



**DEPARTMENT OF PATHOLOGY
ANATOMIC PATHOLOGY
COLLECTION PROCEDURES**

Principle:

Specimen collection, handling, and results reporting are critical to the accuracy of results and patient safety. **Surgical Pathology Section of the Department of Pathology at UMMC in Jackson, MS will only accept biological specimens from qualified personnel. Our definition of qualified personnel is to include *only* the following individuals:**

- 1. Physicians, nurse practitioners, and other persons, as expressly authorized by institutional policy and Mississippi law, i.e., in possession of a valid Mississippi license issued by the Mississippi Board of Medical Licensure.**

There is NO deviation from the practice outlined therein.

Procedure:

I. Specimen collection:

1. Specimens must be accompanied by a surgical pathology consultation card/EPIC requisition order containing the following elements, as applicable:
 - a. Adequate patient identification information, at least two unique identifiers (e.g. name, registration number, location or a unique specimen accession code), patient sex, date of birth or age.
 - b. A brief clinical history, operative diagnosis, surgical procedure
 - c. The date and time specimen was removed, source or site of the surgery.
 - d. Name and telephone/pager numbers of the physician, legally authorized person ordering the test, or name and address of the laboratory referring the specimen.
 - e. Test requested (frozen/ intraoperative consult, electron microscopy, immunofluorescence, cytogenetic work up and others)
2. Routine surgical specimens will be submitted in labeled containers completely filled with 10% buffered formalin. The volume of formalin should be at least 10 times the volume of the specimen. Large specimens which are difficult to fix should be carried to the laboratory as soon as possible. The 10% buffered formalin can be obtained from Surgical Pathology. Each formalin container must have formalin warning labels affixed, patient identification labels, type of tissue and any BIOHAZARD precautions.
3. Specimens submitted for rapid diagnosis/intraoperative consults (frozen sections, touch preparations, gross examination of specimens) should be delivered fresh and saline moistened in a separate labeled container, accompanied by a separate request form for

each specimen submitted. These must be delivered immediately to the laboratory. The time of removal together with the proper information must be included on the request form

4. Specimens needing other than routine fixation and hematopathology triage should be submitted immediately after removal and in the fresh state to the pathologist-on-call. Examples of this include: all lymph nodes, soft tissue and bone tumors, kidney and muscle biopsies.
5. Any tissue specimen (other than swabs and fluids) which requires microbiology examination/culture should be obtained and submitted by the requesting physician directly to the Clinical Laboratory whenever possible. If tissue for culture is delivered directly to Surgical Pathology, the grossing/on-call resident or pathologist will be notified to take care of the culture.
6. Labels on the specimen containers will have the following information:
 - i. Patients name (Last, first, middle initial).
 - ii. Patient's identification numbers (Medical Record Number is essential; Encounter Number is desirable).
 - iii. Origin of specimen.
 - iv. Specimen number if more than one specimen is submitted.
7. If multiple specimens are removed, each should be placed in a separate container with proper labeling. However, only one Surgical Pathology Consultation Card/Epic Requisition is required.
8. The specimen container with accompanying Surgical Pathology Consultation Card/Epic Requisition will be brought to the Surgical Pathology section of the Anatomic Pathology Division, Room N208. Tissues and forms will be inspected as quickly as possible upon arrival. Complete information, as outlined above, is required before specimens will be accepted for processing.
9. Upon arrival each specimen will be given a unique accession number and the date and time that the specimen was received will be recorded.
10. If removed metal components (i.e. orthopedic hardware) needs to be returned to the submitting service, please indicate it on the Surgical Pathology Consultation Card/Epic Requisition and make arrangement to procure them.
11. Rush specimens:

A rush biopsy is a specimen in which the clinician needs a diagnosis on the same day as submission. Indicate clearly on the requisition if rush results are desired.

A STAT biopsy is a specimen that the clinician needs a diagnosis before 8:30 am on the morning following tissue submission. Indicate clearly on the requisition if a STAT result is desired.

