

# Pathology Department Services

## Office Hours

8 a.m. to 5 p.m., Monday through Friday

## After-Hour Coverage

A pathologist is on call 24/7 and can be reached by paging through the hospital operator.

## Extent of Pathology Services

The Pathology Department provides a full range of clinical and anatomic pathology services including:

- General and Special Chemistry
- Toxicology
- Hematopathology
- Coagulation
- Serology
- Microbiology
- Transfusion Medicine
- General Surgical Pathology Including Frozen Section Examination
- Special and Immunoperoxidase Special Stain
- Dermatopathology
- Neuropathology
- Gynecologic and Non-Gynecologic Cytopathology
- Autopsy Pathology

## Clinical and Surgical Pathology Consultations

A pathologist is on call 24/7 for clinical and surgical pathology consultation, including frozen section examination. During normal working hours, please call 712-279-3226 to speak with a pathologist. After hours, the on-call pathologist can be reached through the hospital operator.

## Bone Marrow Examinations

A pathologist is available to perform bone marrow biopsies and aspirations for inpatients and outpatients at the request of a physician.

The majority of bone marrow examinations are performed using IV-conscious sedation administered by an Anesthesia Department staff member and are performed in PACU.

- Inpatients: Schedule a time for the procedure with the Anesthesia Department by calling the Surgery Scheduling Desk at 712-279-3191 and notify the Hematology Department at 712-279-1204 of the scheduled time. For weekend requests, page the pathologist on call to determine their availability prior to scheduling with the Anesthesia Department
- Outpatients: Call Central Scheduling at 712-279-7979.

When ordering a bone marrow examination, please include any special instructions and indicate any additional studies desired (eg, immunophenotyping by flow cytometry, cytogenetic studies, PCR, FISH, etc.)

## Cytology Specimens

- All non-GYN specimen containers (not the lid) must be properly labeled with patient's first and last name, date of birth, source of specimen (indicate right or left, if appropriate), and date and time of collection.
- Promptly transport labeled specimen and completed "Non-GYN Cytology Requisition" to the laboratory. Be certain to include the names of both the physician/provider performing the procedure and the ordering/attending physician.
- Keep specimen in fixative at ambient (or room) temperature.
- Refrigerate any fluid specimen that is not in fixative solution if there will be more than a 30-minute delay in delivering the specimen to the laboratory.

## Gynecologic Cytology Specimens

- Collect specimen using a SurePath collection device (available from Histology Laboratory).
- Promptly place collection device into a SurePath® vial.
- Label vial with patient's first and last name, date of birth, source of specimen (cervical or vaginal), and date and time of collection.
- Promptly transport labeled specimen and completed "Pathology Medical Services/ UPH Requisition" to the laboratory.

## Brushings

- Promptly place brush in a tube of CytoLyt® fixative (available by request from Histology Laboratory).
- Promptly transport labeled specimen and completed "Non-GYN Cytology Requisition" to the laboratory.

## Direct Smears (FNA, Buccal Smear, Tzank Prep, or Nipple Secretion)

During normal department hours of operation, histotechnologists are available for preparation of direct smears from FNA of thyroid, lung, etc. Please provide a minimum of 30 minutes advance notice before starting procedure.

- Label frosted end of clean, glass slides using a lead pencil with patient's first and last name, date of birth, and specimen source.
- Spread a small drop of aspirate material evenly across slide using light pressure.
- Immediately fix smears with Cytospray fixative before air drying occurs, holding spray can about 12 inches away from slide.
- Promptly transport labeled specimen and completed "Non-GYN Cytology Requisition" to the laboratory.

## Fine-Needle Aspirate (FNA) Fluids

- Small volume (<20 mL): promptly inject fluid into a tube of CytoLyt® fixative (available by request from Histology Laboratory).  
**Note:** If specimen is extremely bloody, only add 10 mL of fluid per CytoLyt® tube.
- Large volume (≥20 mL): aliquot up to 20 mL (10 mL if bloody) of specimen into several separate CytoLyt® tubes or place entire fluid in a sterile tube.
- Promptly transport labeled specimen and completed “Non-GYN Cytology Requisition” to the laboratory.

