DEPARTMENT OF OPHTHALMOLOGY
UNIVERSITY OF IOWA HOSPITALS AND CLINICS
OCULAR PATHOLOGY LABORATORY

SPECIMEN COLLECTION MANUAL FOR IN-HOUSE PHYSICIANS, SURGEONS AND STAFF

The purpose of this collection manual is to provide specimen collection information to the Ophthalmology Department Nursing Station, Ambulatory Surgery Center, General OR, Iowa River Landing Clinic, Frozen Section Room and any other areas providing patient specimens to the F. C. Blodi Eye Pathology Laboratory, room 233, Medical Research Center building (MRC). This manual is found on the Ophthalmology Department’s website at: http://www.medicine.uiowa.edu/eye/. Click on “Patient Care”, click on “Labs and Screening”, click on “Ophthalmic Pathology”. Notifications of annual review and updates are sent by e-mail to all ophthalmology staff, the General O.R., Frozen Section Room, the Ambulatory Surgical Center and Iowa River Landing Clinic.

Specimen collection begins with the removal of a fluid or a piece of tissue from a patient during a surgical procedure. If the procedure requires stat/rush attention, (i.e: Acanthamoeba scraping, temporal artery biopsy, etc.) the F.C. Blodi Eye Pathology Laboratory should be contacted in advance of beginning the procedure as the Eye Pathology Laboratory must prepare equipment and materials for these particular procedures prior to receiving the patient's specimen. Dr. Syed (pager 2438) needs to be called for all fine needle aspirate procedures.

GENERAL INFORMATION ON COLLECTION AND HANDLING OF SPECIMENS

LABORATORY HOURS

1. ROUTINE PICK-UP
   a. The Ocular Pathology Laboratory Hours are Monday-Friday, 7:30 am-5:00 PM.
   b. Ocular Pathology has one routine pick-up time between 2:30 and 3 PM Monday-Friday.

2. EXCEPTIONS TO ROUTINE PICK-UP TIME:
   a. Temporal artery biopsies:
      i. See pages 14-15 if a temporal artery biopsy is to be processed for stat/same day results.
   b. Fine Needle Aspirations:
      i. See pages 11-12.
   c. Corneal Epithelial Scrapings:
      i. See pages 9-10.
1. ATTENDING PHYSICIANS RESPONSIBILITIES:

   a. **Special procedure specimen collection**

      i. Prior to surgery, refer to the **Special Procedure Specimen Collection** section (Prot: 1.1.1, page 9-17) regarding handling instructions for the following procedures and specimen types:

         a) Acanthamoeba scraping
         b) Electron microscopy
         c) Fine needle aspirations
         d) Frozen sections
         e) Immunohistochemistry
         f) Metabolic diseases (i.e.: gout, cystinosis, storage disease)
         g) Temporal artery biopsy
         h) Vitreous

   b. **Routine Specimen Collection by Specimen Type**

      i. Prior to surgery, refer to the **Routine Specimen Collection by Specimen Type** (Prot: 1.1.1, page 18) for handling instructions concerning specimens not mentioned in the Special Procedure Specimen Collection.

   c. **University of Iowa Hospitals and Clinics By-laws**

      i. All tissues removed in the Ophthalmology minor surgery room, Iowa River Landing Ambulatory Surgery, Operating rooms *pertaining to the eye must be* sent to the F.C. Blodi Eye Pathology Laboratory by virtue of the by-laws of the University of Iowa Hospitals and Clinics.

   d. **Exceptions to Tissue Submittal**

      i. All ocular tissues removed surgically must be sent to the F.C. Blodi Eye Pathology Laboratory unless prior written approval has been obtained by the Director of the Ophthalmology Department and the Director of the F.C. Blodi Eye Pathology Laboratory.

      ii. The following list of “routine” types of tissue need not be sent to the F.C. Blodi Eye Pathology Laboratory.

         a) Crystalline Lens (solid or aspirate) – Cataract extractions
         b) Vitreous – Routine
         c) Iris – Routine iridectomy
         d) Trabecular Meshwork – Routine Trabeculectomy
iii. It is at the surgeon’s discretion to determine whether pathologic examination of “routine” tissues will aid in patient management/diagnoses. The surgeon may elect to submit “routine” tissue to the F.C. Blodi Eye Pathology Laboratory as needed.

iv. When these tissues are not submitted to the F.C. Blodi Eye Pathology Laboratory, they are discarded by the Main Operating Room and the Ambulatory Surgical Center per their specimen disposal protocol.

e. Questions or Concerns

i. Any questions concerning the handling of Ocular specimens should be directed to the Ocular Pathologist or the Ocular Pathology Supervisor (319-335-7095), prior to performing the surgery.

2. OPERATING ROOM, AMBULATORY SURGERY AND OPHTHALMOLOGY NURSING STAFF RESPONSIBILITIES:

a. Special procedure specimen collection

i. Refer to the each of the following under the Special Procedure Specimen Collection (Prot: 1.1.1, pages 9-17) for specific handling instructions:

ii. Acanthamoeba scraping

iii. Electron microscopy

iv. Fine needle aspirations

v. Frozen sections

vi. Immunohistochemistry

vii. Metabolic diseases (i.e.: gout, cystinosis, storage disease)

viii. Temporal artery biopsy

ix. Vitreous

b. Routine Specimen Collection by Specimen Type

i. Specimens that do not fall under the Special Procedure Specimen Collection portion of this manual should be considered "routine" and should be handled in the following manner (Refer to: Routine Specimen Collection by Specimen Type (Prot: 1.1.1, pages 18-25) for specific handling instructions):

a) Materials needed prior to beginning the surgery:

i) A leak proof specimen container with the correct type and amount of fixative (if a fixative is required), please refer to each specimen type under the Routine Specimen Collection by Specimen Type portion of this manual the for specific fixation instructions.

