

## Tissue Pathology Specimens

### Surgical Pathology »

Specimen	Special Instructions
Tissue specimens (biopsies)	Place specimen in container with fixative (10% buffered formalin) immediately following surgical removal and ship to our laboratory with pertinent information.  For large tissue specimens and/or extremities: store and transport refrigerated in a biohazard bag. (For transportation to UC Irvine, double "red" bag the specimen, place ice/cold packs around bags, then place in an outer bag.)
Consultation cases (difficult diagnostic problems, requests for second opinion, etc.)	Send copy of original surgical report, H & E slides, special stains if available, paraffin blocks, or wet tissue (if additional sectioning is anticipated).
Biopsies for immunofluorescence	Submit tissue biopsies in Zeus Scientific Fixative.
Specimens for immunoperoxidase studies	Submit paraffin blocks or wet tissue (tissue fixed in formaldehyde, Bouin's solution or B-5 suitable).
More than 100 antibodies available. They include tissue specific markers, oncofetal antigens, hormones, viruses, immunoglobulins, and T & B cell markers. For information on immunoperoxidase tests available, call 714-456-5023.	For lymphomatous lesions (surface marker studies, immunoglobulin), submit tissue in cold normal saline or Hank's solution (should be shipped within 1 hour) or tissue fixed in Zeus Scientific Fixative. (Sections should be < 2 mm thickness.)

### Cytology »

Specimen	Special Instructions
Vaginal and cervical smears, conventional	For immediate fixation, smears should be immersed in 95% alcohol (ethyl or isopropyl) or sprayed with Cytoprep can spray before drying. Preparation should be thin and quickly and evenly spread without "scrubbing."

	<p>Recent studies show that a single generous smear from the entire circumference of the cervix is superior to material from the vaginal pool. In particular, the squamo-columnar junction should be sampled. A separate sample of endocervical material may also be taken but placed on the same slide as described below:</p> <p>The patient's last name and initials should be written in pencil in the frosted end just before making the smear. The material is spread thinly and evenly over two-thirds of the slide, running longitudinally from a clear area at one end (approximately 2 cm wide) to the other end, covering the glass to the edges. The remaining third is used for endocervical sample obtained by the swab. The swab is rolled longitudinally over the slide touching all surfaces to the glass again extended to the glass edge.</p> <p><b>UNLABELED SLIDES WILL BE REJECTED.</b> A letter will be sent to the clinician. All specimens must be accompanied by Cytology Request Form, filled out completely as required by state law (age, LMP, etc.).</p>
<p>Vaginal and cervical smears, liquid-based (THINPREP)</p>	<p>The ThinPrep gynecologic sample is collected using a broom type (Papette Non-Sterile) and/or endocervical brush/plastic spatula combination collection device:</p> <p><b>Gynecologic Sample Using the Broom-Like Device</b></p> <ol style="list-style-type: none"> <li>1. Obtain an adequate sampling from the cervix using a broom-like device. Rinse the broom as quickly as possible into the PreservCyt Solution vial by pushing the broom into the bottom of the vial 10 times, forcing the bristles apart. As a final step, swirls the broom vigorously to further release material. Discard the collection device.</li> </ol> <p><b>Gynecologic sample, using the endocervical brush/spatula device</b></p> <ol style="list-style-type: none"> <li>1. Obtain an adequate sampling from the ectocervix using a <i>plastic</i> spatula. Rinse the spatula as quickly as possible into the PreservCyt Solution vial by swirling the spatula vigorously in the vial 10 times. Discard the spatula.</li> </ol>

	<p>1. Obtain an adequate sampling from the endocervix using an endocervical brush device. Insert brush into the cervix until only the bottom-most fibers are exposed. Slowly rotate 1/4 or 1/2 turn in one direction. DO NOT OVER-ROTATE. Rinse the brush as quickly as possible in the PreservCyt Solution by rotating the device in the solution 10 times while pushing against the PreservCyt vial wall. Swirl vigorously to further release material. Discard the brush.</p> <p>Tighten the cap so that the torque line on the cap passes the torque line on the vial.</p> <p>Record the patient's name and MR number on the vial. Record the patient information and medical history on the cytology request form. Place the vial and requisition in a specimen bag for transport to the laboratory.</p> <p><b>Note:</b></p> <p>Unlabeled vials or requisition form will be rejected and physician office will be notified.</p> <p>All vials must be submitted without collection device (broom/spatula/brush).</p>
Sputum	<p>The patient is instructed to cough deeply and expectorate into a special container labeled "Sputum Cytology." The container has a special fixative (70% ethyl alcohol). It is recommended that three consecutive early morning specimens be collected.</p> <p>To ensure collection of a representative specimen of sputum and not just saliva, it must be a deep cough. Adequate pulmonary cytology studies cannot be performed on specimens heavily contaminated with saliva. Inducement of postural drainage by leaning over the side of a bed or couch is recommended.</p> <p>Either collect sputum specimens prior to bronchoscopic examination or wait 72 hours post bronchoscopy.</p>
Bronchial washings and brushings	<p>Immediately after specimen is taken, deliver to Cytology Laboratory. If specimen is taken during the weekend or holidays, refrigerate</p>

