

Name of Laboratory: Neuropathology

Rotation Length: 3 months for Pathology Residents
2 weeks for Neurology residents with an option of 2 additional weeks
4 weeks for Neurosurgery Residents
4 weeks for visiting Madigan Neurology and Pathology residents
2 or 4 weeks for medical students Neuropathology Clerkship (PATH 677)
1 week HMC Pathology Clerkship (PATH 681)
24 months for Neuropathology Fellow

Training Director: Luis Gonzalez-Cuyar, M.D.

Neuropathology Training Program Goals

1. To give Medical Students and Residents a basic understanding of the practice of surgical and autopsy neuropathology as well as exposure to neuromuscular and ophthalmic pathology.
2. To give Fellows in-depth understanding and technical expertise in clinical and investigative neuropathology and laboratory management.

Medical student, Resident and Fellow education on the Neuropathology Service is multifaceted, consisting of participation in patient care, didactic sessions, intraoperative consult participation, gross examination of patient samples, self-instruction with study sets, and participation in conferences. Depending on interest and career goals, trainees are given opportunities to prepare posters for national conferences or manuscripts.

Clinical service

All trainees that rotate in the Neuropathology Division serve as full participants on the clinical service. They will attend all intra-operative consultations and all daily sign outs. The goals are for the trainees to learn first-hand the practice of neuropathology and to learn the content of neuropathology by actively participating in the care of patients.

Didactic sessions and study sets

The goal of these sessions and teaching materials is to ensure that no major gaps exist in the trainee's knowledge.

Each Attending of the Week will meet with the trainees to conduct didactic sessions in their areas of expertise. The time and place of these meetings will be re-evaluated each month because of the varying other commitments of the trainees. Topics to be covered in these sessions include: neuro-oncology, muscle and nerve, ocular pathology, cerebrovascular diseases, trauma, epilepsy, developmental neuropathology, dementing diseases, movement disorders, other degenerative diseases, and metabolic and toxic diseases of the nervous system.

A common mode of instruction is for trainees to review study set cases provided by the instructor and then discuss these during the session. Currently, over 500 cases with clinical descriptions and slides are available in the Neuropathology Division covering all of the topics noted above.

Conferences

The goals of these conferences are to broaden the exposure of trainees to all cases being evaluated by members of the Division, provide in-depth instruction in selected areas of neuropathology, and to give the trainees experience in teaching others.

Weekly microscopic conferences review recent cases (Tuesday at 8:30 AM) where trainees will be expected to present their diagnoses. Occasional participation (Wed at 8:00 AM) Neuropathology-Neurosurgery-Neuroradiology Grand Rounds is provided, this is a forum for trainees to present several recent cases to a group of about 50 participants. Trainees also will participate in all autopsy conferences: Children's Hospital (Wed at 9:30 AM), University Hospital (Thursday 7:45AM). The conference at Children's Hospital also includes a microscopic review of recent surgical neuropathology cases.

Teaching

While on the service it is expected that trainees will teach each other, especially residents from different departments. Moreover, it is expected that as the year progresses, the Fellow will adopt a progressively larger role in the instruction of other trainees. The Division of Neuropathology participates in courses in the medical school and in other departments in the medical center throughout the year. The Fellow will participate in these courses; other trainees are welcome.

Evaluations

Evaluations are prepared through Evaluate or MedHub by attendings with contact with the trainees and then compiled by the training program/clerkship director from comments solicited from members of the Division of Neuropathology. Medical student and Resident evaluations are completed after the end of each rotation. Evaluations for Fellows are completed every 6 months at which time they will be sent a letter from the Director. These evaluations are filed with the post-graduate training office in the respective departments. In addition, the training program director personally discusses performance with the trainee at the end of the training period.

Additional training

All trainees are welcome to spend additional time on the Neuropathology Service to broaden their experience and to study selected topics in greater depth. Also, several members of the Neuropathology Division run active research laboratories that all are open to all trainees and fellows who wish to pursue research in neuropathology.

General Clinical Pathology Information

Neuropathology Division

A. List the interpretive reports generated by medical students/residents/fellows in this laboratory section (type and number of each).

