

SLUCare Pathology

Histology Laboratory

Saint Louis University School of Medicine

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Renal Biopsy Collection Instructions

Purpose: To ensure proper handling and transport of renal biopsy specimens for light microscopy (LM), immunofluorescence (IF), and electron microscopy (EM).

Principle: Renal biopsies, also known as kidney biopsies, are performed to aid in the diagnosis of suspected kidney problems, determine the severity of the pathologic process, and assist in determining the optimal treatment. Renal biopsies are also performed to monitor how well a transplanted kidney is functioning and/or to identify the early signs of rejection. They can be obtained by percutaneous needle biopsy or by “open” wedge biopsy.

— **Safety** — Be sure to follow all universal precautions when handling any kind of fresh tissue. There are two options when handling renal biopsies. They are listed in order of preference.

Preferred Method

NOTE: Time of collection to time of receipt in lab should not be greater than 2 hours.

- Place biopsy on saline-moistened Telfa (NOT gauze) or on a glass slide, inside a specimen container.
 - Ensure that the container is labeled with two patient identifiers, the location of the biopsy, and the collection time.
- Place the container in a biohazard bag with a cold pack or ice. Place bag inside a larger plastic container or box and send to the Histology Laboratory via the fastest transport method.
 - **Note: The transport container should *NOT* be a padded envelope.**
- Include a “Fresh Tissue/Electron Microscopy” specimen requisition, which can be found on the SLUCare Department of Pathology website, and a patient demographics sheet.

<https://www.ssmhealth.com/getmedia/28559241-8981-4eb8-a50e-9b37d70d2167/slucare-forms-microscopy.pdf>

- See the “Required Information and Courier Instructions” on page 3.

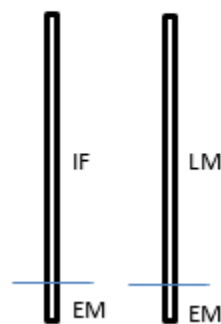
Alternate Method: For TRAINED personnel only

- A trained person may divide the renal biopsy for LM, IF, and EM.
 - It should be divided as soon as possible to avoid fixation artifacts.
- Place portions of the tissue in the appropriate solutions (see below).
 - Use a razor blade or scalpel to cut the tissue.
 - Do NOT use fine-tipped forceps or serrated forceps (can cause crush injury to the tissue).
 - Keep the tissue damp with saline, NOT water.
- Use a hand lens or dissecting microscope to identify glomeruli and divide the tissue as follows:
 1. Light microscopy – Place the sample in 10% neutral buffered formalin. This should be the majority of the sample.
 2. Immunofluorescence – Place the sample in Michel’s fixative. This is a priority if rapidly progressive glomerulonephritis or other forms of glomerulonephritis are suspected.
 3. Electron microscopy – Place the sample in glutaraldehyde. This needs to contain at least one glomerulus and ideally will be 2-3 mm in length.
 4. If dividing a limited specimen, please follow the visual below:

One Core Available



Two Cores Available



Special Considerations

- Any specimen requiring evaluation by electron microscopy should be submitted via the preferred method. Michel’s transport medium **will** cause artifact for electron microscopy specimens.
- Michel’s transport medium can preserve tissue for up to 3 days, if refrigerated.
- The Histology Laboratory would prefer to gross the tissue, as specimens submitted in Michel’s medium require extra time/steps.

Required Information and Courier Instructions

1. The patient's first and last name, a second identifier, and the collection time **must** be present on all specimen containers.
 - a. The information on the container must match the requisition.
 - b. The second identifier may be one of the following: patient medical record number, sample/accession/order number, or the patient's date of birth.
2. Complete **all** the information on the Saint Louis University requisition.
3. Send a copy of the patient's medical history and current relevant lab results.
Be sure to include the name and contact information of the referring nephrologist.
4. Send specimens with a cold pack or ice. Do **NOT** use dry ice — it will cause artifact. Make sure all containers are tightly sealed and secured in the transport container.
5. Label and transport via courier to the following address:

Courier Address

Saint Louis University
Histology Lab, 4th Floor
Schwitalla Hall, Room 461
3545 Vista Ave.
Saint Louis, MO 63104
p (314) 617-2814*

***It is important to include the Histology Laboratory's phone number on the label for any questions/issues.**

Laboratory Hours: The SLUCare Histology Laboratory can receive specimens from 8 am until 4:30 pm, Monday through Friday. The laboratory is closed on weekends and SLUCare holidays. Specimens must be processed immediately upon receipt to prevent degradation of the specimen. To ensure the best possible handling of the specimen, the hospital or referring institution should notify the Histology Laboratory of any scheduled procedures as soon as possible (via phone).

NOTE: Weekend/after-hours specimen receipt and interpretation are available upon request. Contact information for the pathologist on call for renal biopsies that require processing and interpretation after regular business hours can be obtained from the Histology Laboratory.