ii) If formalin is used as the fixative, a formalin warning label must be placed on the specimen container.

iii) An Ocular Pathology Consultation Request form.
ii. Immediately after the "routine" tissue specimen has been removed from the patient do the following:
   
a) Place the tissue into the container with the proper fixative.

b) Make sure the tissue is completely covered by the fixative.
   
i) **DO NOT** wrap the tissue in gauze or other types of toweling as they will absorb the fixative and parts of the tissue may not be covered by the fixative causing the tissue to decompose.

c) The amount of fixative in the container will vary with the size of the specimen; however, the fixative should be a minimum of ten times the volume of the specimen being fixed.

   i) Example 1: If the specimen is a trabeculectomy, corneal biopsy, corneal button, small skin biopsy, conjunctival biopsy, etc. there should be at least 25-30 ml of fixative in the container.

   ii) Example 2: If the specimen is an eyeball (enucleation) there should be at least 100 ml of fixative in the container.

   iii) Example 3: If the specimen is an exenteration (eye, eyelids and surrounding tissue) the container used should be large enough so that the fixative will **completely** cover the entire specimen.

d) Place the lid on the container properly and tightly to avoid a fixative spill.

   i) If the fixatives are either formalin, glutaraldehyde or 100% alcohol and a spill occurs, refer to the respective Safety Data Sheet (SDS).

   ** *** NOTE *** **

The Ambulatory Surgery Center and the General O.R. provide specimen containers from their areas. The Ocular Pathology Laboratory provides the Ophthalmology Nurses Station with pre-filled specimen containers.

c. **Identification and labeling of specimen containers**

i. Identify and label **all ophthalmology specimen containers** with the following information:

   a) Two unique patient identifiers (name and medical record number or date of birth)

   b) Physician's name

   c) Type and location of the specimen: (i.e.: corneal button, left eye)

   d) Formalin warning label

ii. Make sure that a well-constructed container with a secure lid is used.

iii. Specimen containers must be labeled with the above information at the time of the procedure and before the container leaves the procedure room.
d. **Filling out the ocular pathology consultation request form**

i. The Ocular Pathology Consult Request form must be prepared in the room where the procedure is performed (College of American Pathologist regulation).

ii. The following information must be on the ocular pathology consultation request form. The laboratory will be **unable to process** the specimen until this information is received (College of American Pathologist regulation).

   a) Material submitted (wet tissue, slides or blocks)
   b) Type and location of the tissue submitted: (i.e: Corneal button, left eye)
   c) Clinical history, data and operative findings
   d) Clinical diagnosis

**Note:** Whenever possible use the UIHC patient label ID sticker for the following information. If the sticker is not available, the following information must be handwritten on the Ocular Pathology Consultation Request form:

   e) 2 unique patient identifiers (name and medical record number or date of birth)
   f) Patient's hospital location (Intensive care, Ambulatory surgery, etc.)
   g) Date of surgery
   h) Name and physician code number of the **primary staff physician** responsible for the patient
   i) Name of **other staff physicians, fellows or residents** should be placed in the designated space on the request form.
   j) Any special instructions or communications to the laboratory (ie: rush or stat cases, instructions to understand margins, etc.)

iii. Place the container into a biohazard bag for transportation to avoid leakage during transportation.

   a) The requisition should be placed in the side pocket of the biohazard bag in case of a leaking container.

c. **Delivering specimens and ocular pathology consultation request forms**

i. If the specimens are from the operating room, ambulatory surgery, or Iowa River Landing, deliver all specimens with their respective Ocular Pathology Consultation Request forms to the Frozen Section Room.

ii. If the specimen is removed in the Ophthalmology minor room the specimen should be placed in the ocular pathology box found on the desk at Ophthalmology's nursing station.
3. **OCULAR PATHOLOGY LABORATORY RESPONSIBILITIES:**

a. **Routine Specimen Pick-up**
   
   i. Routinely specimens are picked up from the Frozen Section Room and Ophthalmology's nursing station by the Ocular Pathology personnel between 2:30-3:00 PM, Monday-Friday.
      
      a) Ocular pathology personnel will check to assure that each specimen has an ocular pathology consultation request form.
      
      b) When picking up specimens from the Nurses Station, Ocular Pathology personnel will initial the log book for each specimen taken.
   
   ii. Ocular pathology personnel will bring all specimens back to the laboratory in a carrier labeled as Biohazard. Specimen containers are placed into a slotted box to keep the containers upright.

b. **Accessioning of Specimens**
   
   i. Specimens will be accessioned (given an ocular pathology identification number).
      
      a) During accessioning the ocular pathology personnel will check the ocular pathology consultation request form and specimen container for pertinent patient information.
      
      ii. If any pertinent patient information is missing from either the specimen container or the ocular pathology consultation request form the attending physician will be contacted (see Rejection and Exemption of Specimens below for further instructions).

c. **Grossing of Specimens**
   
   i. Specimens will be grossed by the pathologist or by the technician under the supervision of the pathologist.

d. **Processing, Embedding, Cutting and Staining of Specimens**
   
   i. Specimens will be processed, embedded, cut and stained then given to the pathologist for diagnosis.
REJECTION AND EXEMPTION OF SPECIMENS

1. INCOMPLETE PATIENT OR SPECIMEN INFORMATION

a. Specimens received without an Ocular Pathology Consultation Request form, incomplete information on the form or the specimen container, cannot be processed until the proper information is received from the primary staff physician.

i. A diagnosis cannot be rendered until the missing information is received from the primary staff physician (College of American Pathologists (CAP) regulations).

ii. All requests for consultation must be done by the Ocular Pathology Consultation Request Form. Verbal or phone orders are not accepted.

b. Ocular pathology lab personnel inform the staff physician and head nurse of the respective area of problems. (QA: 1.2.1) Monthly e-mail Problem QA notices will be sent out to involved staff.

