

**Neurosurgery General Goals and Objectives**  
**9/14/2007**

During the six-year Neurosurgery Residency Program, each resident is expected to expand and cultivate knowledge and skills learned during each year of training and to achieve the following objectives based on the six general competencies:

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
Patient Care	<b>GOAL</b>			
	Provide patient care that is compassionate, appropriate, and effective for the treatment of neurosurgical problems and the promotion of health.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	<b>GENERAL OBJECTIVES</b>			
	Communicate effectively and demonstrate caring and respectful behaviors when interacting with neurosurgery patients and their families.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Gather essential and accurate information about their patients suffering from neurological disorders in need of surgery.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgments.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Develop and carry out neurosurgical patient management plans.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Counsel and educate patients and their families about a variety of neurological disorders requiring surgery.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	Use information technology to support patient care decisions and patient education about neurosurgical procedures and disorders.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Perform competently all medical and invasive procedures considered essential for the appropriate management of neurological disorders requiring surgery.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Provide health care services aimed at preventing neurosurgical problems and maintaining health.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Work with health care professionals, including those from other disciplines, to provide patient-focused neurosurgical care.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See individual rotations for a detailed list of patient care objectives.			
Medical Knowledge	<b>GOAL</b>			
	Demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to neurosurgical patient care.	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	<b>GENERAL OBJECTIVES</b>			
	Demonstrate an investigatory and analytic thinking approach to neurosurgical clinical situations.	Clinical/Surgical Experience Journal Club Clinical Care	Home Course Self Test In-service Exam Focused Observation Oral Quizzes	Annual Annual Daily Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Conferences	Patient Presentations	Daily
	Know and apply the basic and clinically supportive sciences which are appropriate to their neurosurgery.	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See individual rotations for a detailed list of medical knowledge objectives.			
Practice Based Learning and Improvement	<b>GOAL</b>			
	Investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices.	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly
	<b>GENERAL OBJECTIVES</b>			
	Analyze practice experience and perform practice-based improvement activities using a systematic methodology.	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly
	Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly
	Obtain and use information about their population of patients and the larger population of patients from which their patients are drawn.	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly
	Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly
	Use information technology to manage information, access on-line medical information; and support their education.	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	Facilitate the learning of students and other health care professionals.	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly
	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Review evidence based studies pertinent to the surgery, review the surgical anatomy for the case, and be prepared to discuss controversies in the management of the case.	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly
	Evaluate patient care practices, discuss how they meet standards, and develop ways to improve these practices.	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly
	Assume responsibility for teaching and supervising subordinate surgical residents and medical students.	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly
	Compare clinical practice, patient safety, and quality of care with evidence based medicine.	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly
	Complete a QA/QI project under faculty direction.	QA/QI Project		
	Demonstrate improvement in clinical management and diagnostic assessment.	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly
	Implement new neurosurgical scientific advances and clinical approaches from a variety of sources into current patient care practices.	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly
	Analyze and evaluate neurosurgical literature and examine alternate sources for information that pertains to their patient's health problems.	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly
	Develop a personal program of self-study and professional growth.	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly
	Use information technology such as Up-To-Date,	Clinical/Surgical	Focused Observation	Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	PubMed or Ovid to enhance patient care.	Experiences Morning Rounds	Evaluation Forms	Quarterly
	Participate in the teaching and organization of the educational conferences and activities of the Department of Surgery/Neurosurgery.	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly
	Maintain appropriate records documenting practice activities (such as patient logs).	Clinical/Surgical Experiences Morning Rounds	Focused Observation Evaluation Forms	Daily Quarterly
Interpersonal and Communication Skills	<b>GOAL</b>			
	Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates.	Clinical/Surgical Experiences Conferences	Focused Observation Evaluation Forms	Daily Quarterly
	<b>GENERAL OBJECTIVES</b>			
	Create and sustain a therapeutic and ethically sound relationship with patients.	Clinical/Surgical Experiences Conferences	Focused Observation Evaluation Forms	Daily Quarterly
	Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.	Clinical/Surgical Experiences Conferences	Focused Observation Evaluation Forms	Daily Quarterly
	Work effectively with others as a member or leader of a health care team or other professional group.	Clinical/Surgical Experiences Conferences	Focused Observation Evaluation Forms	Daily Quarterly
	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Develop communication skills by "presenting" clinic patients and ward patients to the attending on a regular basis.	Clinical/Surgical Experiences Conferences	Focused Observation Evaluation Forms	Daily Quarterly
	Demonstrate effective communication skills with consulting physicians, ward nurses, clinical pharmacologists and emergency room physicians.	Clinical/Surgical Experiences Conferences	Focused Observation Evaluation Forms	Daily Quarterly

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	Discuss controversies in the management of neurosurgical patients.	Clinical/Surgical Experiences Conferences	Focused Observation Evaluation Forms	Daily Quarterly
	Carefully listen to patients to assess the patient's health problems including their verbal and non-verbal communications.	Clinical/Surgical Experiences Conferences	Focused Observation Evaluation Forms	Daily Quarterly
	Demonstrating respectful and considerate attitudes, effectively communicate with patients, families, and other health care personnel, when addressing management plans, patient issues, and especially end-of-life decisions.	Clinical/Surgical Experiences Conferences	Focused Observation Evaluation Forms	Daily Quarterly
	Accurately present (orally and written) a case to attending physicians, fellow residents, and other health care professionals.	Clinical/Surgical Experiences Conferences	Focused Observation Evaluation Forms	Daily Quarterly
	Provide timely, legible, and thorough medical record documentation - histories and physical examinations, admission notes, progress notes, procedure notes and discharge summaries.	Clinical/Surgical Experiences Conferences	Focused Observation Evaluation Forms	Daily Quarterly
	Provide education and counseling to patients, and families using non-technical and clear language. (Use non-verbal and verbal communication skills)	Clinical/Surgical Experiences Conferences	Focused Observation Evaluation Forms	Daily Quarterly
	Spend adequate time with patients addressing their questions and concerns.	Clinical/Surgical Experiences Conferences	Focused Observation Evaluation Forms	Daily Quarterly
	Work well within team consisting of students, residents, attending physicians, nurses, and patients.	Clinical/Surgical Experiences Conferences	Focused Observation Evaluation Forms	Daily Quarterly
	Function effectively as a consultant for specialty and subspecialty care.	Clinical/Surgical Experiences Conferences	Focused Observation Evaluation Forms	Daily Quarterly
Professionalism	<b>GOAL</b>			

