

Neurosurgery Residency

National Capital Consortium Program



Walter Reed Army Medical Center
Washington, DC 20307-5001

National Naval Medical Center
Bethesda, Maryland 20889-5600

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Introduction

The National Capital Consortium offers a training program in neurological surgery under the auspices of Walter Reed Army Medical Center and the National Naval Medical Center. The program, located in the metropolitan area of Washington, D.C., is the only residency in neurological surgery available in the uniformed military services of the United States. The six-year program is accredited by the Residency Review Committee for Neurological Surgery of the Accreditation Council for Graduate Medical Education.

Military interest in establishing a residency in neurosurgery grew out of the efforts of Dr. Glen Spurling, who organized neurosurgical services for the U.S. Army during World War II. After the War, Surgeon General George Armstrong laid the groundwork for a neurosurgery residency at Walter Reed General Hospital. Colonel John Martin was appointed the first program director when the first two residents were accepted in 1954. After the Vietnam war, Captain Calvin B. Early set up a separate program at the Naval Hospital in Bethesda, Maryland, in 1975. The Army and Navy residencies merged in 1998 as the National Capital Consortium Program.

Candidate Qualifications

Each year one individual is nominated for admission into this highly competitive program. Candidates for the residency must have completed one year in general surgery or at least one year of a program accredited for the acquisition of fundamental clinical skills, which must include at least six months of surgical disciplines other than neurological surgery. Also, candidates must be eligible for commissioning into the Medical Corps of the United States Army, Navy, or Air Force.

Residency Goals

The residency curriculum in neurological surgery follows a progressively challenging course of instruction and practice designed to produce skilled practicing neurosurgeons. Each resident must pass the written portion of the certification examination of the American Board of Neurological Surgery (ABNS). Graduates of the program receive assignments at military medical centers where they provide a full range of diagnostic and therapeutic neurosurgical services to beneficiaries of the health care system of the Department of Defense. Newly trained neurosurgeons are expected to pass the second portion of the ABNS certification examination during their period of board eligibility.

Facilities & Patients

Walter Reed Army Medical Center serves as the premiere neurological surgery referral center of the Army Medical Department and, as such, receives a substantial number of unusual and challenging cases. The patient population is a diverse mix of active duty members of the Armed Forces, their dependents, and military retirees eligible under the military health care system known as TRICARE. Each year the Neurosurgery Service at Walter Reed admits approximately 900 patients to a thirty-bed ward which serves Neurology patients as well. Additional beds are available in the Surgical and Pediatric Intensive Care Units for postoperative cases and the seriously ill. An average of over 500 major neurosurgical procedures are performed annually in two operating rooms equipped with the latest tools of the neurosurgical armamentarium. Clinic care for 4500 outpatients is provided in the Neuroscience Center.

Clinical training in neurosurgery takes place primarily at Walter Reed Army Medical Center in Washington, D.C. Additional experience is gained at the National Naval Medical Center in nearby Bethesda, Maryland. During the third year each resident receives formal instruction in neuropathology at the Armed Forces Institute of Pathology located on the Walter Reed campus; moreover, every resident undertakes a supervised research project in one of the

outstanding laboratories in the region. All fourth-year residents complete clinical rotations at the R. Adams Cowley Shock Trauma Center in Baltimore, Maryland, and at the National Children's Medical Center in Washington, D.C.

Professional Personnel

Attending Staff: Members of the attending staff are board-certified or board-eligible individuals who are selected for outstanding surgical, teaching and research skills.

Resident House Staff: Residents receive annual appointments that start on July 1st or at such time as the Surgeon General directs.

Rotating House Staff: Residents from allied services such as Orthopædics and Neurology may spend elective months on the Neurosurgery Service during the academic year. Interns and residents from General Surgery regularly rotate through the Service for periods of four to eight weeks.

Medical Students: Third-and fourth-year students from the Uniformed Services University of the Health Sciences in Bethesda, Maryland, and from other medical schools around the country serve as clerks or externs in Neurosurgery.

