

SURGICAL PATHOLOGY

The Histology (Tissue) Laboratory (extension 2318) is staffed from 0600 to 1700, Monday through Friday. A pathologist is available for consultation 24 hours a day, seven days a week through the Children's operator.

In general, any tissue removed from a patient at Children's must be submitted to pathology for examination. The only tissues deemed EXEMPT from PATHOLOGY EXAMINATION at the surgeon's discretion are listed below and in Operating Room Department Policy, Care of Specimen, No 3.05. All specimens removed during a surgical procedure should be identified and their disposition recorded in the patient's operative report or medical record. The final disposition of all specimens exempt from pathologic examination should be clearly documented.

SPECIMENS EXEMPT FROM PATHOLOGIC EXAMINATION (AT THE DISCRETION OF THE SURGEON)

EXTRAOCULAR MUSCLES from strabismus repairs
FOREIGN BODIES
FORESKINS if grossly normal
NAIL PLATES fingernails and toenails which are grossly normal
NORMAL THYMUS incidental to cardiac surgery
TEETH
BONE and CARTILAGE from reconstructive procedures and osteotomies
PROSTHETIC DEVICES and HARDWARE
ORTHODONTIC APPLIANCES
SURGICAL HARDWARE
SKIN and SKIN SCARS from cosmetic procedures
OMENTUM from dialysis catheter placement
HYPERPLASTIC GINGIVAL TISSUE for which there is a clear etiology
GINGIVAL TISSUE removed from gingival plastic procedures
TONSILS and ADENOIDS

All specimens received in pathology are examined by the resident and staff pathologists. Some specimens may be given only a gross examination at the discretion of the pathologist. Medicolegal specimens (e.g. bullets) must be appropriately handled to preserve the integrity of the specimen. Refer to the Children's Clinical Practice Policy, Preservation of Evidence, No. 2.56 for detailed information.

Specimens should be taken to the Histology Laboratory during working hours or the Receiving area of the Laboratory at times when the Histology Laboratory is closed. A separate container should be used for each specimen. Each container must be labeled with an adhesive label bearing the patient's name, medical record number, specimen identification, and other information as appropriate. A completed Surgical Pathology Consultation Requisition must accompany the specimens and must include appropriate clinical information. These are not ordered on Cerner. Routine specimens should be placed in containers of preservative, and delivered to the Histology Laboratory by 1700 Monday through Friday. If there is to be late delivery of a specimen, the specimen should be brought to the Receiving Area in the Main

Laboratory. Large specimens should be in closed containers or covered with towels, and brought immediately to the Laboratory. Do not incise the specimen before it is examined by the pathologist as this may compromise accurate examination.

If culture is required, the culture(s) should be obtained under sterile conditions in the OR and taken directly to the Microbiology Laboratory accompanied by appropriate orders. Specimens taken directly to the Histology Laboratory are not routinely handled in a sterile manner unless the pathologist is specifically notified.

Routine diagnostic results are generally available the afternoon after the tissues are processed.

AUTOPSY EXAMINATIONS

The autopsy plays a vital role in the program of a tertiary care teaching hospital such as Children's. In addition to providing important information to the family that may be of value to siblings and other family members, the autopsy is an important component of the education program of this hospital. The accumulation of seemingly "routine" information may prove invaluable when appropriate questions are asked in retrospective review. Despite the tremendous advances in in-vivo testing, the autopsy remains unchallenged as a bulwark of peer review and quality control. The sole criterion for seeking permission for an autopsy at Children's is the death of any child not subject to Medical Examiner jurisdiction. We encourage the clinical staff to earnestly seek permission for autopsy examination in all deaths at Children's. It is important that the clinician inform the pathologist in advance of any unusual circumstances requiring special attention or special studies.

Routine autopsy examinations will be performed by members of the Pathology Department between the hours of 0900 and 1500 seven days a week. Under those unusual circumstances where it is necessary to obtain tissues immediately (e.g. special biochemical studies), arrangements may be made to perform the autopsy examination at any hour by consulting the pathologist on call who may be reached through the Children's operator.