## Fluids (CSF, Pleural, Pericardial, Peritoneal, Needle Aspirations or Washings)

- Small volume specimens: collect fluid in a sterile tube or cup.
- Large volume specimens: collect in vacuum containers or canisters.
- Promptly transport labeled specimen and completed “Non-GYN Cytology Requisition” to the laboratory.
- Refrigerate specimen if transport to the laboratory will be delayed more than 30 minutes.

## Urine

- The first voided urine of the day is the preferred specimen for cancer screening.
- Collect urine in a sterile container.
- If UroVysion™ screening for bladder cancer is ordered, place 15 mL of urine in a tube of CytoLyt® fixative. Complete a “Pathology Medical Services/ UPH Requisition,” and forward it with the specimen.
- Promptly transport labeled specimen to the laboratory.
- Refrigerate specimen if transport to the laboratory will be delayed more than 30 minutes.

## Surgical Pathology and Tissue Biopsy Specimens

- The laboratory provides pre-filled formalin containers for small tissue biopsy specimens and heavy-duty plastic zip lock bags for larger surgical specimens.
- All surgical specimen containers (not the lid) must be properly labeled with patient’s first and last name, date of birth, source of tissue (indicate right or left, if appropriate), and date and time of collection
- A completed “Tissue Examination Requisition” must include: patient’s first and last name, date of birth, date and time of collection, medical history/pre and post-op diagnosis, source of specimen, ordering physician, and name of person completing requisition.

- Promptly place specimen in a formalin-filled container to prevent any unnecessary drying or contamination of tissue. Make sure that there is sufficient formalin to completely immerse specimen to insure prompt and complete fixation of tissue. For large or extremely bloody specimens, be sure to maintain at least a 3:1 volume ratio of formalin to tissue.
- If microbiologic cultures are requested, promptly transport fresh specimen in a closed, sterile container to the laboratory.
- A “THIS” (hazardous materials) formalin label and biohazard label must be affixed to specimen container before transporting to the laboratory or to the specimen drop-off area in surgery. Keep specimen and formalin container at ambient (or room) temperature. Avoid temperature extremes.

## Breast Tissue Specimens

- Breast tissue must be placed in formalin within one hour of biopsy or resection.
- It is important that the identity of the resection margins of the specimen is retained during the delivery to the pathology laboratory.
- The time of the removal of tissue and time of immersion in fixative must be recorded and indicated on the pathology report.
- Breast specimens will be fixed in 10% neutral buffered formalin for at least six hours and up to 72 hours at room temperature.
- Optimal formalin to specimen fixation volume is 10:1 or 4:1 for larger specimens.

## Amputated Limbs, Final Disposal

- After all necessary pathology examinations and the final pathology report have been completed, amputated limbs are cremated and the remains disposed of.
- A copy of the signed “Surgical Consent Form” (contains provision for disposal) must accompany specimen and surgical requisition to the laboratory.

## Frozen Section Examinations

Frozen section examination of surgical specimen by a pathologist is available 24/7.

- Specimen for frozen section examination must be received fresh without formalin fixative. Call the Pathology Department at 712-279-3226 when the specimen is ready for examination. Prepare a specimen label and “Tissue Examination Requisition” for each specimen and remain with the initial specimen(s) in the operating room (O.R.). The pathologist will come to the O.R. to receive the initial labeled specimen(s) and requisition and discuss the case with the surgeon. For FS requests other than 7-5 M-F, and holidays, call the hospital operator and page the pathologist on call.

- Localized breast biopsies requiring post-biopsy imaging should be placed on a radiographic localization board and taken promptly to the Radiology Department. Notify the Pathology Department when the specimen leaves the O.R. and is being taken to Radiology. Call the Pathology Department at 712-279-3226 or the surgical pathologist of the day (name and phone number posted in frozen section room) when the specimen with the post-biopsy X-rays is returned to the frozen section room. Remain with the specimen until the pathologist or pathologist assistant arrives and receives the specimen.