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.	Clinical/Surgical Experiences Conferences Role Modeling	Focused Observation Evaluation Forms	Daily Quarterly
	<b>GENERAL OBJECTIVES</b>			
	Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients, society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.	Clinical/Surgical Experiences Conferences Role Modeling	Focused Observation Evaluation Forms	Daily Quarterly
	Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care confidentiality of patient information, informed consent, and business practices.	Clinical/Surgical Experiences Conferences Role Modeling	Focused Observation Evaluation Forms	Daily Quarterly
	Demonstrate a sensitivity and responsiveness to patients' culture, age, gender, and disabilities.	Clinical/Surgical Experiences Conferences Role Modeling	Focused Observation Evaluation Forms	Daily Quarterly
	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Demonstrate responsiveness to changes in the patient's clinical condition following surgery.	Clinical/Surgical Experiences Conferences Role Modeling	Focused Observation Evaluation Forms	Daily Quarterly
	Perform their clinical duties in an ethical manner and demonstrate sensitivity to race, gender and religious variances.	Clinical/Surgical Experiences Conferences Role Modeling	Focused Observation Evaluation Forms	Daily Quarterly
	Demonstrate respect, compassion, integrity, punctuality, reliability, and honesty with regards to patients and colleagues.	Clinical/Surgical Experiences Conferences	Focused Observation Evaluation Forms	Daily Quarterly

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Role Modeling		
	Show regard for the opinions of others.	Clinical/Surgical Experiences Conferences Role Modeling	Focused Observation Evaluation Forms	Daily Quarterly
	Display initiative and leadership.	Clinical/Surgical Experiences Conferences Role Modeling	Focused Observation Evaluation Forms	Daily Quarterly
	Acknowledge errors, alert patients and appropriate health care providers about the errors, and create a plan of action to minimize them.	Clinical/Surgical Experiences Conferences Role Modeling	Focused Observation Evaluation Forms	Daily Quarterly
	Demonstrate concern for the educational development of students and residents.	Clinical/Surgical Experiences Conferences Role Modeling	Focused Observation Evaluation Forms	Daily Quarterly
	Volunteer for activities for the good of the institution and community.	Clinical/Surgical Experiences Conferences Role Modeling	Focused Observation Evaluation Forms	Daily Quarterly
	Ask for help when needed and accept constructive feedback.	Clinical/Surgical Experiences Conferences Role Modeling	Focused Observation Evaluation Forms	Daily Quarterly
	Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.	Clinical/Surgical Experiences Conferences Role Modeling	Focused Observation Evaluation Forms	Daily Quarterly
	Maintain patient confidentiality.	Clinical/Surgical Experiences	Focused Observation Evaluation Forms	Daily Quarterly

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Conferences Role Modeling		
	Compassionately respond to issues of culture, age, gender, ethnicity, and disability in patient care.	Clinical/Surgical Experiences Conferences Role Modeling	Focused Observation Evaluation Forms	Daily Quarterly
	Demonstrate sensitivity to the needs and feelings of others, including the patient's family members, allied health care personnel, fellow residents, and medical students.	Clinical/Surgical Experiences Conferences Role Modeling	Focused Observation Evaluation Forms	Daily Quarterly
Systems-Based Practice	<b>GOAL</b>			
	Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	<b>GENERAL OBJECTIVES</b>			
	Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	Know how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	Practice cost-effective health care and resource allocation that does not compromise quality of care.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	Advocate for quality patient care and assist patients in dealing with system complexities.	Morning Report Meetings	Focused Observation Evaluation Forms	Daily Quarterly

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Clinical Care Conference		
	Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Demonstrate progressive facility with PACS, image based surgery, the electronic medical record and timely completion of medical records.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	Demonstrate ability to deliver high-quality medical care in a private, government, and inner city hospital settings.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	Demonstrate ability to tap into the various resources available throughout the intra/inter hospital, state, and national systems to provide optimal neurosurgical care.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	Develop an understanding of principles and issues surrounding patient safety in order to provide safe and secure neurosurgical care.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	Demonstrate the knowledge of different types of medical practice and health care delivery systems and understand how this affects patient care.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	Demonstrate knowledge of business aspects of medical practice including coding, billing, and insurance.	Morning Report Meetings Clinical Care	Focused Observation Evaluation Forms	Daily Quarterly

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Conference		
	Work with ancillary team members (discharge planners, case managers, and social workers) to provide high quality cost-effective care.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	Use systematic approaches to reduce errors.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	Practice effective allocation of health care resources to avoid compromising quality of care.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	Interact with patients, attending physicians and allied health care personnel as part of a health care team.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	Serve as a patient advocate in the outpatient and inpatient setting.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	Discuss ethical and socioeconomic issues relating to Neurosurgery (e.g., brain death, mental incompetence, dysphasia, compensation neuroses, and intractable or chronic pain) with the patient.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	Direct care in inpatient and outpatient settings as a member of a multidisciplinary team.	Morning Report Meetings Clinical Care Conference	Focused Observation Evaluation Forms	Daily Quarterly
	Demonstrate knowledge of how the health care system including other physicians, nurses, and health care	Morning Report Meetings	Focused Observation Evaluation Forms	Daily Quarterly

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	professionals affect neurosurgical patient care practices.	Clinical Care Conference		

**Goals and Objectives for Methodist University Hospital (Hospital #1)  
Neurosurgery Resident Rotation**

**First year Neurosurgery Resident (NS1/PGY 2)**

By the end of the Neurosurgery rotation at Methodist University Hospital, the first year residents (NS1/PGY2) are expected to expand and cultivate knowledge and skills developed during previous years of training and to achieve the following objectives:

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
Patient Care	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Obtain a thorough and orderly medical history with emphasis on elements unique to neurosurgery (neurotrauma) including: <ul style="list-style-type: none"> <li>• Mechanism of injury, including restraint status for MVAs, direction &amp; speed of force, etc.</li> <li>• Patient age relative to prognosis from severe brain injury</li> <li>• Any symptoms preceding accident</li> <li>• Retrograde or anterograde amnesia</li> <li>• Loss of consciousness</li> <li>• Onset timing/duration of neurological symptoms</li> <li>• History of seizure disorder</li> </ul>	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Perform a comprehensive and systematic physical	Clinical/Surgical	Focused Observation	Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	examination relevant to neurological disorders requiring surgery.	Experience Morning Rounds	Clinical Outcomes Evaluation Forms Patient Presentations	Weekly Quarterly Daily
	Create a patient management plan based on patient information, preferences, up-to-date scientific evidence, and clinical judgement.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Demonstrate a familiarity with clinical presentations, physical findings, radiographic findings and differential diagnosis of each patient upon whom they assist at surgery.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Demonstrate continuity of care by seeing patients back in the clinic after surgery.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Generate a diagnosis and when necessary a differential diagnosis based on test results/studies.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Diagnose, evaluate and manage patients with the following neurological disorders requiring surgery: <ul style="list-style-type: none"> <li>• Intracranial hemorrhages, hypertension, tumor</li> <li>• Meningitis</li> <li>• Ventriculitis</li> <li>• Cerebral herniation syndromes</li> <li>• Cervical and lumbar radiculopathies</li> <li>• Peripheral nerve entrapment syndromes</li> <li>• Acute hydrocephalis</li> <li>• Intracranial, Intracerebral, subdural and epidural hematomas</li> <li>• Intracranial and intra-spinal mass lesions</li> </ul>	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	(neoplasm, abscess) <ul style="list-style-type: none"> <li>• Spinal cord injuries</li> <li>• Carpal tunnel syndrome</li> <li>• Peripheral nerve injury</li> <li>• Closed head injury</li> </ul>			
	Complete a workup of back pain.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Appropriately use a Glasgow coma scale.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Interpret cranial CT scans.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Appropriately place burr holes for subdural/epidural.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Perform the following diagnostic procedures and interpret any relevant findings: <ul style="list-style-type: none"> <li>• Laboratory Studies</li> <li>• Basic Radiographic Studies (plain spine films, CT, MRI, myelography)</li> <li>• Venipuncture</li> <li>• Arterial Puncture</li> <li>• Venous Cut-Down</li> </ul>	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Independently demonstrate competency in the following aspects of patient care:	Clinical/Surgical Experience	Focused Observation Clinical Outcomes	Daily Weekly

