

ROUTINE SPECIMEN COLLECTION BY SPECIMEN TYPE

1. AUTOPSY EYE

- a. **Arrangements:** No special arrangements necessary.
- 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. Use at least an 80 cc container for each eye. Keep the right and left eyes separate by placing in separate containers. Make no holes or incisions in the globe(s) 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. Place the tissue on a piece of filter paper prior to placing it in formalin. Float the filter paper with the tissue side up into the formalin container after allowing the tissue to adsorb to the paper for 10-15 seconds.
 - ii. Because this specimen is usually taken for tumor, a study of the resection margins is important. Please include a diagram on the Ophthalmic 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.
 - iii. Place the tissue on filter paper
 - iv. 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 filter paper or the paper wrapping for gloves, the file-card envelope for sutures.
 - iii. Allow the conjunctival tissue to become adherent to the paper for approximately 10-15 seconds.
 - iv. When the tissue is adherent to the paper, float the paper with the tissue into the formalin with the tissue surface **facing up**. The absorbent material will soak up

fixative and sink to the bottom of the container. 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 **ocular cicatricial pemphigoid (OCP)**, half of the specimen should be sent fresh to the Immunopathology Lab and the other half in formalin to the Eye Pathology lab.
 - iii. Both specimens should be accessioned under an Eye Pathology 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
 - iv. Place an order for Eye Pathology Exam in Epic or Epic OpTime. Indicate in the electronic order that tissue has been sent to the Immunopathology lab. An Eye Pathology yellow consult form is optional.

4. CORNEAL BIOPSY

- a. **Arrangements:** Please contact the F.C. Blodi Eye Pathology laboratory (319-335-7609) **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 is for electron microscopy, immunopathology, or the detection of crystalline substances, especially urate crystals in these cases contact the Ophthalmic Pathology Laboratory for fixation instructions.
- c. **Special Instructions:**
 - i. Send tissue separately to Microbiology for culture as needed, this needs a separate Epic order.
 - 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 (319-335-7609) **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 Ophthalmic 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. DESCEMET MEMBRANE

- a. **Arrangements:** No special arrangements are necessary.
- b. **Fixation:** 10% neutral buffered formalin
- c. **Special Instructions:**
 - i. Descemet membrane is clear and translucent and can be difficult to visualize with the naked eye. Care should be taken to make sure that Descemet membrane does not remain attached to surgical instruments or on the surgical field before sealing the specimen container.
 - ii. Follow the instructions listed under **General Information on Collection and Handling of Specimens** (beginning on page 1).

7. ENUCLEATION (Eyeball/Globe)

- a. **Arrangements:** Contact the F.C. Blodi Eye Pathology laboratory (319-335-7609) in advance of the removal of the eye if special studies (such as electron microscopy or immunopathology) are to be performed on the tissue.
- b. **Fixation:** 10% neutral buffered formalin
- c. **Special Instructions:**
 - i. Immerse the specimen in sufficient quantity of fixative so that the eye is covered. Use at least an 80 cc specimen container. Make no holes or incisions into the globe.
 - ii. It is important that a complete clinical history accompany the specimen (e.g., 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).
 - iii. If an eye is removed for tumor, provide a copy of the fundus drawing so that the eye may be sectioned in an appropriate plane.
 - iv. Follow the instructions listed under **General Information on Collection and Handling of Specimens** (beginning on page 1).

8. 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).

9. EXENTERATION (Eye and orbital contents)

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

- b. **Fixation:** 10% neutral buffered formalin
- c. **Special Instructions:**
 - i. Please be certain to have all portions of this large specimen completely covered by fixative. This requires a larger than average specimen container.
 - ii. Follow the instructions listed under **General Information on Collection and Handling of Specimens** (beginning on page 1).

10. EYELID/SKIN

- a. **Arrangements:** No special arrangements are necessary
- b. **Fixation:** 10% neutral buffered formalin
- c. **Special Instructions:**
 - i. If the resection margins are important, please submit an Ophthalmic Pathology Consultation yellow Request form with a diagram indicating landmarks for orientation and 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).