i. The following information is documented in the Specimen Rejection Notebook for each problems case:

   a) Date the problem occurred
   b) Staff doctor’s name
   c) Nursing unit involved
   d) Patient name
   e) Patient medical record number
   f) Patient accession number
   g) Description of the problem
   h) How specimen may be affected
   i) Explanation of how future problems may be avoided
   j) Problem resolution
   k) Lab staff who note problems will handwrite a description of the problem and initial on original requisition form

c. A copy of each letter is kept in the Specimen Rejection/Problem notebook.

d. Specimen rejections are also a part of Ocular Pathology’s Quality Management Program.
2. **SENDING INFORMATION TO THE OCULAR PATHOLOGY LABORATORY**

   a. Due to possible miscommunications and laboratory regulations, **patient information cannot be received over the phone**, it must be received in written form from the staff physician attending to the patient in question.

   i. The staff physician must provide the ocular pathology laboratory with the pertinent patient information in one of the following ways, the same day it was requested:

   a) Using the computer, e-mail (Harris, Peggy)

   b) Fax (319) 335-7193

   c) Physically coming to the laboratory and filling out a requisition form (233 MRC)

   ii. Any e-mail or fax received is stapled to the original patient consultation request form.

   **Note:** The case cannot be processed or signed out until this information is received (CAP regulation).

   iii. If the information is not received from the staff physician after two attempts, the Clerk IV and Director of the laboratory will be made aware of the situation.

   a) The Clerk IV or Director of the laboratory will contact the attending physician to inform them of the problems again and will let them know a diagnosis cannot be rendered until the information is received for our records.

3. **GIVING PATIENT INFORMATION TO PHYSICIANS**

   a. Secretaries, laboratory supervisor, technicians and students **cannot give patient information over the phone** to a physician; only the ocular pathologist can give this information to the attending physician.

   i. If a conversation occurs between the attending physician and the pathologist, it will be documented in the final patient report for permanent record.

   b. If you wish to know the status of a case, please phone the ocular pathology laboratory (319-335-7095).

4. **COPIES OF FINAL REPORTS**

   a. A copy of the final report is available in the F.C. Blodi Eye Pathology laboratory on the Cerner computer system and a hard copy is printed out, bound and retained indefinitely.

   b. When pathology reports are signed final electronically in the Cerner system, they are automatically sent to the Epic system as Anatomic Pathology Results. A “Resulted Test” notice is sent to the Epic in-box of the submitting physician. Ocular pathology reports remain on the Epic system as part of the electronic patient record.
SPECIAL PROCEDURE SPECIMEN COLLECTION

1. CORNEAL EPITHELIAL SCRAPING FOR ACANTHAMOEBA

   a. Special instructions:

      i. For STAT results, scrapings should be done between the hours of 7:30 am and 3:00 PM, if they are done before or after these hours technicians may not be available to complete the procedure.

          a) Scrapings need to be delivered to the Ocular Pathology Laboratory by 3:00.

      ii. Routine scrapings will be picked up at the nurses station by lab personnel between 2:30 and 3:00 PM.

      iii. Make sure the following materials are in the room prior to performing the scraping:

          a) Spatula for scraping the cornea

          b) Sterile container (centrifuge tube, specimen container)

          c) Wash bottle containing Saccomanno fixative

          d) Ocular Pathology Consultation Request form with the proper basic patient information, clinical data, and specimen location (ie: corneal scraping right eye) written on the form.

          e) UIHC patient ID sticker label for the specimen container

   b. Procedure

      i. Have an open labeled sterile container (centrifuge tube, specimen container) available prior to scraping the patient.

      ii. Using a spatula scrape the patient as usual.

      iii. Immediately after scraping the patient, using wash bottle containing Saccomanno fixative, wash cells and tissue off spatula and into the sterile container.

      iv. Make sure not to use more than 0.5 ml of Saccomanno to wash the cells off the spatula.

      v. Take tip of spatula and swirl in the Saccomanno to assure that all of the cells have been removed from the spatula.

      vi. Place the lid on the container tightly

      vii. Make sure the Ocular Pathology Consultation Request form has been filled out completely and placed in the outside pouch of the bio-hazard bag.

   c. SDS

      i. An updated copy of the SDS for Saccomanno fluid will be provided by the Ocular Pathology Lab (5-7095).
d. Saccomanno Fluid
   i. Saccomanno fluid will be provided by the Ocular Pathology Lab (5-7095) when:
   ii. The supply in the Cornea Clinic has been depleted.
   iii. The Saccomanno Fluid has expired.

e. Lab Instructions
   i. Clinic copies of lab instructions for Corneal Epithelial Scraping will be provided by the Ocular Pathology Lab (5-7095) Prot: 1.1.3.

2. ELECTRON MICROSCOPY
   a. Fixative: Glutaraldehyde
   b. Special instructions:
      i. Prior to surgery contact the ocular pathologist to determine if Electron Microscopy is necessary for the patients care or if another test would be more informative.
      ii. If Electron Microscopy is to be performed on the tissue the following materials should be obtained prior to surgery:
         a) A container of Glutaraldehyde which can be obtained by contacting the Electron Microscopy laboratory at 319-335-8142 or 319-335-8143.
            i) 81 EMRB
            ii) The bottle of Glutaraldehyde must be labeled with the UIHC patient label sticker and percentage of Glutaraldehyde in the bottle.
         b) A container of 10% Neutral Buffered Formalin
            i) The specimen container must be labeled with the UIHC patient label ID sticker label
         c) An Ocular Pathology Consultation Request form.
   i. After removal of the tissue from the patient place half of the tissue into the Glutaraldehyde and the other half into the 10% Neutral Buffered Formalin.
   ii. Fill out the Ocular Pathology Consultation Request form.
      a) When filling out the request form make sure to indicate that one specimen is in 10% neutral buffered formalin and that the other is in Glutaraldehyde: (i.e.: A. corneal biopsy, left eye in 10% neutral buffered formalin, B. corneal biopsy, left eye in Glutaraldehyde, for EM studies).
   iii. Send both specimens and requisition to the Ocular Pathology Laboratory as the ocular pathologist will have to request the test for Electron Microscopy after the routine slides have been reviewed.
      a) The Electron Microscopy specimen will be refrigerated by the ocular pathology laboratory until it is sent to the Electron Microscopy facility for study.
iv. If the EM specimen is not in the frozen section room by 2:30 PM it will not be picked up by the Ocular Pathology Laboratory that day, and it is the responsibility of the staff physician to assure the specimen is refrigerated until our next specimen pick-up or the laboratory is contacted and special arrangements are made to pick up the specimen.