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<ul style="list-style-type: none"> <li>• H&amp;Ps and consultations</li> <li>• Write orders, including admission, pre-op, post-op, discharge</li> <li>• Obtain consent for surgery</li> <li>• Discharge day management</li> </ul>	Morning Rounds	Evaluation Forms Patient Presentations	Quarterly Daily
	<p>With increasing levels of competence, perform under supervision the following neurosurgical procedures including but not limited to:</p> <ul style="list-style-type: none"> <li>• Place central venous line/Swann-Ganz catheter</li> <li>• Place intraparenchymal intracranial pressure monitor</li> <li>• Place ventriculostomy</li> <li>• Place lumbar drain</li> <li>• Supervise Code Blue Cases/Perform ACLS</li> <li>• Intubation (Nasotracheal or Orotracheal)</li> <li>• Basic Cardiopulmonary Resuscitation</li> <li>• Emergency Drug Treatments</li> <li>• Position patients for some surgical procedures (competence with more complicated positioning expected to be graduated with experience in subsequent years)</li> <li>• Application of Mayfield Headrest</li> <li>• Close wound/incision on uncomplicated cranial, spinal, and peripheral nerve operations</li> <li>• Application of Gardner-Wells tongs for closed cervical spinal column reduction</li> <li>• Lumbar puncture</li> <li>• Myelographic dye injection (via LP)</li> </ul>	<p>Clinical/Surgical Experience</p> <p>Morning Rounds</p>	<p>Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations</p>	<p>Daily Weekly Quarterly Daily</p>

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<ul style="list-style-type: none"> <li>• Simple operative cases, e.g.,               <ul style="list-style-type: none"> <li>○ Excision of Lipoma or skin lesion</li> <li>○ Tagging nerves in acute penetrating trauma</li> <li>○ Carpal tunnel release</li> <li>○ Open depressed skull fracture (without underlying hematoma)</li> <li>○ Burr holes for evacuation of chronic SDH and for subdural hematoma</li> <li>○ Uncomplicated cranioplasty</li> <li>○ Lumbar discectomy</li> </ul> </li> </ul>			
	<p>Assist with the following neurosurgery procedures:</p> <ul style="list-style-type: none"> <li>• Craniotomy, laminectomy intracranial hemostasis</li> <li>• Removal of specific lesions: tumor, abscess, hematoma, disc</li> <li>• Vascular repair: clipping of aneurysm</li> <li>• Problems related to cerebrospinal fluid circulation: hydrocephalus (shunt)</li> <li>• Repair/replacement of dura and bone</li> <li>• Reduction of depressed skull fracture</li> </ul>	<p>Clinical/Surgical Experience</p> <p>Morning Rounds</p>	<p>Focused Observation</p> <p>Clinical Outcomes Evaluation Forms</p> <p>Patient Presentations</p>	<p>Daily</p> <p>Weekly</p> <p>Quarterly</p> <p>Daily</p>
	<p>Interpret results from intracranial pressure monitors, ventriculostomies, and lumbar spinal drains.</p>	<p>Clinical/Surgical Experience</p> <p>Morning Rounds</p>	<p>Focused Observation</p> <p>Clinical Outcomes Evaluation Forms</p> <p>Patient Presentations</p>	<p>Daily</p> <p>Weekly</p> <p>Quarterly</p> <p>Daily</p>
<p>Medical</p>	<p><b>SPECIALTY SPECIFIC OBJECTIVES</b></p>			