II. Receiving specimens:

1. The specimen container with accompanying Surgical Pathology Consultation Card/Epic Requisition will be brought to the Surgical Pathology section of the Anatomic Pathology Division, Room N208.

2. Tissues and forms will be inspected as quickly as possible upon arrival. Complete information, as outlined above, is required before specimens will be accepted for processing.
3. If a test ordered is unclear (orders using non-standard or non-specific terms), the nursing unit or physician is contacted to provide clarity.

III. Specimen rejection criterion:

1. Specimens will be rejected in the following situations:
 - i. Lack of Surgical Pathology Consultation Card/**Epic** Requisition
 - ii. Specimen container lacking patient name and/or unique identification numbers.
At least two patient-specific identifiers must be present in all specimen requisitions and containers.
 - a. Acceptable identifiers include but are not limited to patient name, date of birth, medical record number, social security number, accession number
 - iii. Pathology Consultation Card/**Epic** order lacking patient name and/or unique identification numbers
 - iv. Specimen container and requisition sheet labeling discrepancy
 - v. Formalin/Specimen spilled in bag
 - vi. Lack of requesting authorized physician or other authorized medical provider
 - vii. Unlabeled specimen containers
 - viii. Unclear test order
 - ix. Placenta specimens without gestational age
 - x. B5 fixed specimens
2. The Specimen Rejection Form will be completed and returned with the specimen to the appropriate submitting service to be resolved by qualified personnel. The form should be completed and returned upon resubmission of specimen.
3. Surgical Pathology personnel are not allowed to correct specimen labels; the submitting service is responsible for correcting specimen labels. However in unique situations, correction of information on specimen label is permitted – this must be done by the lead tech/designee only after establishing communication with the submitting clinician, assigned pathologist or section director.
4. The number and reasons of specimen submission and labeling errors will be documented monthly; if required education of personnel collecting specimens will be performed with adequate follow up.

IV. Special Instructions:

1. **Muscle Enzyme Histochemistry:** call the laboratory before specimen delivery (see below, VI).
2. **Breast Specimens:** The following information must be clearly stated on the requisition:
 - a. Collection date and time

- b. Time in formalin
- c. Clinical history
- 4. **Kidney Biopsies:** Place biopsies on a saline dampened talpa pad and deliver immediately to N208.
- 7. **Hardware:** Formalin is not required. Hardware will be returned to the orthopedic service upon request.
- 8. **Bullets:** Bullets, bullet fragments, and pellets are not received in the lab. Call campus police for retrieval.
- 9. **Lymph nodes:** Deliver fresh to N208 immediately after collection if lymphoma protocol is desired.
- 10. **Frozens:** Deliver immediately to N208 in a fresh state. Clearly indicate on the requisition that the specimen is for frozen sectioning.
- 11. **Fresh Samples:** If the sample requires testing that indicates a sample must be received fresh, place small tissue fragments on a saline dampened talpa pad to prevent the drying and hardening of the tissue.

V. **Referral Laboratory Specimen Handling:**

1. Only CLIA- certified laboratories approved by the clinical director of the laboratory and administration are used as reference laboratories.
2. For specimens sent to reference laboratories, all requisition, collection and handling specifications consistent with the referral laboratory collection and handling requirements are followed.
3. Type of specimen sent (specimen in formalin (along with duration in formalin if possible), paraffin block or frozen tissue) must be indicated in the requisition sheet.
4. Preoperative diagnosis must be provided.
5. When applicable, a provisional or final pathologic diagnosis must be provided.
6. The laboratory staff and /or secretaries must properly pack and label the specimen to indicate the general nature of the specimens. In most circumstances either Fedex or a manual courier is used for transportation of specimens to the reference laboratory in Surgical pathology.
7. All federal, state and local regulations must be followed when shipping infectious material.
8. Specimens sent out in surgical pathology are flagged in Copath. Records of dispatch/shipment receipt are maintained by the secretaries.
9. Pathologists must follow up for results of specimens not received within the stipulated turnaround time of the reference laboratory.

