Anatomic (Surgical and Autopsy) Pathology, Hennepin County Medical Center

The rotation is designed to teach residents to provide community-standard pathology service to patients by hands-on experience with appropriate supervision. The residents are expected to progress appropriately toward competence in gross and microscopic diagnosis and have an appreciation for the clinical significance of pathologic findings.

Institutional Site Director

Stuart Cameron, MD

Coordinating Teaching Faculty Member

Bradley Linzie, MD
Medical Director Surgical Pathology
612-873-3031

Teaching Faculty Members

Stuart Cameron, MD
Gretchen Crary, MD
Steven Debol, MD, PhD
Bradley Linzie, MD
Katharine Park, MD

Lead Technical and Support Personnel

Linda Moyer, Contact for rotating residents and medical students
Sarah Pietz, MT, PA (ASCP), Anatomic Pathology Supervisor
Kristin Giesen, CLS (NCA), PA (ASCP)
Nancy Thomas, Transcription
Denise Moberg, Transcription
Jeannette Wallen, HT (ASCP), Histology Team Lead

Training Site

Hennepin County Medical Center

Duration of Rotation:
3 months (combination of 2 months surgical pathology and 1 month autopsy)
Post Graduate Level of Residents Involved
PGY 1-5

Supervisory Guidelines for Patient Care and Specimen Handling

Residents will handle all specimens in the gross room after documented orientation by a staff pathologist or pathologist assistant at each of the three levels of specimen complexity (biopsy, routine, large routine). See the Surgical Pathology Competency Checklist. Attending pathologists are to see all large routine specimens before or during dissection and are available for immediate consultation at all times during the day for any specimen.

Daily Duties and Responsibilities

Surgical and autopsy pathology training are integrated on this rotation over the course of the three months so that approximately two months of surgical and one month of autopsy training results. When an autopsy occurs, the teaching faculty/pathologist assistant will assume responsibility for the grossing and signing out of surgical cases, while the physician-in-training completes the autopsy. In this fashion, resident participation in both surgical and autopsy pathology is maximized.

Surgical Pathology

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Surgical Pathology

Daily

1. As appropriate for the efficient and professional operation of the service, provide direction to clerical and technical staff.

Grossing Day (alternate days, 2 days per week)

1. Review surgical schedule for potential frozen sections. For potential intraoperative consultation cases, review the patient histories in the electronic health record, pull pertinent prior slides and reports, review slides and appropriate grossing techniques before the expected specimens arrive.
2. Perform gross examination of all specimens for that day, including appropriate gross photography.
3. Review complex specimens with attending pathologist prior to or during dissection and request assistance with all unfamiliar specimens or situations encountered.
4. Communicate with the surgeons on intraoperative consultations and perform frozen sections under direct faculty supervision.

Microscopic sign-out day (alternate days, 2 days per week)

1. Review cases prior to sign-out with the attending pathologist as time allows and formulate a differential diagnosis and questions for the attending.
2. Edit gross dictations, dictate or type reports prior to, during, or after review of the cases with the attending pathologist as time and ability permit.
3. Follow up on tasks needed to complete cases (special studies, clinical correlation, and internal/external consultations) in a timely manner to meet the turnaround time goals of the Department. The turnaround time standard is 90% of cases completed by 48 hrs. after specimen accessioning.

Weekends

1. The resident will take "Call" for anatomic pathology as assigned and answer questions of specimen handling and pending case results in a semi-independent fashion. The resident will perform frozen sections during off hours with the on call attending pathologist in attendance. The resident will also handle lymphoma workups with the on-call hematopathologist.
2. The resident will perform assigned hospital autopsies semi-independently with telephone or onsite support from the attending pathologist as appropriate.