## Fetus/Stillborn, Disposition of Remains

- The hospital, in cooperation with a local funeral home maintains a private, common burial plot in a local cemetery where all products of conception/miscarriages/stillbirths for hospital disposal are interred following cremation.
- The table below summarizes the required certifications, final disposition of remains, and extent of pathology examination based on fetus gestational age/weight and whether a stillbirth or live birth.

Miscarriage/Stillbirth/Fetal Demise Policy		
Gestation	Stillbirth	Live Birth
≥20 weeks or ≥350 gm	<i>Certificate</i> - Certificate of Fetal Death <i>Funeral Home</i> - “Release of Body” form <i>Pathology</i> - Review for possible medical examiner case* - Examination of fetus (external only) and placenta (microscopic) - Autopsy at family request (autopsy permit required)	<i>Certificates</i> - Certificate of Live Birth - Certificate of Death <i>Funeral Home</i> - “Release of Body” form <i>Pathology</i> - Review for possible medical examiner case* - Examination of fetus (external only) and placenta (microscopic) - Autopsy at family request (autopsy permit required)
12 to 20 weeks	<i>Certificate</i> - NO certificate required <i>Hospital or Private Disposal of Remains</i> - Remains held for a minimum of 90 days prior to hospital disposal - For private (family) disposal, use form “Authorization for Release of Pathology Specimen” <i>Pathology</i> - Review for possible medical examiner case* Examination of fetus and placenta (extent of exam at pathologist’s discretion, may include exam of internal organs)	<i>Certificates</i> - Certificate of Live Birth - Certificate of Death <i>Funeral Home</i> - “Release of Body” form <i>Pathology</i> - Review for possible medical examiner case* - Examination of fetus (external only) and placenta (microscopic) Autopsy at family request (autopsy permit required)
<12 weeks	<i>Certificate</i> - NO certificate required <i>Hospital or Private Disposal of Remains</i> - Remains held for a minimum of 90 days prior to hospital disposal - For private (family) disposal, use form “Authorization for Release of Pathology Specimen” <i>Pathology</i> Examination of fetus and placenta (extent of exam at pathologist’s discretion, may include exam of internal organs)	
*Medical Examiner Cases: Unexplained or unattended stillbirth, criminal abortion including self-induced or due to sexual abuse, or following trauma/accident resulting in premature delivery.		

## **Kidney (Renal) Biopsy**

- Needle biopsies of the kidney are referred to UIDL (University of Iowa) for diagnostic evaluation that routinely includes light, immunofluorescent, and electron microscopic examinations.
- A pathologist is available at time of biopsy to assess specimen for adequacy.
- A typed clinical summary including suspected clinical diagnosis must be submitted with the specimen.
- Complete and submit a “Tissue Examination Requisition” with the labeled specimen.

## **Muscle Biopsy**

- Muscle biopsies must be scheduled at least 24 hours in advance of the procedure with a pathologist (to insure adequate time to procure required liquid nitrogen and dry ice for initial specimen processing and shipping).
- Muscle biopsies should only be scheduled Monday through Thursday to avoid shipment during a weekend.

- Muscle biopsies are processed following the Mayo Clinic Department of Pathology protocol (available by request.). If the patient's neurologist prefers reports from another reference laboratory, particularly UNMC, muscle biopsies can be sent there.

## **Nerve Biopsy**

- Contact the Pathology Department at least 24 hours in advance of the planned biopsy for specimen handling instructions.

## **Placentas**

- Placentas have a specific “Placental Examination Requisition” that should be used and allows the user to indicate significant clinical information used to determine if a microscopic examination of the placenta will be performed.