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
Knowledge	Recognize common neurosurgical clinical syndromes.	Clinical/Surgical Experience Morning Rounds Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Demonstrate an understanding of the surgical anatomy of the nervous system and the pathophysiology of nervous system trauma, compression, vascular disease and neoplastic disease.	Clinical/Surgical Experience Morning Rounds Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Demonstrate an understanding of pain syndromes that respond well to surgery and which are better managed non-operatively.	Clinical/Surgical Experience	Neurosurgical Board scores	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Morning Rounds Didactic Sessions	Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Recognize clinical signs and symptoms of vasospasm, raised intracranial pressure, progressive myelopathy and nerve compression syndromes.	Clinical/Surgical Experience  Morning Rounds Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Demonstrate knowledge of the surgical anatomy of the cranial and spinal regions.	Clinical/Surgical Experience  Morning Rounds Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
			Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Demonstrate an understanding of PACS, imaged based surgery, and electronic medical records.	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Demonstrate an understanding of the following physical exam findings and techniques: <ul style="list-style-type: none"> <li>• Glasgow Coma Scale: Eye Opening, Speech, Motor</li> <li>• Pupillary Exam: Size, Symmetry, Reactivity, Direct, Consensual</li> <li>• Gaze preference/conjugate gaze/nystagmus</li> <li>• Findings associated with Horner’s syndrome</li> <li>• Five-point system of motor strength grading</li> </ul>	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations,	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<ul style="list-style-type: none"> <li>• Following muscle groups and their major motor root input:               <ul style="list-style-type: none"> <li>• flexor carpi ulnaris</li> <li>• extensor carpi radialis</li> <li>• biceps</li> <li>• triceps</li> <li>• deltoids</li> <li>• iliopsoas</li> <li>• quadriceps</li> <li>• hamstrings</li> <li>• gastrocnemius</li> <li>• tibialis anterior</li> <li>• extensor hallucis longis</li> </ul> </li> <li>• Following sensory modalities:               <ul style="list-style-type: none"> <li>• light touch</li> <li>• pinprick</li> <li>• proprioception</li> <li>• vibratory sense</li> </ul> </li> <li>• Sensory dermatomes</li> <li>• Following normal and abnormal reflexes:</li> <li>• Deep tendon reflexes               <ul style="list-style-type: none"> <li>• brachioradialis</li> <li>• biceps</li> <li>• triceps</li> <li>• patellar</li> </ul> </li> <li>• Achilles tendon</li> <li>• Babinski response</li> <li>• Hoffman's test</li> <li>• Frontal release sign</li> <li>• Decerebrate posturing (See GCS)</li> </ul>		<p>journal club, and teaching conferences.</p> <p>Morning Round presentations</p>	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<ul style="list-style-type: none"> <li>• Decorticate posturing (See GCS)</li> <li>• Know how to elicit clonus and evaluate muscle tone</li> </ul>			
	Define mild, moderate, and severe traumatic brain injury based upon the GCS.	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Identify the following on CT scans: <ul style="list-style-type: none"> <li>• Subdural hematoma</li> <li>• Epidural hematoma</li> <li>• Intracerebral hemorrhage/contusion</li> <li>• Subarachnoid Hemorrhage</li> <li>• Midline Shift</li> <li>• Cisternal effacement</li> </ul>	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	Demonstrate a familiarity with the basic modalities of measuring intracranial pressure.	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Demonstrate an understanding of the basic treatment modalities used to treat elevated intracranial pressure <ul style="list-style-type: none"> <li>• Head of bed</li> <li>• Hyperosmolar, hypernatremic euvoemia</li> <li>• Sedation/pharmacologic paralysis</li> <li>• CSF drainage</li> <li>• Hyperventilation (when appropriate)</li> <li>• Surgery</li> <li>• Control of temperature, glucose, other electrolytes</li> </ul>	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Demonstrate an understanding of the issues involved in the diagnosis and treatment of blunt vascular injury <ul style="list-style-type: none"> <li>• Mechanisms of injury</li> </ul>	Clinical/Surgical Experience	Neurosurgical Board scores	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<ul style="list-style-type: none"> <li>• Physical findings</li> <li>• Antiplatelet therapy</li> <li>• Anticoagulation</li> <li>• Associated injuries</li> <li>• brain injury</li> <li>• cervical spine</li> <li>• Indications for arteriography</li> </ul>	Morning Rounds  Didactic Sessions	Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Know the findings associated with spinal shock.	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Describe what constitutes a complete vs. an incomplete spinal cord injury.	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
			Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Know indications for deferring abdominopelvic CT/performance of intraoperative.	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Demonstrate the knowledge of diagnostic peritoneal lavage during craniotomy.	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations,	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
			journal club, and teaching conferences.  Morning Round presentations	
	<p>Demonstrate an understanding of the general indications for operations for penetrating peripheral nerve injuries:</p> <ul style="list-style-type: none"> <li>• Avulsion Injury</li> <li>• Laceration</li> <li>• Crush Injury</li> <li>• Combined</li> <li>• Open vs. Closed</li> </ul>	<p>Clinical/Surgical Experience</p> <p>Morning Rounds</p> <p>Didactic Sessions</p>	<p>Neurosurgical Board scores</p> <p>Home Study Course self-tests</p> <p>Direct observation</p> <p>Case presentations, journal club, and teaching conferences.</p> <p>Morning Round presentations</p>	
	<p>Know the general indications for surgery for skull fractures:</p> <ul style="list-style-type: none"> <li>• Open vs. Closed</li> <li>• Depressed vs. Non-depressed</li> </ul>	<p>Clinical/Surgical Experience</p> <p>Morning Rounds</p> <p>Didactic Sessions</p>	<p>Neurosurgical Board scores</p> <p>Home Study Course self-tests</p> <p>Direct observation</p> <p>Case presentations, journal club, and teaching conferences.</p>	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<p>Demonstrate an understanding of the importance of early referral of head and spinal cord injury patients to rehabilitation services; recognize the potential impact of these services for long-term prognosis.</p>	<p>Clinical/Surgical Experience</p> <p>Morning Rounds</p> <p>Didactic Sessions</p>	<p>Morning Round presentations</p> <p>Neurosurgical Board scores</p> <p>Home Study Course self-tests</p> <p>Direct observation</p> <p>Case presentations, journal club, and teaching conferences.</p> <p>Morning Round presentations</p>	
	<p>Apply basic knowledge of the following clinical, neuro-radiological and electrophysiological methods to decide (after appropriate neurological history and examination) which diagnostic tests or interventions would provide the least risk and most useful information for subsequent determination of the correct diagnosis:</p> <ul style="list-style-type: none"> <li>• Plain skull and spine radiographs</li> <li>• Computed (axial/sagittal / 3D) tomography of the head and spine</li> <li>• Magnetic resonance imaging (MRI) of the head and spine</li> <li>• Contrast studies (myelogram, cerebral or spinal angiogram)</li> <li>• Trans-cranial Doppler, PET-scan</li> </ul>	<p>Clinical/Surgical Experience</p> <p>Morning Rounds</p> <p>Didactic Sessions</p>	<p>Neurosurgical Board scores</p> <p>Home Study Course self-tests</p> <p>Direct observation</p> <p>Case presentations, journal club, and teaching conferences.</p> <p>Morning Round presentations</p>	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	Electroencephalogram, nerve conduction studies, evoked potentials • Lumbar puncture and CSF analysis			
Practice Based Learning and Improvement	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			
Interpersonal and Communication Skills	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			
Professionalism	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			
Systems Based Practice	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			

Second year Neurosurgery Resident (NS2/PGY 3)

By the end of the Neurosurgery rotation at Methodist University Hospital, the first year residents (NS2/PGY3) are expected to expand and cultivate knowledge and skills developed during previous years of training and to achieve the following objectives:

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
Patient Care	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Interpret results from intracranial pressure monitors, ventriculostomies, and lumbar spinal drains.	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Obtain a thorough and orderly medical history relevant to neurological disorders requiring surgery.	Clinical/Surgical Experience	Focused Observation Clinical Outcomes Evaluation Forms	Daily Weekly Quarterly