Reservist Neurosurgeons: A number of

experienced neurosurgeons from academic and private practice may serve two weeks of active duty at Walter Reed Army Medical Center and the National Naval Medical Center.

Residency Curriculum & Supervision

The neurosurgery residency is a six-year program that places the trainee in a position of supervised responsibility. Duties at each level of training become increasingly demanding according to the experience and competence of each resident.

Postgraduate Year 2 (Level I): The first-year resident is introduced to neurosurgical patient care and rudiments of operative procedures under the guidance and supervision of the senior and chief residents. Special emphasis is placed on intracranial neurosurgical problems and their attendant medical management.

Residents are expected to develop proficiency in the neurological examination and in formulating a differential diagnosis and therapeutic plan for their patients. A major responsibility is the pre- and post-operative care of the patient. Operative experience of the first-year resident is directed at acquiring basic neurosurgical techniques. The first-year resident assists the chief resident or senior resident during intracranial procedures.

Three months of the first year are spent on the Neuroradiology Service where proficiency in myelography and the interpretation of radiographic and neuroimaging procedures is acquired under the supervision of senior neuroradiologists. The first-year resident is a key member of the ward team and makes rounds daily on his patients. He participates actively in various clinical conferences and presents seminars on topics of neurosurgical interest. During the latter portion of the first year the resident is introduced to management of diseases of the spine.

Postgraduate Year 3 (Level II): The second-year resident gains a greater experience in neurosurgical disorders of the spine. Beginning in the first year and continuing in the second year, he evaluates, diagnoses and manages his patients under the supervision of the senior resident and the attending staff so that he achieves a comfortable familiarity with commoner diseases of the spine. The second-year resident performs the majority of the routine spine surgery under the supervision of the attending staff. However, the resident continues to manage patients with intracranial diseases throughout the year. By the end of the second year he is allowed to function at a level of increased responsibility under supervision of the chief resident and attending faculty.

Postgraduate Year 4 (Levels III): The third

year of the residency is primarily devoted to research and neuropathology. At this time the resident completes a three-month course in neuropathology taught by nationally recognized neuropathologists of the Armed Forces Institute of Pathology. He also undertakes a research project in a laboratory dealing with a subject of particular interest. Residents have readily available research opportunities at the near-by National Institutes of Health, Walter Reed Army Institute of Research, and the Uniformed Services University of the Health Sciences. Productivity is gauged by presentations at national meetings and publications of the work in peer-reviewed journals.

A disciplined program of self-study is encouraged during this period. The resident takes the written examination of the American Board of Neurological Surgery for credit. Supervision of the resident is performed by the chief resident, attending staff, program director, and his research advisor.

Postgraduate Year 5 (Level IV): During the fourth year, the resident rotates for three months through R. Adams Cowley Shock Trauma Center, an affiliate of the University of Maryland School of Medicine, in Baltimore. During this period he acquires skills necessary to diagnose and treat acute neurosurgical trauma. A three-month period may be spent as an elective or on the consultation service of the Department of Neurology at Walter Reed Army Medical

Center. For the last six months of this year, the fourth-year resident is assigned to the National Children's Medical Center in Washington, D.C., for a concentrated clinical experience in pediatric neurosurgery. During the extramural rotations the residents are supervised by the program directors and the attending staffs at each facility.

Postgraduate Year 6 (Level V): The fifth-year resident is primarily responsible for patients with intracranial disease and more complex spinal lesions to include all forms of spinal instrumentation. He is in charge of all neurosurgical patients on the Surgical Intensive Care Unit. He directs the evaluation and perioperative management of all patients through close supervision of the intern, rotating residents, and the first-year neurosurgery resident. He serves as the surgeon on both major intracranial and spinal cases. As his surgical skill and clinical judgment grow, the senior resident directs the junior residents during routine parts of operations. The fifth-year resident functions as a neurosurgical consultant to the Medical Center. He evaluates all in-house consultations and presents the cases to the chief resident and attending staff. He also evaluates and manages outpatients in the Neuroscience Center throughout the year.