3. **FINE NEEDLE ASPIRATIONS**

a. **Arrangements:** Special arrangements must be made at least one day prior to this procedure being performed with the pathologist to assure that the pathologist and a technician are available to process the specimen. If this is an emergency please try to give the laboratory at least one hours notice prior to the removal of the specimen.

   i. At this time arrangements should be made with the pathologist.

   ii. Fine needle aspirations must be performed no later than 2:30 p.m., **Monday-Friday**, for same day diagnosis, unless special arrangements have been made with the pathologist.

b. **Fixation:** This specimen requires immediate fixation.

c. **Special Instructions:** The following materials should be in the surgical suite prior to beginning this procedure.

   i. An FNA kit from the nurse’s station.

   ii. Small gauge needle (22).

   iii. Syringe.

   iv. A completed Ocular Pathology Consultation Request form.

      a) The Ocular Pathology Consultation Request form should be filled out completely prior to the removal of the specimen to decrease the delay in getting the specimen to the laboratory.

   iv. Label the 50 ml conical tube with the UIHC patient label ID sticker.

      a) With 2 unique patient identifiers (name and MRN or DOB).

v. The following three steps must be followed exactly as written in order to meet JCAHO, OSHA and CAP regulations.

   a) The physician will remove the specimen using the small gauge needle and syringe and retain the specimen in the syringe.

   b) After the removal of the specimen the physician will carefully draw an equal amount of Saccomanno fixative into the syringe.

   c) The physician will then dispense the fixed specimen into the empty 50 ml conical tube.

   d) Gently mix the specimen with the Saccomanno fluid for complete fixation.

   e) Place the conical tube into the BioHazard bag.
vi. The specimen will be delivered to the laboratory for immediate processing.

vii. Once in the laboratory, the specimen will be accessioned, described and processed within 1.5 hours.

viii. The finished slides will be given to the pathologist for an immediate diagnosis.

ix. The pathologist will inform the staff physician as soon as a diagnosis has been rendered.

Note: If the Pathologist is unavailable the slides will be prepared by a technician and read by the pathologist upon her return.

d. FNA Tap Kits

i. FNA Tap Kits are located in the Ophthalmology Nurse’s Station.

ii. A kit should be obtained prior to the scheduled procedure.

iii. Each kit contains:

   a) Saccomanno fluid (fixative)
   b) 50 ml conical tube (specimen container)
   c) BioHazard specimen bag
   d) Ocular Pathology Consultation Request Form
   e) Clinic copy of instructions for FNA tap procedure (Prot: 1.1.4)

iv. The FNA tap kits in the ophthalmology nurses station are provided by the Ocular Pathology Laboratory (5-7095) when:

   a) The supply of kits has run out
   b) The Saccomanno fluid has expired

v. An updated copy of the SDS for the Saccomanno fluid will be provided by the Ocular Pathology Laboratory (5-7095). The SDS is located in the Vitreous Tap Kit container.

4. FROZEN SECTIONS ON OCULAR TISSUE

a. Arrangements: For ALL ophthalmic cases, the ocular pathologist should be paged (2438) directly from the operating room to notify her of the frozen. She will then notify Surgical Pathology of whether or not she will personally be available to interpret the case. If not, Surgical Pathology will provide backup coverage. In the event that the Surgical Pathologist does not feel comfortable with interpreting that particular case and the Ocular Pathologist is not available, they will contact Dr. Patricia Kirby (Pathology) page #3414. **SURGEONS ARE REQUIRED TO MAKE PRIOR ARRANGEMENTS WITH DR. SYED TO MAKE SURE SHE IS AVAILABLE FOR CASES THAT ARE OPHTHALMIC PATHOLOGY SPECIFIC.**

b. Fixation: Fresh tissue placed on a saline soaked gauze pad and immediately sent to the frozen section room, 5804 JPP, to produce permanently stained and mounted slide/s.
c. **Special Instructions:**

i. Fill out the Ocular Pathology Consultation Request form completely.

ii. After the frozen section has been diagnosed, take the residual tissue, wrap it in lens paper and place in a cassette.

iii. Place the cassette into a container with enough 10% neutral buffered formalin to completely cover the tissue filled cassette.

   a) The container will be labeled with 2 patient identifiers.

iv. Place the lid on the container firmly.

v. Give the specimen container and the Ocular Pathology Consultation Request form to the frozen section room personnel.

vi. The frozen section slides (labeled with 2 patient identifiers) will be submitted to the F.C. Blodi Eye Pathology Laboratory.

vii. The F.C. Blodi Eye Pathology laboratory will pick up the residual tissue and/or slides on their routine (3:00 PM) run, as mentioned under the General Information on Collection and Handling of Specimens.

viii. The slides and residual tissue will be accessioned in the F.C. Blodi Eye Pathology Laboratory.

ix. All residual tissue is processed for paraffin section comparison.

