PROGRAM DESCRIPTION

UC Davis, School of Medicine
Department of Neurological Surgery

Message from the program director

Dear applicant,

Thank you for your interest in the UC Davis Neurological Surgery training program. On behalf of the neurosurgical faculty, I am very pleased that we can confidently offer comprehensive training in neurological surgery at our institution and have faculty expertise in all of the subspecialties. Although we currently take only one resident into our training program each year, the surgical volume of our program is high. As a result, residents typically graduate from our program with excellent surgical and patient care skills and are highly competent to practice independently. Our graduates have pursued a variety of surgical careers. Many of them have secured competitive fellowships after residency, and we have graduates practicing in both the academic and private practice setting. The size of our program allows us to maintain a close relationship between residents and faculty. This fosters a team approach to delivering neurosurgical patient care and is integral to the success of our practice at UC Davis.

The primary training site for residents in Neurological Surgery is based at the UC Davis Medical Center in Sacramento. UC Davis Medical Center is a level I trauma center, the largest combined level 1 pediatric and adult trauma center in northern California. In addition to the large volume of emergencies, UC Davis, as a tertiary referral center, receives referrals of complex, and specialized problems from all over the northern portion of the state. In addition to the training at UC Davis, residents spend a portion of their surgical training at Kaiser Foundation Hospital in Sacramento. In the past few years, the surgical practice at Kaiser Foundation Hospital has expanded significantly. The faculty at Kaiser Foundation Hospital consists of 12 surgeons, the majority with subspecialty or fellowship training in a variety of neurosurgical subspecialties.

The Department of Neurological surgery is very active within the UC health care system, both in terms of the clinical volume handled by our team and
our participation in research and education of residents, fellows, and medical students. We have several basic scientists within our faculty, maintain a Neurotrauma research laboratory on the UC Davis campus, and several of our faculty members have major NIH funding to support their research. All residents participate in research during their training and have presented their work at national meetings or published in the neurosurgical literature. Throughout the residency, the trainees attend departmental teaching conferences and participate by presenting patients and topics relevant to neurosurgery. All conferences are scheduled on a dedicated academic day to maximize resident and faculty exposure.

The residency program is seven years in length and is designed to provide the trainee with increasing responsibility for the care of the neurosurgical patient.

The program consists of two initial basic years of residency (PGY1 and PGY2) in which the trainee is introduced to the general disciplines of surgical care, neurology, neurosurgical intensive care, and basic neurosurgical procedures. Under the supervision of more senior residents and the attending staff, the beginning resident evaluates the neurosurgical patient on admission to the hospital and in the outpatient clinic, selects appropriate diagnostic studies, and formulates a treatment plan. The resident serves as an assistant during operations and becomes familiar with the care of the seriously ill patient while working in the Neurosurgical Intensive Care Unit.

The PGY 3 and 4 years are the intermediate years of training. During this time, the resident will spend time at the Kaiser Foundation Hospital and in surgical subspecialty electives such as pediatric, functional and endovascular neurosurgery. In addition, the resident will spend time in neuropathology, radiology, and ophthalmology. These rotations are designed to increase the resident’s knowledge of diseases affecting the central nervous system and become familiar with diagnostic and interventional procedures commonly used in neurosurgical patients.

In the intermediate years, the resident will master neurosurgical procedures such as placement of cerebrospinal fluid shunts, lumbar decompression, microdiscectomy, craniotomy, and basic spinal instrumentation. They develop progressive surgical responsibility and assume supervision of junior
residents. During this time the resident is also encouraged to lay the foundation for his/her elective time in senior residency.

During the PGY 5 and 6 years senior years of training, one year is spent on research and the remainder on the clinical neurosurgical service. The resident is encouraged to spend one year in the laboratory developing and completing a research project with the guidance of the faculty. The objective of the research year is to provide the resident with an appreciation of how the scientific method is applied to the clinical and basic research in neurological surgery. Upon the completion of the project, residents are expected to present the results at national conferences and to publish their research in a peer-reviewed journal. Instead of a formal research year, some of our current residents have elected to participate in a more clinically oriented elective such as an in folded spine fellowship or are pursuing a masters degree in public Health.

During the on service time of senior residency, the resident performs more complex procedures under the guidance of the faculty, including complex spinal instrumentation and correction of deformity, excision of brain tumors, vascular lesions, endoscopic ventricular surgery, epilepsy surgery, and spinal cord tumors.

This training culminates into the chief year where the resident performs or serves as first assistant to the attending neurosurgeon in operations such as the neurovascular decompression of cranial nerves, clipping of aneurysms, endoscopic and open approaches to skull base tumors. The chief residents leads the neurosurgery resident team, manages the clinical service at UC Davis, and has additional administrative responsibilities such as the resident on call schedule, preparation of the preoperative and morbidity and mortality conferences.

The call schedule is designed to optimize the surgical and clinical experience of the resident as he/she goes through the program. In the early years of training, the primary call frequency is 8-10 calls a month, followed by 4-6 in the intermediate years and 1-2 in the senior years of training. The primary call resident always has a (acting) chief resident as back up and residents typically start taking acting chief call in their PGY5 year.

We encourage candidates of diverse backgrounds to apply to our program. We are interested in candidates who we can not only mentor in the skills
required for practicing neurosurgery, but also will develop into surgeons that contribute and advance our field in the future.

Sincerely,

Marike Zwienenberg, MD
Neurosurgery Program Director