The Pastoral Care Department at Children's coordinates the disposition of the deceased and a chaplain on call can be reached through the Children's operator. No autopsy examination will be performed until a permit is appropriately signed by the next-of-kin as defined on the reverse side of the Children's autopsy permit. The permit must be signed by the physician who speaks with the family. This physician must clearly state on the permit any restrictions requested by the family. A second person must witness the signature. Telephone permission alone is not acceptable, but must be confirmed by receipt of a faxed copy prior to beginning the autopsy. The original copy of the permit must accompany the medical record to pathology.

The Medical Examiner's Office (214/920-5900) by law must be notified by the attending physician of the following types of death prior to requesting autopsy permission from the family:

- Any child under the age of six years
- Deceased is dead on arrival (DOA)
- Death within 24 hours of admission
- Suicide
- Death due to other than natural causes regardless of length of hospitalization (i.e. trauma, poisoning)
- Death under anesthesia
- Death resulting from any diagnostic or therapeutic procedure

Neonatal death when maternal injury has occurred or is suspected either prior to or during delivery

Upon notification, the Medical Examiner will investigate the case as expeditiously as possible and decide whether the case falls within his jurisdiction. However, decision to accept a case does not necessarily imply that an autopsy will be performed by the Medical Examiner's Office. If the case can be certified without a Medical Examiner's autopsy, the physician will be notified so that hospital autopsy permission may be sought from the family. A physician should not request autopsy permission from the family until the Medical Examiner has given his release of the case.

Occasionally, there may be some delay in obtaining release of jurisdiction by the Medical Examiner. In this situation, the physician may request autopsy permission but only after first informing the family that the case may fall within the jurisdiction of the Medical Examiner and that Children's is requesting permission only in the event that the Medical Examiner elects not to perform an autopsy examination.

The body will be released to the mortuary as soon as the autopsy is completed, and should never be "promised" for a certain time without first conferring with the pathologist.

REPORTS

A preliminary report of the major gross diagnoses will be sent to the primary physicians within 2 days following the autopsy. Every attempt will be made to complete the final report within six weeks. The Pathology Department does not notify the next-of-kin of the results of the autopsy. The final report will be sent to the attending physician and referring physician. If additional information is needed for family counseling prior to this time, the pathologist should be consulted. The staff pathologists are very willing to participate with the attending physician(s) in the autopsy review conference with the parents.

There is no charge to the family for autopsies. This applies to Children's patients dying at home or in the hospital. DOA patients not previously evaluated at Children's are the responsibility of the Medical Examiner. Arrangements can be made for an autopsy to be performed on a non-Children's patient. There will be a substantial charge for this service, which must be approved by and arranged through a staff pathologist.

DEATH CERTIFICATES

The attending physician is responsible for completion of the death certificate. It is NOT necessary to complete this immediately after the death of the patient. Consult with the pathologist if you have any question regarding the appropriate diagnoses for the death certificate. In all Medical Examiner cases, the death certificate will be completed by the Medical Examiner, regardless of whether or not he performs an autopsy. The Children's physician must not fill out a certificate in such cases.

SPECIAL PROCESSING

BODY FLUIDS FOR “CELL BLOCK”

Fluids should be brought immediately to the Histology Laboratory. Fluids will be processed by cell block, cytocentrifuge, or Millipore filtration at the discretion of the pathologist. A completed surgical pathology requisition slip, including appropriate clinical information, should accompany the specimen.

BODY FLUIDS FOR CYTOLOGY (Pleural, Peritoneal, Synovial, etc.)

Three to five ml of fluid should be submitted in a red-topped Vacutainer or specimen jar with tight lid. Cytospin preparations are made on all fluids and the differential is performed on this preparation. It is more satisfactory for evaluating tumor cells than a cellblock when only small numbers of cells are present.

A Surgical Pathology Consultation Requisition must be completed and must accompany the specimen.

BONE MARROW

All bone marrow aspirates are to be delivered to the Receiving Area of the Main Laboratory for processing and staining. For same-day processing, they should be delivered between the hours of 0800 and 1600. The cut off time for overnight processing is 1600. Marrow clots for histologic sectioning should be obtained whenever possible and they should be fixed in B5 fixative (available from the Histology Laboratory).

A pathologist should be consulted prior to obtaining the sample if electron microscopic examination is desired.