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Morning Rounds	Patient Presentations	Daily
	Perform a comprehensive and systematic physical examination relevant to neurological disorders requiring surgery.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Create a patient management plan based on patient information, preferences, up-to-date scientific evidence, and clinical judgement.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Demonstrate a familiarity with clinical presentations, physical findings, radiographic findings and differential diagnosis of each patient upon whom they assist at surgery.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Demonstrate continuity of care by seeing patients back in the clinic after surgery.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Perform ventriculostomies and lumbar spinal drains.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Generate diagnosis and when necessary differential diagnosis based on test results/studies.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Manage common intracranial pathologies as well as peripheral nerve entrapment syndromes.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<p>With increasing levels of competence and responsibility, perform under supervision the following neurosurgical procedures including but not limited to:</p> <ul style="list-style-type: none"> <li>• VP shunts and revisions</li> <li>• Craniotomy for tumors</li> <li>• Laminectomy</li> <li>• Epidural depressed skull fractures</li> <li>• Decompressive craniotomy</li> <li>• Peripheral nerve neuropathy</li> <li>• Epilepsy surgery</li> <li>• Craniosynostosis</li> <li>• Stereotaxic biopsies</li> <li>• Image guided intracranial and spinal surgery</li> <li>• Microneurosurgery</li> <li>• Aneurysm clipping</li> <li>• Brain tumor resection</li> <li>• Evacuation of hematomas and abscesses</li> <li>• Cervical and Lumbar discectomies</li> <li>• Simple Instrumentation: cervical plating</li> <li>• Posterior fossa exposures</li> </ul>	<p>Clinical/Surgical Experience</p> <p>Morning Rounds</p>	<p>Focused Observation</p> <p>Clinical Outcomes Evaluation Forms</p> <p>Patient Presentations</p>	<p>Daily</p> <p>Weekly</p> <p>Quarterly</p> <p>Daily</p>
	Manage common post-operative complications.	<p>Clinical/Surgical Experience</p> <p>Morning Rounds</p>	<p>Focused Observation</p> <p>Clinical Outcomes Evaluation Forms</p> <p>Patient Presentations</p>	<p>Daily</p> <p>Weekly</p> <p>Quarterly</p> <p>Daily</p>
	Provide basic resuscitation to trauma victims.	<p>Clinical/Surgical Experience</p> <p>Morning Rounds</p>	<p>Focused Observation</p> <p>Clinical Outcomes Evaluation Forms</p> <p>Patient Presentations</p>	<p>Daily</p> <p>Weekly</p> <p>Quarterly</p> <p>Daily</p>
	Assess shunt function and be able to tap a shunt.	Clinical/Surgical	Focused Observation	Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Experience Morning Rounds	Clinical Outcomes Evaluation Forms Patient Presentations	Weekly Quarterly Daily
	Place a ventriculostomy and intracranial pressure monitor.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Diagnose, evaluate and manage patients with the following neurological disorders requiring surgery: <ul style="list-style-type: none"> <li>• Intracranial hemorrhages</li> <li>• Meningitis</li> <li>• Ventriculitis</li> <li>• Cervical lumbar radiculopathies</li> <li>• Peripheral nerve entrapment syndromes</li> <li>• Acute hydrocephalis</li> </ul>	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
Medical Knowledge	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Recognize common neurosurgical clinical syndromes.	Clinical/Surgical Experience Morning Rounds Didactic Sessions	Neurosurgical Board scores Home Study Course self-tests Direct observation Case presentations, journal club, and teaching conferences. Morning Round presentations	
	Demonstrate an understanding of pain syndromes that	Clinical/Surgical	Neurosurgical Board	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	respond well to surgery and which are better managed non-operatively.	Experience Morning Rounds Didactic Sessions	scores Home Study Course self-tests Direct observation Case presentations, journal club, and teaching conferences. Morning Round presentations	
	Recognize clinical signs and symptoms of vasospasm, raised intracranial pressure, progressive myelopathy and nerve compression syndromes.	Clinical/Surgical Experience Morning Rounds Didactic Sessions	Neurosurgical Board scores Home Study Course self-tests Direct observation Case presentations, journal club, and teaching conferences. Morning Round presentations	
	Demonstrate an understanding of PACS, imaged based surgery, and electronic medical records.	Clinical/Surgical Experience Morning Rounds	Neurosurgical Board scores Home Study Course	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Didactic Sessions	self-tests Direct observation Case presentations, journal club, and teaching conferences. Morning Round presentations	
	Recognize common radiculopathies, signs and symptoms of mechanical back pain, facet syndromes and myofascial pain syndromes.	Clinical/Surgical Experience Morning Rounds Didactic Sessions	Neurosurgical Board scores Home Study Course self-tests Direct observation Case presentations, journal club, and teaching conferences. Morning Round presentations	
	Review evidence based studies relevant to neurosurgery and integrate findings into patient care practices.	Clinical/Surgical Experience Morning Rounds Didactic Sessions	Neurosurgical Board scores Home Study Course self-tests Direct observation	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
			Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Demonstrate an understanding of the anatomy of the cranial and spinal regions.	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Demonstrate an understanding of epidemiological and social-behavioral sciences	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
			teaching conferences. Morning Round presentations	
	Demonstrate a familiarity with the clinical disease states of children on their service, and with the common clinical presentation of the illness.	Clinical/Surgical Experience Morning Rounds Didactic Sessions	Neurosurgical Board scores Home Study Course self-tests Direct observation Case presentations, journal club, and teaching conferences. Morning Round presentations	
	Demonstrate knowledge of surgical techniques and anatomy as it relates to specific disease states.	Clinical/Surgical Experience Morning Rounds Didactic Sessions	Neurosurgical Board scores Home Study Course self-tests Direct observation Case presentations, journal club, and teaching conferences. Morning Round	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
			presentations	
	Demonstrate knowledge of common clinical presentations of common neurological disorders that require surgery.	Clinical/Surgical Experience Morning Rounds Didactic Sessions	Neurosurgical Board scores Home Study Course self-tests Direct observation Case presentations, journal club, and teaching conferences. Morning Round presentations	
Practice Based Learning and Improvement	<b>SPECIALTY SPECIFIC OBJECTIVES</b> See General Neurosurgery Goals and Objectives			
Interpersonal and Communication Skills	<b>SPECIALTY SPECIFIC OBJECTIVES</b> See General Neurosurgery Goals and Objectives			
Professionalism	<b>SPECIALTY SPECIFIC OBJECTIVES</b> See General Neurosurgery Goals and Objectives			
Systems Based Practice	<b>SPECIALTY SPECIFIC OBJECTIVES</b> See General Neurosurgery Goals and Objectives			

Fourth year Neurosurgery Resident (NS4/PGY5)

By the end of the Neurosurgery rotation at Methodist University Hospital, the fourth year residents (NS4/PGY5) are expected to expand and cultivate knowledge and skills developed during the previous 3 years of training and to achieve the following objectives:

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
Patient Care	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Interpret results from intracranial pressure monitors, ventriculostomies, and lumbar spinal drains.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Obtain a thorough and orderly medical history relevant to neurological disorders requiring surgery.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Perform a comprehensive and systematic physical examination relevant to neurological disorders requiring surgery.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Create a patient management plan based on patient information, preferences, up-to-date scientific evidence, and clinical judgement.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Place intracranial pressure monitors.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Demonstrate a familiarity with clinical presentations, physical findings, radiographic findings and differential diagnosis of each patient upon whom they assist at surgery.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Demonstrate continuity of care by seeing patients back in the clinic after surgery.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Perform ventriculostomies and lumbar spinal drains.	Clinical/Surgical Experience	Focused Observation Clinical Outcomes	Daily Weekly