Autopsy Pathology

Integrating clinical and pathological information is the resident's main responsibility in performing an autopsy examination that produce timely and meaningful preliminary and final reports. All questions should be directed to the staff pathologist prior to starting the case. Residents are expected to be fully involved in all aspects of the post-mortem examination, including but not limited to review of the medical record, summation of the circumstances of death, external examination of the body, evisceration, dissection of the organs, preparation of the written autopsy report, preparation of the preliminary anatomic diagnosis, review of microscopic findings, review of all ancillary testing, and determination of the cause and manner of death. The above level of involvement is expected for both individual and shared autopsies. In order to consider an autopsy educationally effective, it needs to be completed within 30 days of the patients death. Therefore, trainees can only count those autopsies that are completed within this time frame toward their graduation requirement.

1. Each morning the resident must check to see if an autopsy is pending. Communication with the Pathologist Assistant is essential so that the resident may begin to review the medical
record and the Death Protocol form. After such review, the resident must present the staff pathologist with an overview of what the case entails. It is strongly advised that at least one clinician intimately involved with the patient’s case be contacted before the autopsy begins to ensure that all important aspects of the case are understood. The house staff should be asked whether they would like to attend the autopsy or be called when the autopsy is finished. **Residents are to make certain that a valid autopsy permit has been obtained.** Do not proceed until this has been accomplished. If you are not certain regarding this point, contact the attending staff pathologist and verify that you have a valid permit prior to starting the autopsy.

2. Perform all autopsies for which a valid permit is received prior to 12:00 noon. Obtaining tissues for special studies and photograph organs as indicated.

3. Review of organs, tissues, and fluids with the attending staff pathologist at the conclusion of the autopsy.

4. Prepare and have signed a preliminary anatomic diagnosis (PAD; preliminary report) within 24 working hours of performing the autopsy.

5. Submit tissue sections from the autopsy in properly labeled cassettes within 2 days to the histology laboratory (<3 mm thick).

6. Arrange time with the staff pathologist to review the histology slides and discuss completion of the case.

7. The sign-out of microscopic slides with staff pathologists should occur within 10 working days of the autopsy.

8. Complete the clinical-pathological interpretation that correlates the clinical findings with the anatomic findings.

9. In those cases with examination of the brain, the resident is expected to cut the brain with the staff pathologist and/or neuropathologist and review the histologic sections submitted for processing with the staff pathologist and/or neuropathologist.

10. Complete the final anatomic diagnosis (final report) in a timely fashion. In general, the report should be completed within 15 working days of the autopsy. In extreme cases, the case must be completed within 30 working days.

**Rotation Goals and Learning Objectives**

**Surgical Pathology**

1. Complete the processing and analysis of 800 surgical pathology cases.

2. Learn to appropriately describe gross findings and construct a gross pathologic differential diagnosis.

3. Learn to appropriately sample gross specimens for microscopic study.

4. Learn to appropriately triage specimens for ancillary studies based on gross findings, including lymphoma work-up, ploidy analysis, receptor studies, electron microscopic studies, cytogenetics, and molecular diagnostics.

5. Learn medical photography of gross specimens so that informative pictures are taken.

7. Prepare and present opinions on cases at the HCMC-Abbott-NW Unknown Conference.
8. Review microscopic findings and reach a preliminary diagnosis on cases before signing out with the staff pathologist.
9. Dictate complete, concise, appropriate surgical pathology reports, including a microscopic description when appropriate.
10. Effectively communicate pathology results to the patient’s physicians.
11. Be able to suggest appropriate histochemical, immunoperoxidase, and molecular diagnostic studies for individual cases and be able to accurately interpret results.
12. Demonstrate gross and microscopic findings to physicians.
13. Develop skills in teaching junior residents, interns and medical students.
14. Complete a written project on a topic relevant to the surgical pathology service and typical of investigations performed by practicing pathologists in order to stay current in the practice of surgical pathology.