If a bone marrow biopsy is to be performed, a container of freshly prepared B5 fixative must be obtained from the Histology Laboratory prior to performance of the test. This fixative is superior to formalin for the study of marrow cells.

A Bone Marrow Requisition must be completed and must accompany the specimen.

BONE MARROW/PERIPHERAL BLOOD FOR EM

Notify EM in advance (extension 2313). Collect 1 ml of bone marrow or 1 ml blood in purple top (EDTA) tube for red or white blood cell studies. For platelet analysis, collect the sample in a yellow top (ACD) tube.

Submit sample to EM Lab or Histology Lab, or refrigerate if after hours. Miscellaneous request form must accompany sample.

BRONCHO-ALVEOLAR LAVAGE (BAL)

Please see Microbiology Section for description. Histopathologic examinations of smears and cytopsin preparation of the lavage fluid are performed when requested by the clinician. Staining for fungal and bacterial organisms, lipid and hemosiderin-laden macrophages is also performed upon request.

CYTOLOGY - GYNECOLOGIC (THIN-PREP PAP TEST)

Cervical cytology specimens are examined using the ThinPrep Pap Test methodology. The ThinPrep Test kits are obtained from the Parkland Memorial Hospital (PMH) Cytopathology lab (214-590-8743) and are available in the CMC GYN clinic. The PMH cytopathology lab can provide ThinPrep kits with either the endocervical brush/spatula device or the broom-like cervical sampling device.

A cervical sample is obtained by inserting the broom-like device into the endocervical canal and gently rotating the device clockwise five times. Alternatively the sample can be obtained by scraping the ectocervix with the spatula and inserting the brush into the endocervical canal and rotating ¼ to ½ turn in one direction. The cervical sampling device is then immersed and rinsed in a vial filled with PreservCyt Solution. The ThinPrep sample vial is then capped, labeled with the patient's name, and sent to the CMC laboratory. A quick reference guide is available from the Cytopathology lab if further instructions are needed regarding sample collection.

The specimen must be accompanied by a completed CMC general laboratory requisition form, a CMC surgical pathology requisition slip and a Parkland Memorial Hospital (PMH) Cytopathology green GYN Cytology Requisition form (#55515). **ALL THREE-REQUISITION FORMS MUST BE COMPLETED.** The specimen will be transported by histology technologists to the Parkland Memorial Hospital (PMH) Cytopathology laboratory. A report will be issued by the Parkland Memorial Hospital (PMH) Cytopathology laboratory, which will be sent to the patient's record, sent to the submitting physician and transcribed into the CMC Cerner laboratory system.

ELECTRON MICROSCOPY

The pathologist should be consulted in advance regarding biopsies requiring electron microscopy, so that he may participate in their optimum preparation. Small (<1 mm³) portions of tissue must be fixed immediately in 2% glutaraldehyde (available in the Electron Microscopy (EM) Laboratory refrigerator). Immediate fixation and small size are mandatory for optimum ultrastructural preservation.

During weekday working hours the EM Technologist will assist with preparation of kidney biopsies. The EM Technologist should be notified as far in advance as possible that a case is pending (extension 2313). The Technologist should again be called when the physician is about to perform the biopsy. The Technologist will provide the necessary fixative, will divide the tissue, and will assess the tissue under the microscope to determine adequacy. Patient history and identification must be provided on a pathology requisition.

FINE NEEDLE ASPIRATES

Superficial fine needle aspirates of superficially palpable masses are performed by the Cytopathology Division of the UTSWMC Pathology and are performed on Thursday afternoons in the Special Procedures Clinic in the Bright Building. To schedule a superficial FNA, please contact the Special Procedures Clinic at extension 6453.

Deep fine needle aspirates, performed by the radiologist under imaging guidance, are interpreted by CMC pathologists. Please contact the CMC pathologist on call in advance (extension 2322) to schedule this procedure.

FROZEN SECTIONS

Frozen section diagnoses are routinely performed by the staff pathologists on weekdays between 0800 and 1700 and do not need to be scheduled in advance. It is suggested that unusual or complex cases be discussed with the pathologist in advance. For cases requiring frozen section diagnoses after hours or on weekends, the pathologist on-call should be notified prior to the initiation of the case whenever possible.