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Morning Rounds	Evaluation Forms Patient Presentations	Quarterly Daily
	Generate diagnosis and when necessary differential diagnosis based on test results/studies.	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Manage common intracranial pathologies as well as peripheral nerve entrapment syndromes.	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	With increasing levels of competence and responsibility, perform the following neurosurgery procedures including but not limited to: <ul style="list-style-type: none"> <li>• Some more complicated operative procedures, e.g., <ul style="list-style-type: none"> <li>• Craniotomy for evacuation of subdural hematoma</li> <li>• Craniotomy for evacuation of epidural hematoma</li> <li>• Craniotomy for evacuation of intraparenchymal hematoma</li> <li>• Craniotomy/Exenteration of Frontal Sinus</li> <li>• Ventriculoperitoneal Shunt Placement</li> <li>• Uncomplicated spinal fusion/instrumentation</li> </ul> </li> <li>• More complicated operative procedures, e.g., <ul style="list-style-type: none"> <li>• Complex spinal instrumentation</li> </ul> </li> <li>• Craniotomy for Brain Tumor Resection</li> <li>• Spinal cord tumors</li> <li>• Craniotomy for aneurysm or AVM</li> </ul>	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<ul style="list-style-type: none"> <li>• Image guided intracranial and spinal surgery</li> <li>• Microneurosurgery</li> <li>• Aneurysm clipping</li> <li>• Brain tumor resection</li> <li>• Evacuation of hematomas and abscesses</li> </ul>			
	Manage common post-operative complications.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Diagnose, evaluate and manage patients with the following neurological disorders requiring surgery: <ul style="list-style-type: none"> <li>• Intracranial hemorrhages</li> <li>• Meningitis</li> <li>• Ventriculitis</li> <li>• Cervical lumbar radiculopathies</li> <li>• Peripheral nerve entrapment syndromes</li> <li>• Acute hydrocephalis</li> </ul>	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Interpret results from intracranial pressure monitors, ventriculostomies, and lumbar spinal drains.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
Medical Knowledge	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Recognize common neurosurgical clinical syndromes.	Clinical/Surgical Experience Morning Rounds Didactic Sessions	Neurosurgical Board scores Home Study Course self-tests Direct observation Case presentations,	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
			journal club, and teaching conferences.  Morning Round presentations	
	Demonstrate an understanding of pain syndromes that respond well to surgery and which are better managed non-operatively.	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Recognize clinical signs and symptoms of vasospasm, raised intracranial pressure, progressive myelopathy and nerve compression syndromes.	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
			Morning Round presentations	
	Demonstrate an understanding of PACS, imaged based surgery, and electronic medical records.	Clinical/Surgical Experience Morning Rounds Didactic Sessions	Neurosurgical Board scores Home Study Course self-tests Direct observation Case presentations, journal club, and teaching conferences. Morning Round presentations	
	Recognize common radiculopathies, signs and symptoms of mechanical back pain, facet syndromes and myofacial pain syndromes.	Clinical/Surgical Experience Morning Rounds Didactic Sessions	Neurosurgical Board scores Home Study Course self-tests Direct observation Case presentations, journal club, and teaching conferences. Morning Round presentations	
	Review evidence based studies relevant to	Clinical/Surgical	Neurosurgical Board	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	neurosurgery and integrate findings into patient care practices.	Experience Morning Rounds Didactic Sessions	scores Home Study Course self-tests Direct observation Case presentations, journal club, and teaching conferences. Morning Round presentations	
	Demonstrate an understanding of the anatomy of the cranial and spinal regions.	Clinical/Surgical Experience Morning Rounds Didactic Sessions	Neurosurgical Board scores Home Study Course self-tests Direct observation Case presentations, journal club, and teaching conferences. Morning Round presentations	
	Recognize common neurosurgical clinical syndromes.	Clinical/Surgical Experience Morning Rounds	Neurosurgical Board scores Home Study Course	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Didactic Sessions	self-tests Direct observation Case presentations, journal club, and teaching conferences. Morning Round presentations	
Practice Based Learning and Improvement	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			
Interpersonal and Communication Skills	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			
Professionalism	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			
Systems Based Practice	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			

Fifth year Neurosurgery Resident (NS5/PGY 6)

By the end of the Neurosurgery rotation at Methodist University Hospital, the fifth year residents (NS5/PGY6) are expected to expand and cultivate knowledge and skills developed during the previous 4 years of training and to achieve the following objectives:

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
Patient Care	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Obtain a thorough and orderly medical history relevant to neurological disorders requiring surgery.	Clinical/Surgical Experience	Focused Observation Clinical Outcomes	Daily Weekly

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Morning Rounds	Evaluation Forms Patient Presentations	Quarterly Daily
	Perform a comprehensive and systematic physical examination relevant to neurological disorders requiring surgery.	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Create a patient management plan based on patient information, preferences, up-to-date scientific evidence, and clinical judgement.	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Manage common intracranial pathologies as well as peripheral nerve entrapment syndromes.	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Demonstrate a familiarity with clinical presentations, physical findings, radiographic findings and differential diagnosis pertaining to each patient upon whom they assist at surgery.	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Demonstrate proficiency in image guided intracranial and spinal surgery, microneurosurgery, aneurysm clipping, brain tumor resection, evacuation of hematomas and abscesses, and the management of common post-operative complications.	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Demonstrate continuity of care by seeing patients back in the clinic after surgery.	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Diagnose, evaluate and manage patients with the following neurological disorders requiring surgery: <ul style="list-style-type: none"> <li>• Intracranial hemorrhages</li> <li>• Meningitis</li> </ul>	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<ul style="list-style-type: none"> <li>• Ventriculitis</li> <li>• Cervical lumbar radiculopathies</li> <li>• Peripheral nerve entrapment syndromes</li> <li>• Acute hydrocephalis</li> </ul>			
	<p><u>Perform the following procedures including but not limited to:</u></p> <ul style="list-style-type: none"> <li>• Some more complicated operative procedures, e.g., <ul style="list-style-type: none"> <li>• Craniotomy for evacuation of subdural hematoma</li> <li>• Craniotomy for evacuation of epidural hematoma</li> <li>• Craniotomy for evacuation of intraparenchymal hematoma</li> <li>• Craniotomy/Exenteration of Frontal Sinus</li> <li>• Ventriculoperitoneal Shunt Placement</li> <li>• Uncomplicated spinal fusion/instrumentation</li> </ul> </li> <li>• More complicated operative procedures, e.g., <ul style="list-style-type: none"> <li>• Complex spinal instrumentation</li> <li>• Craniotomy for Brain Tumor Resection</li> </ul> </li> </ul>	<p>Clinical/Surgical Experience</p> <p>Morning Rounds</p>	<p>Focused Observation</p> <p>Clinical Outcomes Evaluation Forms</p> <p>Patient Presentations</p>	<p>Daily</p> <p>Weekly</p> <p>Quarterly</p> <p>Daily</p>
Medical Knowledge	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Recognize common radiculopathies, signs and symptoms of mechanical back pain, facet syndromes and myofascial pain syndromes.	<p>Clinical/Surgical Experience</p> <p>Morning Rounds</p> <p>Didactic Sessions</p>	<p>Neurosurgical Board scores</p> <p>Home Study Course self-tests</p>	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
			Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Review evidence based studies relevant to neurosurgery and integrate findings into patient care practices.	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Demonstrate an understanding of the anatomy of the cranial and spinal regions.	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations,	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
			journal club, and teaching conferences.  Morning Round presentations	
Practice Based Learning and Improvement	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			
Interpersonal and Communication Skills	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			
Professionalism	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			
Systems Based Practice	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			

### Goals and Objectives for LeBonheur Children's Medical Center

#### Neurosurgery Resident Rotation

Residents will be regularly evaluated on the following six competencies, eventually achieving the expected level of a new practitioner. This will be completed partially through the regular evaluation processes already in place, and partially by regular review by the Program Director and Director of Residency Education; the pertinent information will be reviewed and compiled as part of the semi-annual review by the Program Director, and summarized on a checklist (attached). Achievement of satisfactory performance levels for all six competencies will be necessary for successful completion of the program. Residents are expected to increasingly function as independent practitioners, and demonstrate increasing responsibility, skill, and maturity in caring for their patients.