5. **IMMUNOHISTOCHEMISTRY**

a. **Arrangements:** If an attending physician feels there may be a need for immunohistochemistry on a case they should contact the ocular pathologist prior to the surgery being performed to determine if the case needs the immunohistochemical techniques to diagnose the case. If it is necessary to perform this test the pathologist can determine whether fresh frozen tissue should be obtained during the surgery or if fixed, processed, paraffin embedded tissue can be used for the technique.

b. **Fixation:** Determined by the ocular pathologist, either fresh frozen tissue given to the immunopathology laboratory and/or tissue placed into 10% neutral buffered formalin and sent to the frozen section room to be picked up by the F.C. Blodi Eye Pathology laboratory for processing.

c. **Special Instructions:**

i. If fresh frozen section material is going to be supplied contact the Immunology laboratory (356-2688) prior to surgery for special instruction on how to handle the specimen properly.

   a) If there is more tissue to come on the case indicate this on the Ocular Pathology Consultation Request form and inform the Frozen Section Room Attendant.

ii. If the tissue is placed into 10% neutral buffered formalin, send it and the Ocular Pathology Consultation form to the Frozen Section room for the routine 2:30 PM pick-up by the laboratory.
a) Fill out the Ocular Pathology Consultation Request form as mentioned under General Information on Collection and Handling of Specimens.

b) The specimen will be picked up by the F.C. Blodi Eye Pathology laboratory on the usual 2:30-3:00 PM run, unless other arrangements have been made with the Ocular Pathology laboratory.

6. METABOLIC DISEASES (ie: gout, cystinosis, storage disease)

   a. **Arrangements:** If the specimen has a suspected metabolic disease, contact the laboratory prior to removal of the specimen for special fixation instructions. **DO NOT** remove the specimen until the special instructions have been received or the disease process may be destroyed because the proper fixation was not performed in the proper amount of time.

   b. Each specimen is different and must be handled on a case by case basis. Contact the F.C. Blodi Eye Pathology laboratory for instructions (319)-335-7095.

7. TEMPORAL ARTERY BIOPSIES

   a. If a doctor wants a same day diagnosis, THEY must call the lab themselves. Nursing is not responsible for telling the lab that there is a “stat” lab. The lab can only do same day results if they have the specimen by 9:30 AM—again the rationale for the notice of the late specimen to be picked up early the next business day. Transportation of the specimen is to be arranged by the MD when the lab is called.

   c. The lab will continue to pick up specimens on their usual 2:30 PM rounds unless otherwise directed by Dr. Syed.

      i. If a TA biopsy is **received after 4:30 PM** it will be processed the following day (ie: in Tuesday after 4:30 PM will be given to the ocular pathologist by 1:00 PM Thursday).

**Note:** Be aware that times may vary somewhat depending on the workload, availability of the Lab Director, technical coverage, and the number of stat cases on that particular day.
TEMPORAL ARTERY BIOPSY

DIAGNOSIS NEXT BUSINESS DAY (ROUTINE)

IF PROCEDURE COMPLETE BEFORE 2:30 PM MON-FRI

LEAVE SPECIMEN AND PAPERWORK AT NURSING STATION SPECIMEN PICK-UP AREA BY 2:30 PM TO INSURE SAME DAY PICK UP

LABORATORY STAFF WILL PICK UP SPECIMEN AT ROUTINE PICK-UP TIME 2:30 PM

CALL LAB TO NOTIFY OF BIOPSY AND ARRANGE FOR SPECIMEN TRANSPORT TO LAB MUST SPEAK TO LAB PERSONNEL

NOTE 1: SPECIMENS REACHING LAB AFTER 4:30 PM WILL BE LOGGED IN & PROCESSED NEXT DAY -- DIAGNOSIS WILL BE AVAILABLE 2 BUSINESS DAYS AFTER PROCEDURE

IF PROCEDURE COMPLETE BETWEEN 2:30 PM & 4:30 PM MON-FRI

NOTE: DIAGNOSIS WILL BE AVAILABLE 2 BUSINESS DAYS AFTER PROCEDURE

LEAVE SPECIMEN AND PAPERWORK AT NURSING STATION SPECIMEN PICK-UP AREA

IF PROCEDURE COMPLETE AFTER 4:30 PM MON-FRI OR ON WEEKEND/HOLIDAY

LABORATORY STAFF WILL PICK UP SPECIMEN NEXT BUSINESS DAY AT ROUTINE PICK-UP TIME 2:30 PM

NOTE: SAME DAY DIAGNOSIS SHOULD BE RESERVED FOR WHEN THE NEED FOR DIAGNOSIS IS EXTREMELY URGENT AND IS AT THE DISCRETION OF THE ATTENDING PHYSICIAN

MD MUST CALL PATHOLOGIST TO ARRANGE

SPECIMEN MUST BE IN LABORATORY BY 9:30 AM
d. **Fixation:** 10% Neutral buffered formalin

e. **Special Instructions:**

   i. Prior to beginning the surgery for a TA biopsy the following should be in the surgical room:
   
   a) a specimen container with the correct amount of 10% neutral buffered formalin in it
   
   b) a formalin warning sticker
   
   c) UIHC patient label ID sticker
   
   d) An Ocular Pathology Consultation Request form.

   ii. Immediately after the TA biopsy specimen has been removed from the patient, place the tissue into the container of 10% neutral buffered formalin, make sure the tissue is completely covered with the 10% neutral buffered formalin.

   iii. The amount of formalin in the container will vary with the size of the specimen, however the fixative should be a minimum of ten times the volume of the specimen being fixed.

   a) The amount for TA biopsies should be at least **25-30 ml** of 10% neutral buffered formalin in the container.

   iv. Place the lid on the container properly and tightly to avoid a formalin spill.

   v. Follow the procedure under General Information on Collection and Handling of Specimens for proper labeling of the specimen and how to properly fill out the Ocular Pathology Consultation Request forms.