Autopsy Pathology

1. Ability to conduct a complete autopsy examination regardless of age or sex, including removal of brain.
2. To develop integrative thinking and writing such that preliminary and final autopsy reports reflect an understanding of the relationship between the patient's symptoms and structure/function of the organ pathology.
3. To learn how to individualize and innovate the performance of an autopsy, the preparation of tissues, and autopsy reports to meet the specific needs of a given case.
4. Ability to formally present at Departmental and clinicopathologic conferences and informally communicate the significant aspects of an autopsy case.
5. Ability to efficiently and competently complete the prosection, gross tissue evaluation, sampling of tissues, review of microscopic histology and reports within 30 days of the autopsy.

Resident Opportunities to Function as a Consultant to Other Physicians

Residents have the responsibility, under faculty supervision, of discussing the interpretive consultative reports on surgical pathology cases and frozen sections with appropriate members of the clinical/surgical teams. Through their discussions with the clinical team members, the residents have the opportunity to directly impact patient care.

During the rotation the residents are exposed to laboratory correlation studies. These will include, but are not limited to, the following:

1. Correlation of fine needle aspiration studies with subsequent surgical pathology specimens.
2. Correlation of ancillary studies with histology in the work-up of lymphomas and hematologic disorders.
3. Correlation of liver function tests with liver biopsies.
5. Correlation of the clinical history with clinical questions and biopsy findings.

Residents have the responsibility for preparing and presenting at interdepartmental conferences:

1. Urologic Pathology Conference (weekly)
2. ENT Conference (monthly)
3. Unknown conference (weekly)
4. Dermatology Conference (weekly)

**On-Call Duties**

The residents will on average have one out of every seven days free of hospital duties. Due to the at-home nature of call and the limited number of emergencies, the call duties are constructed in the following fashion. The residents are on at-home/pager call every other week. The on-call periods last from 7:00 a.m. on Monday morning through the following weekend, ending at 7:00 a.m. on the subsequent Monday. While on-call, residents are supervised by a Hennepin County Medical Center Teaching Faculty Member, who is available at all times, either via their office phone, pager, or home phone. On-call activities are reviewed with the residents on an on-going basis as evening and weekend calls are received. A faculty member is always present when a final diagnosis is established and at any time before, as necessary.

The resident shares on-call duties with the other anatomic pathology services, including hematopathology and cytopathology on a rotating basis. During the on-call period, the resident is responsible for handling clinical requests that arise during off hours, emergent operating room consultations, emergency off-hour autopsies with the approval of the on-call staff pathologist, and autopsies which present before 12:00 noon on the weekends.

**Prompt and Reliable Communication with On-duty Faculty**

During general working hours, the on-service teaching faculty is available in person; other faculty members are available by scheduled appointment, by phone or by pager. During the on call hours, the teaching faculty is continuously available either at home by phone or by pager. The Department's communication board in surgical pathology is updated daily with attending and on call assignments.

**Description of Structured Formal Education in the Management of this Laboratory Area**

The residents attend scheduled monthly quality assurance, laboratory safety, and other appropriate staff meetings, as they relate to laboratory management. Laboratory indicators of quality are posted in the Department and discussed at these meetings. As opportunity provides, residents will be allowed to participate in CAP laboratory accreditation activities, including self-inspections and inspections of other institutions.
Required Conferences/Seminars

- **Tuesdays** - Hennepin County Medical Center/Abbott Northwestern Hospital Unknown Conference, 7:30-8:30 a.m., weekly. This conference alternates hospital sites each week. Weekly challenge of 5 current (difficult or classic) cases from HCMC and 5 cases from Abbott-NW Hospital for review and diagnosis by the residents. This conference provides a weekly forum for trainee and faculty discussion of difficult and unusual cases. Each resident gives a diagnosis in round robin fashion with questioning and discussion by moderating faculty (Brad Linzie MD and John Jones MD) from each institution.

- **Wednesday** - University of Minnesota Laboratory Medicine and Pathology Grand Rounds, 8:00-9:00 a.m., weekly. Conference is held on the University of Minnesota Medical School Campus.

