

Neurological Surgery Resident Training Program Goals and Objectives for Columbus Children's Hospital

The Department of Neurological Surgery at The Ohio State University Hospitals (OSUH) is a large and diverse Neurological Surgery Program. The Neurological Surgery Service is organized at two Hospitals, with a Program Director at each institution: OSUH focuses on Cerebrovascular Disease (Strokes, Aneurysms, and AVMS), Neuro-Oncology, including Gamma Knife and Spinal Disorders.

Columbus Children's Hospital (CCH) is dedicated to the management of all pediatric neurosurgical conditions, congenital, trauma, tumors and spine. Ohio State University Hospital and Columbus Children's Hospital are both Level I trauma centers.

The Section of Pediatric Neurosurgery is fully integrated with other pediatric specialties at Children's Hospital and the Neonatal Service at OSUH. As a result, patients are managed by multidisciplinary teams that include three full time pediatric neurosurgeons two of whom are faculty in our training program, pediatric oncologists, pediatric orthopedic surgeons, neuroradiologists, and neurologists. The primary goal of the Pediatric Neurosurgery rotation is to give the resident a comprehensive and sound base in the unique aspects of neurological conditions affecting the infant and pediatric age group.

Residents at the Ohio State University have a minimum of 48 months of clinical neurological surgery exposure of which 12 months are Pediatric Neurosurgery experience.

Each resident is required to obtain competence in the six areas of core competencies as defined by the ACGME and upon completion of their training program be performing to the level expected of a new practitioner. These are assessed bi-annually by the faculty.

Each resident regardless of PGY level is evaluated on the following objectives:

PATIENT CARE (compassionate, appropriate, and effective for the treatment of health problems and the promotion of health)

Implement an effective plan of management.

Prioritize and stabilize multiple patients simultaneously.

Analyze Outcomes.

Provide health care services aimed at preventing health problems and maintaining health.

Respond appropriately to changes in patients' conditions and communicate to more senior physician(s).

MEDICAL KNOWLEDGE (about established and evolving biomedical, clinical, epidemiological and social-behavioral sciences and the application of this knowledge to patient care)

Generate a differential diagnosis and properly sequence critical actions for patient care, including management of complications, morbidity and mortality.

Synthesize and properly utilize acquired patient data.

Identify neurosurgical emergencies.

Understand how to treat neurosurgical conditions.

Incorporate evidence-based principles.

Exhibit knowledge that is up-to-date and cite literature appropriate for the PGY level.

PRACTICE-BASED LEARNING & IMPROVEMENT (investigation and evaluation of care for their patients, appraisal and assimilation of scientific evidence, and continuous improvements in patient care based on constant self-evaluation and life-long learning)

Identify strength, deficiencies, and limits in one's knowledge and expertise.

Set learning and improvement goals and activities.

Systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement.

Incorporate formative evaluation feedback into daily practice.

Locate, appraise and assimilate evidence from scientific studies related to their patients' health problems.

Apply knowledge of study design and statistical methods to critically appraise the medical literature.

Utilize information technology to enhance their education and improve patient care.

Participate in the education of students, residents and other health care professionals.

INTERPERSONAL & COMMUNICATION SKILLS (effective information exchange and collaboration with patients, their families, and other health professionals)

Counsel and educate patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds.

Involve patients in medical decisions.

Communicate effectively with physicians, other health professionals, and health related agencies

Effectively communicate with out-of-hospital personnel as well as non-medical personnel.

Demonstrate effective participation in and leadership of the health care team.

Develop effective written communication skills, maintaining relevant and legible medical records.

Strengthen listening and non-verbal communication skills.

Timely response to pages, inquires and completion of paperwork.

PROFESSIONALISM (as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to patients of diverse background)

Treat patients/family/staff/paraprofessional personnel with respect.

Demonstrate sensitivity to patient's pain, emotional state and gender/ethnicity issues.

Discuss death honestly, sensitively, patiently and compassionately.

Maintain calm, even temperament.

Demonstrated adherence to a code of moral and ethical values-integrity, responsibility, accountability, and reliability.

Responsiveness to patient needs that supersedes self-interest.

Respect for patient privacy and autonomy.

SYSTEMS-BASED PRACTICE (awareness of and responsiveness to the larger context and system of health care and the ability to call effectively on other resources in the system to provide optimal health care)

Understand, access, appropriately utilize, and evaluate the effectiveness of the resources, providers, and systems necessary to provide optimal neurosurgical care.

Practice cost-effective health care and resource allocation that does not compromise quality of care.

Advocate, coordinate, and facilitate quality patient care and optimal patient care systems.

Understand principles of and advance practices for patient safety at the institutional level.

Participate in identifying system errors and implementing potential systems solutions.

Discharges patients in a timely and appropriate manner.

All residents are required to maintain and keep up to date with operative procedure and duty hour logs.

Residents attend neurological surgery and neuroscience conferences that have been constructed around an evidence-based educational process. The resident's assimilation of knowledge is assessed on an ongoing basis. Attendance records are monitored.

