**Anatomic Pathology Specimen Processing**

**Purpose/Principle**
To provide information on specimen gross and microscopic examination exemptions, fresh and fixed tissue examinations and tissue processing.

**Procedure**
Universal precautions will be followed at all times. Other than the eleven exceptions listed immediately below, all tissue specimens removed at Rideout Memorial Hospital or Fremont Medical Center during a surgical procedure or other procedure to obtain material for diagnostic purposes will be examined by the hospital pathologist or their authorized designee.

1. Cataract
2. Orthopedic hardware
3. Foreign body unless specifically involved in the disease process
4. Rib segments removed to enhance operative exposure
5. Therapeutic radioactive sources
6. Traumatically injured members for which examination for medical or legal reasons are not deemed necessary
7. Foreign bodies (e.g. bullets) that for legal reasons are given directly to law enforcement personnel
8. Newborn foreskin
9. Placentas that are grossly normal
10. Teeth, provided that the anatomic name or number of each tooth or fragment is recorded in the medical record
11. Bunions
Procedure, continued

Fresh Tissues:
Tissue specimen submitted fresh shall be labeled as outlined in the General Sample and Requisition Requirements, Anatomic Pathology procedure of the manual and are given directly to the pathologist for the following four circumstances:
1. Intraoperative consultation including gross examination or frozen section if indicated
2. Special studies such as receptor assay, DNA histogram, flow cytometry, culture, or at any time there is a question in how the specimen is to be processed
3. Special fixation or handling such as touch imprint smears, lung inflation, etc.
4. All tissues will be handled with "Universal precautions". Potentially infectious specimens can be processed in microbiology, especially in cases of suspected or confirmed tuberculosis, following laboratory policy and procedure.

Routine Tissues:
All other tissue specimens not submitted fresh for special handling as designated in the section titled Fresh Tissues are to be submitted in buffered 10% formalin or zinc formalin.

Gross Examination:
Gross examination shall be performed by the hospital pathologist or pathologist assistant (PA) using general dissection guidelines as presented in this manual and based on methods in Rosai and Ackerman's "Surgical Pathology" textbook, 2004. The gross examination shall include appropriate measurements (size and weight) and description of the specimen. Appropriate section(s) for diagnosis, demonstration of prognostic features and margins shall be taken and placed in uniquely labeled cassette(s) as determined by the pathologist/PA.

Wet Tissue:
Any wet (formalin-fixed) tissue remaining after the gross examination will be retained for a minimum of two weeks (see retention policy).
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**Submission Procedure**

1. The specimen will be identified with a unique accession number to ensure accurate identification of the specimen throughout the entire process and procedure.
2. Cassettes are identified using chemical resistant marker pen or pencil with the accession number and sub-lettered as needed to clearly identify each cassette as shown below:
   a. Rideout surgical-year-number-Alpha character
   b. RS-08-2345-A, B, C, etc.
3. The number of cassettes usually needed for common specimens are prepared prior to gross examination and listed in the cassette guidelines policy.
4. All cassettes are arranged in numerical order for grossing by the pathologist/PA.
5. The histotechnologists may place certain specimens in cassettes as directed by the pathologist. These may include:
   a. Esophageal brushes for cell block
   b. Cell block preparations for cytology specimens
6. Cassettes containing tissues or cell blocks will be placed in 10% buffered or zinc formalin until loading on the VIP tissue processor.
7. Designated specimens do not require microscopic examination and can be submitted for gross diagnosis only.
   a. Orthopedic hardware
   b. Meniscus
   c. Surgical scars
   d. Tonsils and/or adenoidal -- less than 10 years of age
   e. Umbilical hernias
   f. Crystalline lens (cataract)
   g. Rectocele/cystocele (primary procedure)
   h. Suspected calculi
   i. Nails (unless data submitted consistent with melanoma)
   j. Bone from orthopedic reconstruction cases
   k. Nasal plastic procedures
   l. Severed extremities (trauma)
   m. Teeth (alone)
   n. Xiphoid process (incidental procedure)
   o. Varicose veins (except with demonstrable thrombi)
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**Tissue Sections:** The histotechnologist will remove the cassettes from the VIP tissue processor in the a.m. and then embed them using the Tissue Tek system. Slides labeled with chemical-resistant marker are then prepared by the histotechnologists, stained appropriately, cover slipped, labeled with stick-on label bearing the accession number and delivered to the pathologist for interpretation.

**Materials Returned to the Patient** Certain specimens such as gallstones (routine) and orthopedic hardware or other specimens at the discretion of the pathologist (upon request) are returned to the submitting physician for return to the patient. Gallstones returned are documented in the specimen log and/or pathology report. All other prostheses or tissues released are logged in the specimen sendout log and released after signature by authorized personnel on a release form (follow procedure). Copies of the release form are kept in the sendout file and attached to the file copy of the report.

**References** Rosai J. Rosai and Ackerman’s Surgical Pathology, 9th edition, St. Louis, Mosby, 2004.

**Affected Departments:** Laboratory, Laboratory Services