## **Products of Conception/Stillbirth Cytogenetic Studies**

- Cytogenetic analysis of products of conception/ stillbirths are referred to the Mayo Medical Laboratories' Cytogenetics Laboratory.
- Call the laboratory at 712-279-3184 when an order for cytogenetic studies is received. The laboratory will notify the pathologist on call.
- Products of conception/ stillbirths for cytogenetic analysis should be promptly transported fresh in a sterile container without any formalin fixative to the laboratory for tissue harvesting by the pathologist.

## Skin Biopsy for Immunofluorescence

- Skin biopsies for immunofluorescence are referred to Mayo Medical Laboratories.
- Preferably the patient should be off oral steroids for 2-3 weeks prior to biopsy, since steroid therapy can give false negative immunofluorescence.
- Vials of special transport medium (available by request from the laboratory at 712-279-3184) must be used rather than formalin fixative.
- Please see "Cutaneous Immunofluorescence, Biopsy" (test #8041) for specific specimen handling instructions.

## Autopsy (Post-Mortem Examination) of Hospitalized Patients

- An autopsy on a deceased hospitalized patient may be requested by the legal next of kin. The order of priority for giving consent for an autopsy is determined as follows:
  - Spouse.
  - Adult son or daughter.
  - Either parent.

- A medical examiner should be notified in the following circumstances:
  - All sudden, unexpected or unnatural deaths (accidents, suicides, homicides, undetermined), and other deaths affecting the public interest (including but not limited to):
    - Violent death including homicidal, suicidal, or accidental death.
    - Death caused by thermal, chemical, electrical, or radiation injury.
    - Death caused by criminal abortion including self-induced or by sexual abuse.
    - Death related to disease thought to be virulent or contagious which may constitute a public hazard.
    - Death that has occurred unexpectedly or from an unexplained cause.
    - Death of a person confined in a prison, jail, or correctional institution.
    - Death of a person who was prediagnosed as a terminal or bedfast case who did not have a physician in attendance within the preceding 30 days; or death of a person who was admitted to and had received services from a hospice program as defined in section 135J.1 of the Iowa Code, if a physician or registered nurse employed by the program was not in attendance within 30 days preceding death.
    - Death of a person if the body is not claimed by a relative or friend.
    - Death of a person if the identity of the deceased is unknown.
    - Death of a child under the age of 2 years if death results from an unknown cause or if the circumstances surrounding the death indicate that sudden infant death syndrome may be the cause of death.
  - All unattended deaths (ie, decedent NOT under the care of an M.D. during the preceding 36 hours).
  - Bodies that are under the jurisdiction of the medical examiner office are considered "legal evidence." Therefore, access to the body is limited to only law enforcement officials involved with the case or designees of the medical examiner in charge.
- As a medical examiner office policy, family is NOT allowed to view the body while it is in the hospital morgue under the

- A guardian of the person of the decedent at the time of the decedent's death.
- Any other person authorized or under obligation to dispose of the body.

- Complete a "Permit for Postmortem Examination (Autopsy)" form indicating any limitations of the examination and have the legal next of kin sign the consent (witnessed).
- Telephone consent may also be given following the hospital's procedure for obtaining phone consent.
- The hospital chart must be sent to the Pathology Department and not to the morgue with the body.
- Prior to performing the autopsy, the responsible pathologist will contact the attending physician and 1) schedule the time of the autopsy and 2) ascertain the patient's clinical history and any unresolved diagnostic/therapeutic questions hopefully to be answered by the autopsy.
- There is no charge to the family of a hospitalized patient for an autopsy.

## Medical Examiner Cases

Dr. Julie Breiner, MD. is the Medical Examiner for Woodbury County. The other department pathologists are deputy county medical examiners. Deaths that occur in the emergency room or of hospitalized patients within 24 hours of admission need to be discussed with the on-call pathologist to determine if the case qualifies as a medical examiner's case. Patients meeting the following criteria should be discussed with the on-call pathologist prior to releasing the decedent's body to a funeral home or discussing with the patient's family their desire for autopsy.

jurisdiction of the medical examiner. The family must contact their funeral home to make arrangements for viewing the decedent at the funeral home after the medical examiner investigation has been completed and the body has been released and picked up by the funeral home.