Surgical Pathology

General Information

1. Specimens of tissue removed during most operative or biopsy procedures are sent to Fletcher Allen Health Care, MCHV Campus, Department of Pathology for gross dissection, histological processing, and microscopic examination. Completed reports of tissue examination are sent from FAHC via interface to Porter Hospital Laboratory.

2. The preparation of the final report usually requires a minimum of 24 hours. When results of the examination are required urgently, you may request the FAHC pathologist to call as soon as an interpretation is made. Please write the name and telephone number of the individual who should be called on the Pathology request slip. Questions concerning tissue examinations can be quickly resolved by calling the Pathology Hot Seat at FAHC 802-656-3795.

Surgical Tissue Examination Requirements

The following specimens DO NOT need to be sent for pathologic exam. They may be disposed of directly. A notation as to the removal should be a part of the clinical record or operating room operative record by the Physician. Documentation shall also be done on INTRAOPERATIVE FLOW SHEET.

1. Newborn foreskin
2. Ocular lens removed for cataract
3. Skin and subcutaneous tissue removed during debridement
4. Orthopedic hardware
5. Traumatically amputated members (assuming the exam is not needed for medical or legal purposes).
6. Foreign bodies (Note: bullets are given directly to the investigating law enforcement officer).
7. Teeth - document total number, including fragments, in the medical records.
8. Placentas.
9. Hernia sac tissues
10. Tonsils and/or adenoids of patients less than 18 years
11. Varicose veins
12. Bone from hammertoe or bunion corrections
13. Corneal button
14. Meniscus
15. Grossly normal Vas deferens
17. Inclusion cysts.
18. Bone and cast fragments from total joint replacement and ORIF.
Handling Of Tissue Specimens

A. All specimens must be accompanied by a FAHC pathology requisition that includes all pertinent patient and clinical information. All specimens will be packaged in compliance with universal precautions by using a biohazard bag with pathology requisition in pocket. Large specimens and specimens from the operating room suite will be transported in a cooler designated for transport of pathology tissues.

B. With the exception of specimens for which a frozen section examination is desired, all tissues should be immersed in a 7 times volume solution of 10% neutral buffered formalin. **Gastrointestinal and testicular biopsies are put in Hollandes’ Solution.**

1. Plastic containers, small containers of formalin and Hollandes’ Solution are available in the Operating Suite, in the Emergency Department, and in the Laboratory. The size of the container should be such that a volume of formalin, which is 7 to 10 times the volume of the tissue specimen, can be contained in addition to the specimen. A gummed label containing the date, name of the patient, and the nature of the specimen should be attached to the side of the container (not ONLY the LID).

C. Large Specimens - To avoid autolysis, all specimens should be immersed in formalin as soon as possible after removal. Transport large specimens ASAP to the laboratory in a container large enough to add formalin to and maintain a 10/1 formalin/tissue ratio. Upon delivery to laboratory, notify laboratory personnel of the need to add formalin. The following should be done before the specimen is sent to the laboratory:

1. **Bowel segments** should be carefully opened longitudinally, along the antimesenteric aspect. Fecal material should be gently rinsed away with tap water, and the specimen immersed in formalin.
2. A **uterus** should be opened to expose the endometrium. This can be done by opening the uterus like a clam using a knife to cut and a probe inserted into the os to act as a guide for the knife.
3. Large fluid filled **ovarian cysts** should be opened and drained. A note describing the cyst prior to opening should be on the requisition. Do not turn inside out.
4. **Large breast specimens** should be transported to the laboratory ASAP for placement in formalin.
5. **Amputated extremities** may be kept wrapped in moist saline in a double red plastic bag and kept in a refrigerator prior to transport. No formalin is necessary.

D. **Cervical cone biopsies:** These should be opened prior to fixation and pinned flat on corkboard, mucosal side up. **DO NOT PLACE PINS THROUGH THE MUCOSA.** The pinned specimen is then immersed in formalin. The location of the cut opening the cervix should be noted on the requisition slip (i.e. opened at 12 o'clock).