8. **VITREOUS TAP (Intraocular biopsy, fluid and tissue fragments from the eye)**

   a. **Arrangements:** A vitreous tap is a concentrated specimen collected during the same procedure as a vitrectomy to diagnose lymphoma or malignancy.

   i. The Ocular Pathology Lab should be notified at least one hour before the procedure, preferably the day before for stat results.

   b. **Fixation:** The specimen must be fixed immediately.

   c. **Vitreous Tap Kits**

   i. Vitreous Tap Kits are located in the Ophthalmology Nurse’s Station.

   ii. A kit should be obtained prior to the scheduled procedure.

   iii. Each kit contains:

   a) Saccomanno fluid (fixative)

   b) 50 ml conical tube (specimen container)

   c) BioHazard specimen bag
d) Ocular Pathology Consultation Request Form

e) Clinic copy of instructions for vitreous tap procedure (Prot: 1.1.5)

iv. The vitreous tap kits in the ophthalmology nurses station are provided by the Ocular Pathology Laboratory (5-7095) when:

a) The supply of kits has run out

b) The Saccomanno fluid has expired

ev. An updated copy of the SDS for the Saccomanno fluid will be provided by the Ocular Pathology Laboratory (5-7095). The SDS is located in the Vitreous Tap Kit container.

d. Special Instructions:

i. Prior to the beginning of surgery for a vitreous tap, the following should be in the surgical room:

a) A syringe.

i) Vitreous fluid is tapped out of a vitrectomy. There is no needle.

b) A Vitreous Tap Kit from the nurse’s station

c) A completed Ocular Pathology Consultation Request Form.

ii. Label the 50 ml conical tube with the UIHC patient label ID sticker.

iii. Add an equal amount of Saccomanno fixative to the syringe and then dispense into the 50 ml conical tube.

iv. Gently mix the specimen and the Saccomanno fluid for complete fixation.

v. For stat processing, immediately deliver the specimen to the Ocular Pathology Lab, room #233, MRC.

a) Vitreous taps must be in the Ocular Pathology Laboratory by 3:00 p.m. for same day results.

vi. For routine processing, the Ocular Pathology Lab will pick up the specimen on the daily run at 2:30 p.m.

vii. VITRECTOMY CASSETTE BAGS:

a) If the biopsy is being done to rule-out lymphoma, the vitrectomy cassette bag (dilute aspirate) should be labeled with a UIHC patient label ID sticker and sent immediately to the Flow Cytometry Laboratory. Deliver the cassette bag to Specimen Control and they will deliver the cassette bag to the Flow Cytometry Laboratory (6TH FLOOR CARVER BETWEEN ELEVATORS E &F, TAKE WEST HALLWAY NEXT TO GLASS ATRIUM TO “PATHOLOGY LABORATORIES”, 1ST RIGHT TO “SPECIMEN CONTROL”).

i) A Flow Cytometry request form (WHITE WITH GREEN PRINT) should be completed and sent with the specimen.
b) If the biopsy is done for other reasons, label with the UIHC patient label ID sticker
and transport the vitrectomy cassette bag to the Blodi Eye Pathology Lab as soon as
possible with the YELLOW request form.

ROUTINE SPECIMEN COLLECTION BY SPECIMEN TYPE

1. AUTOPSY EYE
   a. Arrangements: Contact the F.C. Blodi Eye Pathology laboratory in advance of the
      removal of the eyes.
   b. Fixation: 10% neutral buffered formalin
   c. Special Instructions:
      i. Immerse the specimen in a sufficient quantity of fixative so that the eye is covered
         completely by the fixative. Make no holes or incisions in the globe as this will
         complicate the diagnosis and may destroy pertinent diagnostic information.
      ii. Follow the instructions listed under General Information on Collection and
          Handling of Specimens (beginning on page 1)

2. CILIARY BODY (iridocyclectomy specimen)
   a. Arrangements: No special arrangements necessary
   b. Fixation: 10% neutral buffered formalin
   c. Special Instructions:
      i. Because this specimen is usually taken for tumor, a study of the resection margins is
         important. Please make a sketch on the Ocular Pathology Consultation Request form
         of the location of the tumor in the eye so that the medial and temporal resection
         margins can be distinguished in the specimen.
      ii. Follow the instructions listed under General Information on Collection and
          Handling of Specimens (beginning on page 1)

3. CONJUNCTIVA
   a. Arrangements: No special arrangements are necessary.
   b. Fixation: 10% neutral buffered formalin
   c. Special Instructions:
      i. Conjunctival tissue should be handled according to the following protocol to prevent
         curling of the tissue:
      ii. Spread the conjunctiva onto a flat, absorbent surface such as the paper wrapping for
         gloves, the file-card envelope for sutures, or filter paper.
      iii. Allow the conjunctival tissue to become adherent to the surface for approximately 20-
           30 seconds.
iv. When the tissue is adherent to its support, float the supporting surface and tissue onto formalin with the tissue surface **facing up**. The absorbent material will soak up fixative and sink. The specimen will be received in the pathology laboratory with its proper orientation preserved.

d. It is important that an accurate clinical diagnosis accompany the specimen. For example, conjunctival biopsies to rule out sarcoid are handled differently by the grossing pathologist from biopsies for suspected neoplasms.

i. Follow the instructions listed under **General Information on Collection and Handling of Specimens** (beginning on page 1)

ii. When a conjunctival biopsy is done to rule out **OCP** (ocular cicatricial pemphigoid), half of the specimen should be sent fresh to the Immuno Lab and the other half in formalin to our lab. Both specimens should be accessioned under our accession number. The Immuno Lab should be notified that they should proceed with doing a pemphigoid panel on the tissue. They should put their portion of the report in the Additional Procedures section of our report.

iii. Please indicate on the Ocular Pathology Consultation Request form if tissue has been sent to the Immuno Pathology Laboratory.