- **Fridays** - Rosai/Sinard Conference, 7:15-8:00 a.m., weekly, residents present a variety of real cases on a theme related to a recent or up-coming the faculty Resident’s Conference. Conference is held on the University of Minnesota Medical School Campus. This conference provides a regular avenue for trainee peer teaching with feedback given by the Chief Resident's Subcommittee.

- **Fridays** - Resident’s Conference, 8:00-9:00 a.m., weekly, residents attend conferences on a variety of scheduled pathology topics. Conference is held on the University of Minnesota Medical School Campus.

- **Brain Cutting**, semi-monthly cutting of autopsy brains from hospital and medical examiner cases by a neuropathologist and the residents.

Interdepartmental Conferences

1. Tumor conference, weekly case based discussion presented by Faculty of Surgical Oncology, Radiology, Pathology, Radiation Oncology, Medical Oncology. This conference provides a weekly forum for trainee and faculty discussion of difficult and unusual cases.
2. Urologic Pathology Conference, weekly. This conference provides a regular avenue for trainee peer teaching. This clinical correlation conference provides trainees with the opportunity to present pathologic findings for correlation and discussion.
3. ENT Conference, monthly. This conference provides a regular avenue for trainee peer teaching. This clinical correlation conference provides trainees with the opportunity to present pathologic findings for correlation and discussion.
4. Dermatology Conference, weekly. This conference provides a weekly forum for trainee and faculty discussion of difficult and unusual cases. This clinical correlation conference provides trainees with the opportunity to correlate and discuss pathologic findings.
5. Quarterly Autopsy Q.A. Conference. The resident will present one or two cases from their rotation that illustrate interesting clinical questions or challenging or unusual pathologic diagnoses. The attending pathologist will moderate the discussion.
Scholarly Activities/Research Available During and After Rotation

During the rotation, residents research topics of interest, such as new procedures, tests, and protocols. Their findings are presented in both oral and written form to the on-site faculty and residents.

Optional participation in larger ongoing research projects with pathology or clinical faculty are available in a variety of animal models of disease and clinical research.

Basis, Method and Criteria for Resident Evaluation

The residents are provided with continuous feedback on their performance during their rotation. In general, only deficiencies are noted in writing during the rotation. Residents are evaluated on their demonstrated ability to provide informative consultation to the clinical service teams, their medical knowledge, their application of this knowledge to efficient/quality patient care, their diagnostic, technical and observational skills both in the gross room and at the microscope, and their interpersonal skills, professional attitudes, reliability, and ethics with members of the teaching faculty, peers, laboratory staff, and clinicians. They are also evaluated on their initiative in completing and fostering quality patient care, their use of the medical literature and other resources, as it relates to their assigned cases. Their timely completion of assigned interpretive reports is another component of the evaluation. Residents on probation will receive a written mid-rotation evaluation.

Educational Resources

Reports from external consult cases are returned to the resident and attending staff for correlation with their in-house evaluation.

Current versions of major texts in all topics of surgical pathology are maintained in the resident signout area, including multiple general and specialty surgical pathology textbooks.

In addition, the Hennepin County Medical Center has an on-site full service medical library with multiple additional pathology textbooks and journals. High speed internet access is provided at the resident desks for literature searches. Residents have 24 hour access to the library. Further, residents have access to the University of Minnesota Medical School Library (Diehl Hall) which is one the University of Minnesota Campus.

A collection of cases from the past 10 years of unknown conferences is maintained in the resident sign-out area. This collection is organized by organ system.

Computer Information Systems Available for Resident Education and Service Duties

All Anatomic and Clinical laboratory data are in the Pathnet module of the HNA Millenium System. Pathnet is a client server architecture system by Cerner Corporation, Kansas City, MO. The department has been live on the system since 11-16-1999.
All other clinical data is available on the EPIC system, including clinic visit and operative report dictations and medical imaging reports. Residents have these applications at their desks, along with microscopes and phones. High speed internet access is also available on these desktop computers for literature searching.