The labeled specimen, appropriate requisition, and patient chart must be brought immediately to the Histology Laboratory, with the specimen on a saline-moistened sponge or paper in a labeled sterile container, or submerged in saline. Do not place the specimen on dry paper because this produces severe drying artifacts. Results will be verbally transmitted directly back to the surgeon via the intercom or in person, and a consultation note will be placed in the progress notes. Frozen sections should be requested only when needed for an immediate therapeutic decision and not for interest alone.

HEMOSIDERIN-LADEN MACROPHAGES

Submit sample of bronchial aspirate, bronchial lavage or gastric aspirate in a collection tube or specimen cup. Tracheal aspirates and particularly sputum specimens are of limited value for this study. The presence of hemosiderin-laden macrophages indicates that bleeding into the lungs has occurred, but does not suggest any specific etiology. A surgical pathology consultation or miscellaneous laboratory request must be completed and accompany the specimen. On weekends, holidays and after hours, deliver to the Main Laboratory for refrigeration.

IMMUNOFLUORESCENCE

Immunofluorescent stains are used to identify immunoglobulin deposits in tissues and must be performed on unpreserved tissue which is snap frozen and cut for frozen sections. Tissue must be submitted immediately in a saline-moistened sponge or in Michel's transport media (obtain from Histology Laboratory prior to biopsy) and will be snap-frozen in the Histology Laboratory. Biopsies obtained after working hours or on weekends must be placed in Michel's media.

KIDNEY AND LIVER BIOPSIES

These should be fixed in B5 fixative for routine studies. This must be prepared fresh just prior to use and may be obtained in the Histology Laboratory. If EM and/or immunofluorescence is required, follow the procedures outlined above. B5 fixative is NOT suitable for EM. For special requirements, please consult the pathologist prior to obtaining the specimen.

LIPID-LADEN MACROPHAGES

This requires the same collection technique as hemosiderin-laden macrophages. A surgical pathology consultation request or miscellaneous laboratory request slip must be completed and must accompany the specimen. On weekends, holidays and after hours, deliver to the Main Laboratory for refrigeration.

MUSCLE AND NERVE BIOPSIES

Surgery will deliver specimen(s) to Histology. Specimens must be received in Histology by 1500 weekdays unless prior arrangements are made. Histology will notify the UTSW Neuropathology Laboratory (214-648-2318) as soon as the tissue is obtained. A CMC surgical pathology requisition slip and the UTSW Neuromuscular Pathology Consultation Request form must be completed and accompany the specimen. Histology delivers the specimens to UTSW. Please do not schedule biopsy procedures for days that are University of Texas holidays.

MYOCARDIAL BIOPSY

Specimens for routine light Microscopy should be fixed in formalin. A minimum of four pieces of tissue is recommended for an adequate study. If EM or immunofluorescent studies are desired, those specimens should be handled according to the guidelines listed above. The pathologist should be consulted for special or unusual cases.

PNEUMOCYSTIS SMEARS

Smears for Pneumocystis are studied with a Gomori-methenamine silver (GMS) stain that requires one hour for completion. The highest yield of organisms is obtained from a bronchial lavage or open biopsy. Tracheal brush biopsy and tracheal aspirate offer lower yields. Sputum and gastric aspirate are unlikely to provide significant information. Smears should be air-dried, labeled and affixed to a completed pathology requisition; Tracheal aspirate may be submitted in a collection tube without fixative. GMS stains are not available at night and require special arrangements for weekends.

RAPID PROCESSING OF CRITICAL BIOPSIES

With the approval of a pathologist, certain small biopsies received in the Laboratory before 1000 on weekdays may be processed and sections prepared within four hours. This service is only available in emergent situations and after consultation with the pathologist-on-call.

STONE ANALYSIS

Calculi may be submitted to surgical pathology for gross examination; but if chemical analysis is desired, “stone analysis” should be ordered and the specimen brought to the Main Laboratory in a dry specimen cup without formalin.

TUMOR PROCESSING

It is critical that suspected tumor biopsies or excisions be scheduled early in the day whenever possible to facilitate sending tissue for the many ancillary specialized studies and experimental protocols now required for cancer diagnoses. If cases must be scheduled after hours or on weekends, the pathologist on call must be notified in advance and it must be recognized not all ancillary studies can be performed after hours.