VI. **Skeletal muscle biopsy**

1. The laboratory should be notified 24 hours before delivery of the specimen. Please call (984-1584 or 984-1543) between 8:00 AM and 5:00 PM, Monday through Friday. Inform the UMC technologist about the patient's name, the biopsy site, the originating

institution or laboratory, laboratory phone number, the name of the person giving technical information, the name of the patient's physician, and how the specimen will be shipped (e.g. couriers, Federal Express, etc.)

2. Desirable Specimen Size

Two strips of muscle, each 1cm in diameter and at least 2 cm long, should be submitted. To optimize the appearance of the muscle in section, the biopsy surgeon should fasten these strips of muscle on a tongue blade with sutures at each end of the tissue. Notches can be made in the rounded ends of the blade to facilitate the stabilization of the muscle in a slightly stretched position. This is done to prevent any contraction. Contraction artifact, especially at the ultrastructural level, is a major hindrance to biopsy interpretation.

3. Preparation for Shipment

- a. Tongue blades with the two strips of muscle should be placed on a saline moistened gauze and wrapped to prevent drying.
- b. Be sure to **SQUEEZE** excess saline solution out of the gauze before wrapping the specimen. **DO NOT TOTALLY IMMERSE THE TISSUE IN SALINE OR PLACE DIRECTLY ON DRY ICE.** Severe artifacts will result.
- c. Please **DO NOT ATTEMPT TO FREEZE THE TISSUE IN THE FREEZER** (i.e. at 4° centigrade), because ice crystallization artifact will occur.
- d. Place the tissue, wrapped in the saline-moistened gauze, into a specimen cup.
- e. Label the specimen cup with patient's name, date, institution or laboratory, and insert the cup into a polyethylene bag.
- f. Keep the bag on crushed ice (**NO DRY ICE!**) to keep cool during transportation.
- g. **DO NOT EXPOSE THE SPECIMEN DIRECTLY TO FORMALIN, OR EVEN TO FORMALIN VAPORS, OR THE DETECTION OF HISTOCHEMICAL ENZYMES WILL BE IRREVOCABLY ALTERED.**

4. Paperwork

Please complete the form provided, including any pertinent historical, laboratory (e.g. CPK enzyme levels), and EMG data. Enclose this form with each muscle biopsy sent to our laboratory.

5. Specimen Delivery

Muscle biopsies from local hospitals are delivered by courier. The courier should bring the specimen to the University of Mississippi Medical Center Department of Pathology, Histology Lab, located on the second floor of the north wing of the main hospital. Laboratory is in Room N208.

**ADDRESS SPECIMEN TO :
UNIVERSITY OF MISSISSIPPI MEDICAL CENTER
DEPARTMENT OF PATHOLOGY
(NEUROPATHOLOGY LAB)**

2500 NORTH STATE JACKSON, MS 39216

If at any time you have questions, please call the histology laboratory, between 8:00 and 5:00 p.m. Monday through Friday.

VII. Nerve Biopsy

1. Advise patient that possible pain, numbness and infection may result from the procedure.
2. Remove the sural nerve from the ankle starting at the lateral malleolus and extending 2.5 inches superiorly. Avoid biopsy of the adjacent saphenous vein.
3. Avoid traumatizing the nerve during dissection.
4. Cut the nerve using a scalpel while placing a tongue depressor under the nerve.
5. Remove a 1.5 inch piece and signify the proximal portion by tying a suture on it.
6. Place nerve on the tongue depressor.
7. Cut off 0.5 inch from each portion of the nerve.
8. Identify distal and proximal ends and place on a saline MOIST 4x4 sponge.
9. Place sponge into a closed container of wet ice **OR** place in 10% neutral buffered formalin.