Postgraduate Year 7 (Level VI): The sixth-year resident serves as chief resident.

The chief resident has the primary responsibility for patient management with faculty supervision. The chief resident also performs a number of important administrative duties assigned by the program director in the running of the Neurosurgery Service. He assumes increasing independence in evaluating and managing the full spectrum of neurosurgical diseases. He plans and conducts more sophisticated and challenging neurosurgical operations. Besides refining his surgical skills, the chief resident coordinates and supervises all housestaff on the Neurosurgery Service. He runs a weekly outpatient clinic for his pre- and postoperative cases. He plans the surgery schedule for the week, serves as the major neurosurgical consultant to the Medical Center, delivers teaching sessions to the housestaff, and coordinates activities between the housestaff and attending staff.

While the chief resident remains under the supervision of the attending staff and program director, he is expected to plan and perform less complicated operations with minimal oversight. Indeed, during the latter half of the year, the chief resident is expected to function with nearly the independence of a member of the attending staff.

Teaching & Conferences

All members of the Neurosurgery Service participate actively in the pre-operative planning conference where varied approaches to solving neurosurgical problems are discussed. Residents interpret neuro-imaging studies at a formal neuroradiology conference. Cases of interest are discussed with the neurosurgical attending staff as well as with members of the Walter Reed neuroradiology staff. Additional monthly conferences in neuropathology, neuroendocrinology, and epilepsy and functional neurosurgery facilitate the resident's appreciation of managing diseases that require a multidisciplinary approach. Journal club emphasizes familiarity with the current medical literature. Morbidity and mortality conference each month provides the resident with essential insights into the clinical complications faced by neurosurgical patients. Grand rounds are conducted weekly on the neurosurgical wards under the direction of the attending staff, who engages the residents in thorough discussions of patient management at the bedside. Residents also receive regular supplementary instruction in knowledge unique to military life and operational medicine. Such instruction is necessary for residents to perform well under field conditions they may face if deployed on military missions.

Didactic conferences covering diverse

topics in neurosurgery and the basic neuroscience are held throughout the academic year. These conferences stimulate the resident to develop and maintain knowledge of recent developments affecting clinical practice. In-depth courses in basic microvascular surgery and advanced spine surgery are conducted once a year under the auspices of the Uniformed Services University of the Health Sciences. Each resident may attend the course one or more times with the goal of improving the quality of surgical care to the patients.

Evaluation Methods

Each resident receives a copy of the "Academic Training Manual of the National Capital Consortium", that serves as a guide to the workings of the residency training program. The manual sets forth the rules and expectations that deal with such matters as residency curriculum, call schedule, extracurricular employment, supervision, probation, and dismissal. All residents must understand the contents of the manual and abide by its rules.

The entire neurosurgical staff formally assesses the professional performance of residents twice a year. The written evaluations cover both residents' strengths and

weaknesses in such areas as clinical knowledge, patient care, interpersonal relationships, technical skills, and teaching ability. The results of each evaluation are discussed with each resident on an individual basis.

In March of each year, residents take the Primary Examination of the American Board of Neurological Surgery. This standardized, written examination is designed to provide an objective measure of each resident's grasp of the basic and clinical neurosciences and fundamental clinical skills. The results guide the residents in identifying areas of deficiency that require special attention and study. The third-year resident is expected to pass this comprehensive test for credit toward board certification.

Compensation

Each resident is paid as a commissioned officer on active duty ordinarily beginning in the grade of captain (O-3). Total compensation is determined by length of prior military service and level of professional training. The salary ranges from approximately \$40,000 to \$55,000. Both the resident and dependent family members receive medical coverage and privileges at military commissaries and exchanges.

Information & Inquiries

Further information on the Neurosurgery Service is available on the Internet. The website address is as follows:

**[http://www.wramc.amedd.army.mil/
departments/surgery/neuro](http://www.wramc.amedd.army.mil/departments/surgery/neuro)**

All inquiries should be directed to:

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