Trainees generate two different types of reports on the Neuropathology Service:

1. Surgical pathology reports for Neurosurgical, Ocular, Skeletal Muscle, and Peripheral Nerve biopsies from University of Washington Hospitals (University Hospital, Harborview Hospital, Children's Hospital, SCCA, Northwest Hospital) and consultation with other clinicians and pathologists.
2. Neuropathology Autopsy pathology reports for patients from the hospitals listed in point 1 as well as King County Medical Examiner (located at Harborview Medical Center).

B. Identify the consultative reports/activities which occur commonly in this laboratory section and describe the degree of resident participation in these activities.

Consultative reports are commonly generated for Neuropathology surgical and autopsy cases. We also have a robust Neuromuscular consult service encompassing the WWAMI region. Approximately 50% of the surgical pathology reports are consultative

C. How do Trainees assume graduated responsibility in this section?

Trainees assume graduated responsibility as they progress in proficiency. This is judged by each of the Neuropathology attendings separately. Initially, faculty and trainees work up cases simultaneously. As trainees' knowledge and abilities grow they will begin to work up cases semi-independently, but still in close collaboration with the attendings. An attending always is present during intra-operative consultations and autopsy evaluations. The neuropathology fellow and/or the NP attending of the week are present during gross examination of cases.

D. Explain the differences in the roles of medical students, residents and fellows.

Fellows function more as partners with the attendings and spend substantial effort in organizing the operations of the Neuropathology Division, pursuing research projects, and presenting at seminars. Residents, since they are on the Neuropathology Service for a short time, concentrate their efforts on learning the fundamentals of surgical and autopsy Neuropathology. Medical students shadow the resident and/fellow as well as the NP attending of the week to have a broad range of experience during their visit. Medical students can gain more responsibilities during their rotation upon request and/or demonstrated interest.

ACGME Competencies in Neuropathology Training

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Competency 1: Patient Care in Neuropathology

- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.
- Gather essential and accurate information about their patients.
- Make informed diagnoses that incorporate patient information, pathological/clinical judgment, and up-to-date scientific evidence.
- Make informed selections of diagnostic tests, counsel the clinician on the appropriateness of test selection, and take responsibility for the cost and ethical implications of the tests ordered.
- Counsel and educate patients and their families.
- Use information technology to support patient care decisions and patient education.
- Perform competently all dissection and sectioning skills necessary to perform diagnostic services.
- Provide healthcare services aimed at preventing health problems or maintaining health.
- Work with healthcare professionals, including those from other disciplines, to provide patient-focused care.

Competency 2: Medical Knowledge in Neuropathology

- Demonstrate an investigatory and analytical thinking approach to clinical situations.
- Know and apply the basic and clinically supportive sciences that are appropriate to the practice of neuropathology.

Competency 3: Practice-based Learning and Improvement in Neuropathology

- Analyze practice experience and perform practice-based improvement activities using a systematic methodology.
- Locate, appraise, and assimilate evidence from scientific studies related to patient material in neuropathology cases.
- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
- Use information technology to manage information, assess online medical information, and support their own educations.
- Facilitate the learning of students and other healthcare professionals.

Competency 4: Interpersonal and Communication Skills in Neuropathology

- Be able to explain diagnoses, procedures, results to be expected, and costs associated with neuropathologic studies of autopsy and surgical specimen to another person in a manner that will create ethically sound relationships with patients and their families.
- Promote a constructive working relationship with a colleague, resident/student, or subordinate during the study of a specific case and ensure that results are obtained in a timely and cost-effective manner.

Competency 5: Professionalism in Neuropathology

- Carry out their duties in an altruistic, ethical, respectful, and timely manner.
- Show sensitivity when interacting with those who are different from them in educational level, cultural background, age, gender, and disability status.
- Adopt practices that promote their own personal well-being, both physical and mental, so that they can better perform their professional duties.

Competency 6: Systems-based Practice in Neuropathology

- Understand how their diagnostic opinions and other professional practices affect other healthcare professionals, the healthcare organization, and the larger society, and how these elements of the system affect their own practice.
- Know how types of medical practice and delivery systems differ from one another; including methods of controlling healthcare costs and allocating resources.
- Practice cost-effective health care and resource allocation that does not compromise quality of care.
- Advocate for quality patient care and assist the clinicians in dealing with system complexities.
- Know how to partner with healthcare managers and healthcare providers to assess, coordinate, and improve health care and know how these activities affect system performance.