4. **CORNEAL BIOPSY** (for infectious disease)

a. **Arrangements:** Please contact the F.C. Blodi Eye Pathology laboratory (319-335-7095) **before** surgery when the anticipated diagnosis will require: (1) electron microscopy, (2) immunopathology, (3) the detection of crystalline substances, especially urate crystals.

b. **Fixation:** 10% neutral buffered formalin, unless specimen was for electron microscopy, immunopathology, or the detection of crystalline substances, especially urate crystals in these cases contact the Ocular Pathology Laboratory for fixation instructions.

c. **Special Instructions:**

i. It is generally not possible to divide small specimens less than 1.5 mm into two pieces, one for histology and one for microbiology. Dividing such small specimens may make it difficult for both histology and microbiology laboratories to perform adequate examinations on the specimen.

ii. Follow the instructions listed under **General Information on Collection and Handling of Specimens** (beginning on page 1)

5. **CORNEAL BUTTONS** (tissue from transplant procedures)

a. **Arrangements:** Please contact the F.C. Blodi Eye Pathology laboratory (319-335-7095) **before** surgery when the anticipated diagnosis will require: (1) electron microscopy, (2) immunopathology, (3) the detection of crystalline substances, especially urate crystals.

b. **Fixation:** 10% neutral buffered formalin, unless specimen was for electron microscopy, immunopathology, or the detection of crystalline substances, especially urate crystals in these cases contact the Ocular Pathology Laboratory for fixation instructions.
c. **Special Instructions:**

   i. Corneal buttons should not be allowed to desiccate in the operating room before being placed into fixative. Because it may be important to wait until donor tissue is secured into place, put the host material into tissue culture medium until the surgeon considers the circumstances of the operation "safe enough" to permit host tissue fixation.

   ii. Follow the instructions listed under **General Information on Collection and Handling of Specimens** (beginning on page 1), unless the specimen is for electron microscopy, immunopathology or detection of crystalline substances (urate crystals).

6. **CORNEAL BUTTON** (routine)

   a. **Arrangements:** Please contact the F.C. Blodi Eye Pathology laboratory (319-335-7095) **before** surgery when the anticipated diagnosis will require: (1) electron microscopy, (2) immunopathology, (3) the detection of crystalline substances, especially urate crystals.

   b. **Fixation:** 10% neutral buffered formalin, unless specimen was for electron microscopy, immunopathology, or the detection of crystalline substances, especially urate crystals in these cases contact the Ocular Pathology Laboratory for fixation instructions.

   c. **Special Instructions:**

      i. Routine corneal buttons should be placed into the 10% neutral buffered formalin immediately after removal.

      ii. Follow the instructions listed under **General Information on Collection and Handling of Specimens** (beginning on page 1).

7. **DESCEMET’S MEMBRANE**

   a. **Arrangements:** No special arrangements are necessary.

   b. **Fixation:** 10% neutral buffered formalin

   c. **Special Instructions:**

      i. Follow the instructions listed under **General Information on Collection and Handling of Specimens** (beginning on page 1).

8. **ENUCLEATION**

   a. **Arrangements:** Contact the F.C. Blodi Eye Pathology laboratory (319-335-7095) in advance of the removal of the eye if special studies (such as electron microscopy or immunology) are to be performed on the tissue.

   b. **Fixation:** 10% neutral buffered formalin

   c. **Special Instructions:**

      ii. Immerse the specimen in sufficient quantity of fixative so that the eye is covered. Make no holes or incisions into the globe.
iii. It is important that a complete clinical history accompany the specimen (i.e., a list of any previous operations performed on the eye may alert the pathologist to the presence of an intraocular lens or a surgical wound.

iv. If an eye is removed for tumor, provide a copy of the fundus drawings so that the eye may be opened in an appropriate plane.

v. Follow the instructions listed under General Information on Collection and Handling of Specimens (beginning on page 1)

9. EVISCERATION
   a. Arrangements: No special arrangements are necessary
   b. Fixation: 10% neutral buffered formalin
   c. Special Instructions:
      i. Follow the instructions listed under General Information on Collection and Handling of Specimens (beginning on page 1)

10. EXENTERATION
    a. Arrangements: No special arrangements are necessary
    b. Fixation: 10% neutral buffered formalin
    c. Special Instructions:
       i. Please be certain to have all aspects of this large specimen completely covered by fixative.
       ii. Follow the instructions listed under General Information on Collection and Handling of Specimens (beginning on page 1)

11. EYELID
    a. Arrangements: No special arrangements are necessary
    b. Fixation: 10% neutral buffered formalin
    c. Special Instructions:
       i. If the resection margins are important, please make a sketch on the Ocular Pathology Consultation Request form as to the location of the tumor or area of interest in the eyelid so that the resection margins can be distinguished in the specimen.
       ii. Follow the instructions listed under General Information on Collection and Handling of Specimens (beginning on page 1)

12. FOREIGN BODY
    a. Arrangements: The specimen is sent to microbiology for study then after microbiology is finished with the specimen it is sent to the F.C. Blodi Eye Pathology laboratory for gross and saved for archival studies.
    b. Fixation: None, sometimes received in microbiology broth.
c. Special Instructions:
   i. These specimens are stored indefinitely as archival material and such information may be important for future medical-legal considerations.

13. INTRAOCULAR LENS
   a. Arrangements: No special arrangements are necessary.
   b. Fixation: None
   c. Special Instructions:
      i. Please provide the name of the manufacturer of the lens together with the model number or style of the lens. These specimens are stored for archival purposes and such information may be important for future medical-legal considerations.