#### Second year Neurosurgery Resident (NS2/PGY3)

During the neurosurgery rotation at LeBonheur Children’s Medical Center, the second year resident (NS2/PGY3) resident is expected to expand and cultivate knowledge and skills developed during previous years of training and to achieve the following objectives:

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
Patient Care	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Assess children in the emergency room.	Clinical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Provide basic resuscitation to trauma victims.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Assess shunt function and be able to tap a shunt.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Place a ventriculostomy and intracranial pressure monitor.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Interpret results gained from ventriculostomies and intracranial pressure monitors.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Generate a diagnosis or when necessary a differential diagnosis based on test results.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Obtain a thorough and orderly medical history relevant to neurological surgery disorders.	Clinical/Surgical Experience	Focused Observation Clinical Outcomes Evaluation Forms	Daily Weekly Quarterly

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Morning Rounds	Patient Presentations	Daily
	Perform a comprehensive and systematic physical examination relevant to neurological surgery disorders.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Create a patient management plan based on patient information, preferences, up-to-date scientific evidence, and clinical judgement.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Perform the following neurosurgical procedures including but not limited to: <ul style="list-style-type: none"> <li>• VP shunts and revisions</li> <li>• Craniotomy for tumors</li> <li>• Laminectomy</li> <li>• Epidural depressed skull fractures</li> <li>• Decompressive craniotomy</li> <li>• Peripheral nerve neuropathy</li> <li>• Epilepsy surgery</li> <li>• Craniosynostosis</li> <li>• Stereotaxic biopsies</li> </ul>	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Diagnose, evaluate and manage the following neurological disorders requiring surgery including but not limited to: <ul style="list-style-type: none"> <li>• Cut nerves and blood clots due to trauma</li> <li>• Craniofacial disorders</li> <li>• Hydrocephalus</li> <li>• Brain tumors</li> </ul>	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
Medical Knowledge	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Demonstrate an understanding of epidemiological and social-behavioral sciences	Clinical Experience	Written Neurosurgical Board scores	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Didactic Sessions Self Study	Home Study Course self-test scores  Focused observation  Patient presentations  Oral quizzes	
	Demonstrate a familiarity with the clinical disease states of children on their service, and with the common clinical presentation of the illness.	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Demonstrate knowledge of surgical techniques and anatomy as it relates to specific disease states.	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
			Case presentations, journal club, and teaching conferences.  Morning Round presentations	
	Demonstrate knowledge of common clinical presentations of common neurological disorders that require surgery.	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	
Practice Based Learning and Improvement	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			
Interpersonal and Communication Skills	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Effectively communicate using non-technical language with pediatric neurosurgery patients and their families.			

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
Professionalism	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			
Systems Based Practice	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			

### Third year Neurosurgery Resident (NS3/PGY4)

During the neurosurgery rotation at LeBonheur Children’s Medical Center, the third year resident (NS3/PGY4) resident is expected to expand and cultivate knowledge and skills developed during previous years of training and to achieve the following objectives:

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
Patient Care	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Demonstrate increasing responsibility, skill, and maturity in caring for their patients.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Provide basic resuscitation of trauma victims.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Obtain a thorough and orderly medical history relevant to neurological surgery disorders.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Perform a comprehensive and systematic physical	Clinical/Surgical	Focused Observation	Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	examination relevant to neurological surgery disorders.	Experience Morning Rounds	Clinical Outcomes Evaluation Forms Patient Presentations	Weekly Quarterly Daily
	Create a patient management plan based on patient information, preferences, up-to-date scientific evidence, and clinical judgement.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Demonstrate a familiarity with surgical approaches and to demonstrate working knowledge of the surgical anatomy as well as microdissection techniques.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Assess children in the emergency room.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Assess shunt function and be able to tap a shunt,	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Place a ventriculostomy and an intracranial pressure monitor,	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Interpret results gained from diagnostic tests to formulate a differential diagnosis.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Diagnose, evaluate and manage the following neurological disorders requiring surgery including but not limited to: <ul style="list-style-type: none"> <li>• Cut nerves and blood clots due to trauma</li> </ul>	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<ul style="list-style-type: none"> <li>• Craniofacial disorders</li> <li>• Hydrocephalus</li> <li>• Brain tumors</li> </ul>			
	Perform the following neurosurgical procedures including but not limited to: <ul style="list-style-type: none"> <li>• Brachial explorations</li> <li>• VP shunts and revisions</li> <li>• Craniotomy for tumors</li> <li>• Laminectomy</li> <li>• Epidural depressed skull fractures</li> <li>• Decompressive craniotomy</li> <li>• Peripheral nerve neuropathy</li> <li>• Epilepsy surgery</li> <li>• Craniostyostosis</li> <li>• Stereotaxic biopsies</li> </ul>	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
Medical Knowledge	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Demonstrate a familiarity with the clinical disease states of children on their service.	Clinical/Surgical Experience  Morning Rounds  Didactic Sessions	Neurosurgical Board scores  Home Study Course self-tests  Direct observation  Case presentations, journal club, and teaching conferences.  Morning Round presentations	

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
Practice Based Learning and Improvement	<b>SPECIALTY SPECIFIC OBJECTIVES</b> See General Neurosurgery Goals and Objectives			
Interpersonal and Communication Skills	<b>SPECIALTY SPECIFIC OBJECTIVES</b> See General Neurosurgery Goals and Objectives			
Professionalism	<b>SPECIALTY SPECIFIC OBJECTIVES</b> See General Neurosurgery Goals and Objectives			
Systems Based Practice	<b>SPECIALTY SPECIFIC OBJECTIVES</b> See General Neurosurgery Goals and Objectives			

**Goals and Objectives for Regional Medical Center at Memphis (Hospital #3) Neurosurgery Rotation**

**Overview:**

The following represents a minimum framework for learning during the Neurosurgery rotation at the Med, and concentrates on basic neurologic physical findings, and historical and treatment aspects of conditions associated with trauma. Many of these objectives will have been met prior to the beginning of the rotation.

**Optional Reference Books:**

Neurotrauma, Raj K. Narayan, James E. Wilberger, Jr., John T. Povlishock, eds., 1996  
Diagnostic Neuroradiology, Anne G. Osborne, 1994  
Handbook of Neurosurgery, Mark S. Greenberg, M.D., 1997  
Guide to the Examination of the Peripheral Nerves

These books are all available at the Department of Neurosurgery. Some are available through the UT and Semmes-Murphey libraries, and many residents own them.