11. FOREIGN BODY

- a. **Arrangements:** The specimen may be sent to the Microbiology Lab for cultures and, then, after cultures are complete, the specimen is sent to the F.C. Blodi Eye Pathology laboratory for gross examination and is then archived.
- b. **Fixation:** None, sometimes received in microbiology culture broth.
- c. **Special Instructions:**
 - i. These specimens are stored indefinitely as archival material and may be important for medicolegal reasons.

12. INTRAOCULAR LENS IMPLANTS AND OTHER OCULAR DEVICES

- 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 when possible. These specimens are archived indefinitely in the laboratory and may be important for medicolegal reasons.

13. 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).

14. LACRIMAL SYSTEM (lacrimal gland or sac)

- a. **Arrangements:** If material is sent for immunopathology or 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 flow cytometry. Tissue sent to the flow cytometry lab should be sent fresh (no fixative) on a saline moistened gauze in a separate container directly to the flow lab.
- c. **Special Instructions:**
 - i. Place an order for Eye Pathology Exam in Epic or Epic OpTime. Indicate in the electronic order that tissue has been sent to the Flow cytometry lab. If desired, an Eye Pathology yellow consult form can also be sent.
 - ii. A separate order must be placed for **Flow Cytometry** in Epic or Epic OpTime.
 - iii. 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).

15. MUSCLE

- a. **Arrangements:** No special arrangements are necessary
- b. **Fixation:** 10% neutral buffered formalin
- c. **Special Instructions:**
 - i. Specimens to be evaluated for degenerative neuromuscular disease should be sent to Surgical Pathology for evaluation following their protocol for muscle biopsies. An order should be placed for Surgical Pathology Exam in Epic or Epic OpTime.
 - ii. Follow the instructions listed under **General Information on Collection and Handling of Specimens** (beginning on page 1).

16. 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).

17. 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).

18. ORBITAL BIOPSY (Routine, not for suspected lymphoid lesion)

- 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 LYMPHOID LESION

- a. Arrangements:** Material should also be sent for Flow Cytometry if possible. Please contact the F.C. Blodi Eye Pathology laboratory for instructions prior to surgery.
- b. Fixation:** 10% neutral buffered formalin for portion sent to Eye Pathology Lab. Tissue sent to the flow cytometry lab should be sent fresh (no fixative) on a saline moistened gauze in a separate container directly to the flow lab.
- c. Special Instructions:**
 - i.** At least 3 cubic mm of tissue is required for Flow cytometric analysis.
 - ii.** Place an order for Eye Pathology Exam in Epic or Epic OpTime. Indicate in the electronic order that tissue has been sent to the Flow Cytometry lab. If desired, an Eye Pathology yellow consult form can also be sent.
 - ii.** A **separate order must be placed for Flow Cytometry** in Epic or Epic OpTime.
 - iii.** For tissue sent to 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. PEDIATRIC ORBITAL 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 in tissue culture medium (RPMI) to be sent to the Cytogenetics Laboratory.
- c. Special Instructions:**
 - i.** Place an order for Eye Pathology Exam in Epic or Epic OpTime. Indicate in the electronic order that tissue has been sent to the Cytogenetics lab. An Eye Pathology yellow consult form is optional.
 - ii.** A **separate order must be placed for Cytogenetics** in Epic or Epic OpTime.
 - iii.** 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. 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).

22. TRABECULAR MESHWORK

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).

PHYSICIAN NOTIFICATION

1. If the specimen diagnosis is critical to the patient's treatment and requires immediate attention, the pathologist will contact the attending physician as soon as the diagnosis is complete.
 - a. The above information is documented in the "Comment" section of the eye pathology report along with the following information:
 - i. Date
 - ii. Time
 - iii. First and last name of person notified
2. All reports are sent electronically sent to the attending physician's Epic in-box as a "Resulted Test" for in-house cases.
3. A hard copy is printed out, bound, and retained indefinitely in the F.C. Blodi Eye Pathology Laboratory.

REFERENCES:

Sheehan, Dezna C. and Barbara B. Hrapchak: Theory and Practice of Histotechnology, 2nd Ed.; C.V. Mosby Co., St. Louis, MO; 1980.

Preece, Ann: A Manual for Histologic Technicians, 3rd Ed.; Little, Brown & Co., Inc.; Boston, MA; 1972.

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

Safety Data Sheets