gross Room Drop-off
12605 E. 16th Ave.
3rd Floor, Window 3.124
Aurora, CO 80045

Address for delivery overnight by FedEx:

UC Denver at AMC
Attn: CU Neuromuscular Pathology Lab
12700 East 19th Ave.
P15-5450A
Aurora, CO 80045

3. **Please provide a clinical question and enclose a clinical summary**, information about history and clinical, electrophysiological and laboratory evaluations to help us more fully evaluate the patient's tissue.
4. Indicate who should receive the final report (**referring physician**, hospital, pathologist) along with a mailing address and telephone number. The full battery takes 10 days to complete, however, you may call after 48 hours for preliminary results.
5. **University Hospital's policy is to bill the sending hospital. We will not bill patient's insurance.**
6. **The muscle biopsy procedure and handling:**
For optimal results, we recommend following these steps:
 - a. Identify a muscle which is mildly to moderately weak (MRC grade 4- to 4+) since weaker muscle often only show nonspecific end stage changes. Muscles which are commonly biopsied and have normative histopathological data include the deltoid (posterior division), biceps, quadriceps (vastus lateralis) and gastrocnemius muscles. The gastrocnemius has more variation and often wound healing is more difficult compared to other sites. Please contact us if you are unable to decide on which muscle to biopsy before beginning biopsy and we will try to assist you.
 - b. Relative contraindications to having a muscle biopsy include patients with a bleeding diathesis or receiving anticoagulation are best assessed by the surgeon performing the procedure.
 - c. When anesthetizing the skin and subcutaneous tissue, do not infiltrate the muscle with the anesthetic, this causes artifacts.



- d. Isolate a 15 mm long specimen with a diameter of 5-10mm (**roughly 1 cm³**). Sutures around the width of the specimen helps us orient it correctly.
 - e. **Please submit two (2) 5-10 mm diameter** of the muscle biopsy if possible.
 - f. Wet gauze with saline, **wring out excess saline**. Place muscle biopsy in moist gauze and put it in a specimen cup. **DO NOT SOAK OR FLOAT THE SPECIMEN IN SALINE.** Please use saline as little as possible. Too much saline causes disruption and freeze artifact.
 - g. We strongly discourage the use of muscle clamps, as this induces trauma and consequently, unacceptable levels of artifact.
 - h. If the specimen is to be delivered within the hour (cab, courier) it can be sent at room temperature. If overnight delivery is necessary, place the container in a Styrofoam box and surround it with coolant packs (Blue Ice). Do not send on wet ice, as it tends to melt through the box. Request priority overnight delivery. It is important to notify our office that a biopsy is expected, so that we can trace missing packages quickly.
7. **The nerve biopsy procedure and handling:**
- a. Relative contraindications to having a muscle biopsy such as a hypocoagulable state are best assessed by the surgeon performing the procedure.
 - b. **Please submit two (2) 20 mm long specimens** of the sural nerve for full interpretation.
 - c. Wrap Wet gauze with saline, **wring out excess saline**. Place muscle biopsy in moist gauze and put it in a specimen cup. **DO NOT SOAK OR FLOAT THE SPECIMEN IN SALINE.** Please use saline as little as possible. Too much saline causes disruption and freeze artifact.
 - d. If the specimen is to be delivered within the hour (cab, courier) it can be sent at room temperature. If overnight delivery is necessary, place the containers in a Styrofoam box and surround it with coolant packs (Blue Ice). Do not send on wet ice, as it tends to melt through the box. Request priority overnight delivery. It is important to notify our office that a biopsy is expected, so that we can trace missing packages quickly.

Please contact us with questions that you have at the Neuromuscular Pathology Laboratory at (303) 724-4342.

Matthew Wicklund, M.D.
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Neuromuscular Division, Department of Neurology
University of Colorado School of Medicine
Anschutz Medical Campus
Phone: (303) 724-2188
Fax: (303) 724-2202



SCHOOL OF MEDICINE
Neuromuscular Lab
 UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS

CU Neuromuscular Pathology Office
 12631 E. 17th Ave
 Room 5113C/MS B-185
 Aurora, CO 80045
 303-724-2188

Specimen Submission Form

Sending Institution: _____

Date Obtained: _____

Date Received: _____

- Muscle, Quadriceps L R
- Muscle, _____ L R
- Sural Nerve L R
- Other _____

Patient Name: _____ **DOB:** ____/____/____

Referring Physician: _____ **Phone:** (____) _____

Pathologist Name: _____ **Phone:** (____) _____

Clinical History: (please attach clinical notes, EMG, and laboratory testing)

Office/Person to contact with questions and results:

Institution: _____

Attn: _____

Address: _____

Phone #: _____ **Fax #:** _____

Please include a Hospital Face Sheet or provide the following billing information

Patient Name: _____ **DOB:** ____/____/____

Patient Address: _____
 _____ **Phone:** (____) _____

Insurance Name: _____

Insurance Address: _____
 _____ **Phone:** (____) _____

Group #: _____ **Subscriber #:** _____