E. **Needle biopsies of the kidney, small bowel biopsies, muscle biopsies, and tissue touch preparations** (tissue imprints) are procedures that should be closely coordinated with the Pathology Laboratory at FAHC. The technique for handling these specimens varies depending on the type of information desired by the attending physician. The Pathology Office should be contacted prior to these procedures so that the tissue is handled in the proper manner.

Frozen Section and/or Intra operative Consult

1. The Pathologist is available to perform frozen sections and intra operative consults, two days per week. It is the responsibility of the surgeon to notify the pathologist to arrange a mutually convenient time. This may be scheduled by calling 802-847-3566, 802-847-3736 (Dr. Harmon’s office) or 802-847-2700 (PAS).
2. The Operating Room personnel are responsible for calling Ext. 414 and speaking with the pathologist to inform her/him that a frozen section is in route and for transporting the specimen to the laboratory in the FROZEN SECTION cooler. **Upon arrival in the laboratory, the cooler with the specimen must be handed directly to the pathologist or the laboratory supervisor.**
3. The frozen section report is phoned directly to Operating Room by the pathologist.
Transport Of Tissue Specimens To FAHC Department of Pathology

1. Tissues removed in the Operating Suite should be handled as described above and sent to the lab for transport. The specimen, along with a completed Surgical Pathology request form, should be sent to the laboratory for processing and transport.

2. Tissues removed in the Emergency Department or during procedures on nursing units should be handled as described above. The specimen, a completed Surgical Pathology request form, should be sent to the laboratory for processing and transport.

3. Specimens are packaged according to established procedures and sent to FAHC via courier. Samples that arrive in the laboratory by 1 PM will be sent out the same day (exception: Saturday and Sunday).

HercepTest Reflex Testing On Breast Cancer

HercepTest™ (IER2/ c-erb-B2 immunoperoxidase stain) Reflex Testing on Breast Cancers

HercepTest™ (Dako Corp) is a FDA approved standardized immunohistochemical assay which measures HER2 protein over expression in tumors. FAHC has been offering this assay for several months and has been performing the assay upon written request from the patient's provider. The HercepTest™ is an excellent first line HER2 assay that is scored as 0-3+ with 0 and 1+ considered a negative result for protein overexpression and 3+ considered as positive for protein overexpression. A 3+ HercepTest™ result has an approximate 95% correlation with gene amplification studies. A 2+ result is also considered positive; however 2+ tumors have much lower correlation with gene amplification studies and may not respond to Trastuzumab (Herceptin). As such, 2+ tumors are automatically referred for fluorescence in situ hybridization (FISH) to evaluate for HER2 gene amplification in the tumor.

The Division of Surgical Pathology will now be automatically performing the HercepTest™ on invasive breast adenocarcinomas that meet the reflex testing criteria outlined below. Providers may decline the reflex testing by checking the box on the new surgical pathology outpatient requisitions. The test may be ordered on cases which do not fulfill the below criteria if the provider feels the test is medically necessary. Under these circumstances, the provider must still submit a written order for the HercepTest™ to Surgical Pathology via fax (847-415) or mail (Smith 2, MCHV Campus, FAHC).

Criteria for reflex performance of the HercepTest on Breast carcinomas:

Tumor present in a resection specimen so that the grade of the tumor can be accurately established (this test will not be performed automatically on core biopsies unless there is no residual tumor in the resection specimen. The test may be requested on a core biopsy of locally advanced cancer by an attending clinician)

All invasive adenocarcinomas are included except well-differentiated tumors (combined Nottingham grading score of 3, 4, or 5) that are less than 1 cm (pTla and pTlb).

If there are questions or concerns relating to whether the test has been ordered, please contact the Surgical Pathology office at 847-3566. If there are questions concerning the application of the assay or interpretation of the assay, please contact Dr. Donald Weaver or Dr. Adiy Ambaye through provider access or 847-2700.