	<p>specimen to retard the degeneration of cells until specimen can be processed.</p> <p>Bronchial brushing slides should be fixed immediately (without drying) in 95% alcohol.</p>
<p>GI cytology (ERCP and EUS FNA)</p>	<p>Endoscopic brushings may be collected from the esophagus, stomach, duodenum and colon. Cytologic evaluation of endoscopic brushings is to diagnose the neoplastic, inflammatory and infectious processes.</p> <p>Specimen:</p> <ol style="list-style-type: none"> <li>1. The sample collected by physician is spread directly on glass slides that have been properly labeled with the patient's name on the frosted end of the slide.</li> <li>2. Immediately immerse the slides into the bottle of 95% isopropyl alcohol or with alcohol spray while the slide's surface is still wet.</li> </ol>
<p>Urine specimens and bladder washings</p>	<p>A freshly voided, catheterized urine or bladder washing is preferred; 24-hour urine is unacceptable for cytology. Specimen should be processed immediately in Cytology Laboratory. If processing is delayed by more than one hour, keep refrigerated. Indicate on the form whether specimen is voided or catheterized.</p>
<p>Effusions (body fluids)</p>	<p>It is essential that pleural, ascitic, or pericardial fluids be fresh. If at all possible, obtain material during routine hours. Immediately send fluid to the laboratory (100 mL preferred) for cell block preparation and Papanicolaou smear. If multiple tests are ordered, a separate specimen for cytology is desired. If collected at night or one the weekend when lab is closed, keep in refrigerator to avoid loss of cellular detail.</p>
<p>Fine-needle aspiration (CT-Ultrasound-superficial-respiratory)</p>	<p>For fine needle aspiration biopsy performance or assistance, call the Cytology Laboratory at 714-456-5021.</p> <p>Smears should be immediately fixed in 95% alcohol or sprayed with Cytoprep can spray before drying.</p>
<p>Cerebrospinal fluid (CSF)</p>	<p>It is essential that spinal fluid be fresh; if possible, obtain CSF during routine hours. Immediately send fluid to cytology (3.0 mL preferred). If collected at night or on the weekend, keep in refrigerator to avoid degeneration. A separate tube should be sent for cytology if multiple</p>

	<p>tests (e.g., cultures) are ordered.</p> <p>Do not put fixative in CSF specimens taken at night or weekends. They will degrade if refrigerated.</p>
Wounds and other cutaneous samples Collected by Swab	If possible, make two smears; fix one immediately in 95% alcohol or spray with Cytoprep spray before drying, keep one smear air-dried for Romanowsky staining.

Neuropathology »

Specimen	Special Instructions
Tissue specimens for consultation	<p>Slides and a representative tissue block(s) should be sent to:</p> <p>UCI Medical Center            Department of Pathology &amp; Laboratory Medicine            Attn: Neuropathology            101 The City Drive South            Building 1, Room 3003            Orange, CA 92868            Phone: 714-456-6141            Fax: 714-456-5873</p>
Muscle and nerve biopsies: histochemistry	<p>Fresh unfixed and unfrozen muscle or nerve should be submitted surrounded by lightly dampened saline gauze within a closed Petri dish or plastic container to keep the specimen moist, but not wet (too much saline will elute enzymes from the muscle). Nerve biopsies should be submitted on saline-moistened gauze. If possible, the surgeon should use muscle clamps to protect the specimens from undue trauma. All specimens should be submitted within a wet ice container.</p> <p>Muscle clamping per se is not mandatory in order to accomplish histochemical staining. The critical factor is the method of freezing the specimen after it has arrived in our laboratory.</p> <p>For optimal results, the fresh unfixed specimens should arrive at our laboratory within one hour, and not more than four hours after removal. The sooner the specimen arrives, the more precise the</p>

	<p>histochemical stains will be. If your hospital does not have transportation services, you can arrange to have our department pick up the specimen if we are notified one day before the biopsy is scheduled. Call 714-456-6575 or 714-456-5023.</p>
Electron Microscopy	<p>Electron microscopy is not necessary for routine muscle biopsy diagnosis, but it is recommended in cases of suspected congenital or family myopathies or metabolic glycogen storage disease or muscle diseases associated with endocrine abnormalities. Occasionally, after histochemical staining has been done, it is apparent that electron microscopy is needed and, therefore, we routinely save muscle for electron microscopic evaluation.</p>
Neoplastic lesions	<p>Select representative area of tissue lesion, cut pieces of approximately 1-2 mm size with clean scalpel or razor blade and place in EM fixative (2.5% buffered glutaraldehyde) as soon as possible after excision. EM fixative can be obtained by request. If EM fixative is not available at time of excision, place tissue in buffered formaldehyde and refrigerate. Paraffin embedded tissue can, under some circumstances, be processed for EM. For information, call Dr. Philip Carpenter 714-456-6141.</p>
Renal biopsies	<p>Request special renal biopsy kit. For instructions, call Dr. Philip Carpenter at 714-456-6141 or EM lab at 714-456-5022.</p>

For more information, please call 888-UCI-LABS (888-824-5227)