14. IRIS
   a. Arrangements: If the iris is removed for a suspected tumor, please see instructions listed above under ciliary body (iridocyclectomy) specimens.
   b. Fixation: 10% neutral buffered formalin
   c. Special Instructions:
      i. There are no special instructions if the iris is removed at the time of glaucoma filtering procedures.
      ii. Follow the instructions listed under General Information on Collection and Handling of Specimens (beginning on page 1)

15. LACRIMAL SYSTEM (lacrimal gland or sac)
   a. Arrangements: If material is needed for immunopathology please contact the F.C. Blodi Eye Pathology laboratory for instructions prior to surgery
   b. Fixation: 10% neutral buffered formalin, unless specimen is for immunopathology then contact the F.C. Blodi Eye Pathology laboratory for instructions on how to handle the tissue prior to surgery
   c. Special Instructions:
      i. Please indicate on the Ocular Pathology Consultation Request form if there is tissue to be sent to the immunopathology laboratory.
      ii. If the tissue is for the F.C. Blodi Eye Pathology laboratory, follow the instructions listed under General Information on Collection and Handling of Specimens (beginning on page 1)

16. MUSCLE
   a. Arrangements: No special arrangements are necessary
   b. Fixation: 10% neutral buffered formalin
c. Special Instructions:
   i. Follow the instructions listed under **General Information on Collection and Handling of Specimens** (beginning on page 1)

17. OPTIC NERVE
   a. **Arrangements**: No special arrangements are necessary
   b. **Fixation**: 10% neutral buffered formalin
   c. **Special Instructions**:
      i. Follow the instructions listed under **General Information on Collection and Handling of Specimens** (beginning on page 1)

18. OPTIC NERVE SHEATH
   a. **Arrangements**: No special arrangements are necessary
   b. **Fixation**: 10% neutral buffered formalin
   c. **Special Instructions**:
      i. Follow the instructions listed under **General Information on Collection and Handling of Specimens** (beginning on page 1)

19. ORBITAL BIOPSY
   a. **Arrangements**: If material is needed for immunopathology please contact the F.C. Blodi Eye Pathology laboratory for instructions prior to surgery
   b. **Fixation**: 10% neutral buffered formalin, unless specimen is for immunopathology then contact the F.C. Blodi Eye Pathology laboratory for instructions on how to handle the tissue prior to surgery
   c. **Special Instructions**:
      i. Please indicate on the Ocular Pathology Consultation Request form if there is tissue to be sent to the immunopathology laboratory.
      ii. If the tissue is for the F.C. Blodi Eye Pathology laboratory, follow the instructions listed under **General Information on Collection and Handling of Specimens** (beginning on page 1)

20. ORBITAL TUMOR/LYMPHOID LESION
   a. **Arrangements**: Material will be needed for Flow Cytometry. Please contact the F.C. Blodi Eye Pathology Laboratory for instructions prior to surgery
   b. **Fixation**: 10% neutral buffered formalin, unless specimen is for immunopathology then contact the F.C. Blodi Eye Pathology laboratory for instructions on how to handle the tissue prior to surgery
   c. **Special Instructions**:
      i. At least 3 cubic mm of tissue will be needed for flow cytometry
ii. Please indicate on the Ocular Pathology Consultation Request Form when tissue has been sent to the Flow Cytometry Lab. (See pg 17 #8-d-vii for directions to this lab.)

iii. Please mark “flow” on the immunopath sheet

iv. If the tissue is for the F.C. Blodi Eye Pathology laboratory, follow the instructions listed under General Information on Collection and Handling of Specimens (beginning on page 1)

21. ORBITAL TUMOR/PEDIATRIC TUMOR

a. **Arrangements:** Material will be needed for cytogenetics studies. Please contact the F.C. Blodi Eye Pathology laboratory for instructions prior to surgery.

b. **Fixation:** 10% neutral buffered formalin for the F.C. Blodi Eye Pathology laboratory
   
i. Fresh tissue to be sent to the Cytogenetics Laboratory.

c. **Special Instructions:**
   
i. Please indicate on the Ocular Pathology Consultation Request form when fresh tissue has been sent to the cytogenetics laboratory.
   
ii. If the tissue is for the F.C. Blodi Eye Pathology laboratory, follow the instructions listed under General Information on Collection and Handling of Specimens (beginning on page 1)

22. PTERYGIUM

a. **Special Arrangements:** No special arrangements are necessary

b. **Fixation:** 10% neutral buffered formalin

c. **Special Instructions:**
   
i. Follow the procedure under General Information on Collection and Handling of Specimens (beginning on page 1).

23. SKIN

a. **Arrangements:** No special arrangements are necessary

b. **Fixation:** 10% neutral buffered formalin

c. **Special Instructions:**
   
i. Follow the instructions listed under General Information on Collection and Handling of Specimens (beginning on page 1)

24. TRABECULAR MESHWORK

a. **Arrangements:** No special arrangements are necessary

b. **Fixation:** 10% neutral buffered formalin

c. **Special Instructions:**
25. VITRECTOMY

a. Arrangements: No arrangements are necessary, unless the specimen is collected in a syringe.

i. See #9, Vitreous Tap, page 16.

b. If the specimen is collected in the usual vitreous container, take it and the Ocular Pathology Consultation Request form to the frozen section room.

c. Special Instructions:

i. If the tissue is for the F.C. Blodi Eye Pathology laboratory, follow the instructions listed under General Information on Collection and Handling of Specimens (beginning on page 1).

****NOTE****
Never refrigerate or place vitrectomy specimens on ice as cells degenerate faster.

PHYSICIAN NOTIFICATION

1. If the diagnosis of the patient's tissue is critical to the patients treatment and requires immediate attention the ocular pathologist will contact the attending physician as soon as the diagnosis is complete.

a. The above information is noted in the “Comment” section of the final report along with the following information:

i. Date

ii. Time

iii. First and last name of person notified

2. An electronic copy is sent to the attending physician’s Epic in-box as a “Resulted Test”.

3. A hard copy is printed out, bound, and retained indefinitely in the F.C. Blodi Eye Pathology Laboratory.

REFERENCES:


Aldrich: Catalog and Handbook of Fine Chemicals; Aldrich Chemical Co., Inc.; Milwaukee, WI; 1986.

Safety Data Sheets.