A PGY-2 and PGY-3 residents are sent to NCH for six month rotations each year. Two residents are routinely at NCH at any given time. The specific goals for NCH are as follows:

PGY-2 at Nationwide Children's Hospital GOALS AND OBJECTIVES:

Patient Care – The residents will be able to:

- Perform and document comprehensive Neurosurgery history and physical examination [H&P] abilities
- Understand and interpret indications for laboratory studies and imaging studies
- Develop and demonstrate patient evaluation and management skills
- Perform selected surgical procedures under direct supervision (simple craniotomies, diagnostic procedures etc.)
- Assist in major surgical procedures and perform those portions of such procedures (under supervision) that are appropriate for level of training
- Develop skills necessary to establish and implement an effective patient management plan

Medical Knowledge – The residents will be able to:

- Take the ABNS written examination for self-assessment of fundamental clinical knowledge
- Develop accuracy in clinical evaluation skills for the pediatric age group
- Develop a solid foundation of knowledge in the specialties associated with each of the four rotations
- Demonstrate the foundation for clinical Neurosurgery problem solving and decision making

Practice-Based Learning and Improvement – The residents will be able to:

- Establish a solid evidence-based approach to patient care

Interpersonal and Communication Skills – The residents will be able to:

- Provide compassionate ward and outpatient care as determined by patients, families, colleagues and ancillary health professionals
- Develop and nurture sound and appropriate interpersonal and communication skills
- Focus on and develop a compassionate approach to deal with patients, to their illness and to the patients' families

Professionalism – The residents will be able to:

- Demonstrate a high level of professionalism at all times

System Based Practice – The residents will be able to:

- Begin the process of developing and understanding the variety of systems within which health care is provided
- Apply evidence-based information to clinical decision making in a cost effective manner

ACADEMIC DUTIES:

The inpatient educational experience involves direct patient care, procedural training, and interaction with patients and families. The outpatient educational experience involves spending two days a week in clinic with Dr. Corey Raffel and Dr. Ronald Grondin. Duties include interviewing patients, reviewing medical data including images, and formulating a treatment plan. This plan is then presented and discussed with the attending neurosurgeon. In addition to the inpatient/outpatient clinical experience, the PGY-2 resident (as do PGY-3 residents) attends neurological surgery and neuroscience conferences that have been constructed around an

evidence-based educational process. The resident's assimilation of knowledge is assessed on an ongoing basis. During this year, the resident is responsible for the primary care of the inpatient service under the direction of chief residents and faculty.

The resident assigned to CCH is expected to participate in University Neurosurgical Conferences. Neurosurgery Grand Rounds occur every Thursday and consist of presentations of cases that are discussed with residents and faculty of University Hospital and Children's. The resident is responsible with the more senior resident for presenting the CCH cases at conference including Morbidity and Mortality conference.

PGY-3 at Nationwide Children's Hospital GOALS AND OBJECTIVES:

Patient Care – The residents will be able to:

- Demonstrate ability to perform all major neurosurgical procedures on pediatric patients
- Demonstrate the highest level of patient care skills, problem solving skills and technical skills on the pediatric neurosurgery ward and the ICU
- Manage and administrate the complexities of a large clinical and academic service

Medical Knowledge – The residents will be able to:

- Instruct and nurture junior residents in critical care related procedures, intensive care unit, call, etc
- Demonstrate ability to teach effectively
- Manage and lead the patient care conference
- Assist program director in overseeing personal, academic and clinical growth and development of junior residents
- Participate actively and lead conferences in a manner that demonstrates a high level of global awareness regarding clinical neurosurgery, applied research, an understanding of the literature, neurosurgical education and program building

Practice-Based Learning and Improvement – The residents will be able to:

- Manage and administrate the complexities of a large clinical and academic service
- Develop skills as program builder and an administrator of the neurosurgical service

Interpersonal and Communication Skills – The residents will be able to:

- Demonstrate a high level of interpersonal communication skills

Professionalism – The residents will be able to:

- Demonstrate a high level of professionalism at all times

System Based Practice – The residents will be able to:

- Demonstrate understanding of legal issues in neurosurgery
- Demonstrate a high level of understanding regarding practice types, medical economics and medical politics
- Incorporate evidenced-based methodologies on an ongoing basis to the clinical practice of neurosurgery
- Develop and demonstrate a high level of knowledge and skill in each of the subspecialties of neurosurgery
- Develop, nurture, and demonstrate a high level of leadership skills

ACADEMIC DUTIES:

The senior resident at NCH assumes a significant share of the responsibility for conference development and management. Hence, he/she plays a seminal role in resident, student, and faculty education at NCH. All faculty, particularly the Program Directors, mentor this leadership role. As part of this process, the senior NCH resident directs the patient management and mortality and morbidity conferences, supervises and teaches the junior residents, and generates resident operating room responsibilities and assignments. Operating room time and outpatient clinic time are the same as for the PGY-2, although the PGY-3 resident is expected to take a larger role in surgical cases and in patient management. Significant technical operative experience and clinical decision-making is gained during these two years.

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