Guidelines for the Management of Severe Head Injury, 1995

Copy will be provided at the beginning of the rotation

**GOALS AND OBJECTIVES for REGIONAL MEDICAL CENTER AT MEMPHIS  
 NEUROSURGERY RESIDENT ROTATION**

**Hospital:** Regional Medical Center at Memphis

**Rotation:** Neurosurgery

**First year Neurosurgery Resident (NS1/PGY2)**

During the neurosurgery rotation at the Regional Medical Center, the first year residents (NS1/PGY-2) are expected to expand and cultivate knowledge and skills developed during previous years of training and to achieve the following objectives:

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
Patient Care	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Obtain a thorough and orderly medical history with emphasis on elements unique to neurosurgery (neurotrauma) including: <ul style="list-style-type: none"> <li>• Mechanism of injury, including restraint status for MVAs, direction &amp; speed of force, etc.</li> </ul>	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<ul style="list-style-type: none"> <li>• Patient age relative to prognosis from severe brain injury</li> <li>• Any symptoms preceding accident</li> <li>• Retrograde or anterograde amnesia</li> <li>• Loss of consciousness</li> <li>• Onset timing/duration of neurological symptoms</li> <li>• History of seizure disorder</li> </ul>			
	Perform a comprehensive and systematic physical examination relevant to neurological disorders requiring surgery.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Create a patient management plan based on patient information, preferences, up-to-date scientific evidence, and clinical judgement.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Demonstrate a familiarity with clinical presentations, physical findings, radiographic findings and differential diagnosis of each patient upon whom they assist at surgery.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Demonstrate continuity of care by seeing patients back in the clinic after surgery.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Generate a diagnosis and when necessary a differential diagnosis based on test results/studies.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Diagnose, evaluate and manage patients with the following neurological disorders requiring surgery: <ul style="list-style-type: none"> <li>• Intracranial hemorrhages, hypertension, tumor</li> </ul>	Clinical/Surgical Experience	Focused Observation Clinical Outcomes Evaluation Forms	Daily Weekly Quarterly

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<ul style="list-style-type: none"> <li>• Meningitis</li> <li>• Ventriculitis</li> <li>• Cerebral herniation syndromes</li> <li>• Cervical and lumbar radiculopathies</li> <li>• Peripheral nerve entrapment syndromes</li> <li>• Acute hydrocephalus</li> <li>• Intracranial, Intracerebral, subdural and epidural hematomas</li> <li>• Intracranial and intra-spinal mass lesions (neoplasm, abscess)</li> <li>• Spinal cord injuries</li> <li>• Carpal tunnel syndrome</li> <li>• Peripheral nerve injury</li> <li>• Closed head injury</li> </ul>	Morning Rounds	Patient Presentations	Daily
	Complete a workup of back pain.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Appropriately use a Glasgow coma scale.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Interpret cranial CT scans.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Appropriately place burr holes for subdural/epidural.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Perform the following diagnostic procedures and	Clinical/Surgical	Focused Observation	Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	interpret any relevant findings: <ul style="list-style-type: none"> <li>• Laboratory Studies</li> <li>• Basic Radiographic Studies (plain spine films, CT, MRI, myelography)</li> <li>• Venipuncture</li> <li>• Arterial Puncture</li> <li>• Venous Cut-Down</li> </ul>	Experience  Morning Rounds	Clinical Outcomes Evaluation Forms Patient Presentations	Weekly Quarterly Daily
	Independently demonstrate competency in the following aspects of patient care: <ul style="list-style-type: none"> <li>• H&amp;Ps and consultations</li> <li>• Write orders, including admission, pre-op, post-op, discharge</li> <li>• Obtain consent for surgery</li> <li>• Discharge day management</li> </ul>	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Perform competently under supervision the following neurosurgical procedures including but not limited to: <ul style="list-style-type: none"> <li>• Place central venous line/Swann-Ganz catheter</li> <li>• Place intraparenchymal intracranial pressure monitor</li> <li>• Place ventriculostomy</li> <li>• Place lumbar drain</li> <li>• Supervise Code Blue Cases/Perform ACLS</li> <li>• Intubation (Nasotracheal or Orotracheal)</li> <li>• Basic Cardiopulmonary Resuscitation</li> <li>• Emergency Drug Treatments</li> <li>• Position patients for some surgical procedures (competence with more complicated positioning expected to be graduated with experience in subsequent years)</li> </ul>	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<ul style="list-style-type: none"> <li>• Application of Mayfield Headrest</li> <li>• Close wound/incision on uncomplicated cranial, spinal, and peripheral nerve operations</li> <li>• Application of Gardner-Wells tongs for closed cervical spinal column reduction</li> <li>• Lumbar puncture</li> <li>• Myelographic dye injection (via LP)</li> <li>• Simple operative cases, e.g.,               <ul style="list-style-type: none"> <li>○ Excision of Lipoma or skin lesion</li> <li>○ Tagging nerves in acute penetrating trauma</li> <li>○ Carpal tunnel release</li> <li>○ Open depressed skull fracture (without underlying hematoma)</li> <li>○ Burr holes for evacuation of chronic SDH and for subdural hematoma</li> <li>○ Uncomplicated cranioplasty</li> <li>○ Lumbar discectomy</li> </ul> </li> </ul>			
	<p>Assist with the following neurosurgery procedures:</p> <ul style="list-style-type: none"> <li>• Craniotomy, laminectomy intracranial hemostasis</li> <li>• Removal of specific lesions: tumor, abscess, hematoma, disc</li> <li>• Vascular repair: clipping of aneurysm</li> <li>• Problems related to cerebrospinal fluid circulation: hydrocephalus (shunt)</li> <li>• Repair/replacement of dura and bone</li> <li>• Reduction of depressed skull fracture</li> </ul>	<p>Clinical/Surgical Experience</p> <p>Morning Rounds</p>	<p>Focused Observation</p> <p>Clinical Outcomes</p> <p>Evaluation Forms</p> <p>Patient Presentations</p>	<p>Daily</p> <p>Weekly</p> <p>Quarterly</p> <p>Daily</p>
	<p>Interpret results from intracranial pressure monitors, ventriculostomies, and lumbar spinal drains.</p>	<p>Clinical/Surgical Experience</p>	<p>Focused Observation</p> <p>Clinical Outcomes</p>	<p>Daily</p> <p>Weekly</p>

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Morning Rounds	Evaluation Forms Patient Presentations	Quarterly Daily
Medical Knowledge	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Recognize common neurosurgical clinical syndromes.	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	Demonstrate an understanding of the surgical anatomy of the nervous system and the pathophysiology of nervous system trauma, compression, vascular disease and neoplastic disease.	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	Demonstrate an understanding of pain syndromes that respond well to surgery and which are better managed non-operatively.	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	Recognize clinical signs and symptoms of vasospasm, raised intracranial pressure, progressive myelopathy and nerve compression syndromes.	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	Demonstrate knowledge of the surgical anatomy of the cranial and spinal regions.	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	Demonstrate an understanding of PACS, imaged based surgery, and electronic medical records.	Clinical/Surgical Experience Journal Club	Home Course Self Test In-service Exam Focused Observation	Annual Annual Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Clinical Care Conferences	Oral Quizzes Patient Presentations	Daily Daily
	<p>Demonstrate an understanding of the following physical exam findings and techniques:</p> <ul style="list-style-type: none"> <li>• Glasgow Coma Scale: Eye Opening, Speech, Motor</li> <li>• Pupillary Exam: Size, Symmetry, Reactivity, Direct, Consensual</li> <li>• Gaze preference/conjugate gaze/nystagmus</li> <li>• Findings associated with Horner's syndrome</li> <li>• Five-point system of motor strength grading</li> <li>• Following muscle groups and their major motor root input: <ul style="list-style-type: none"> <li>• flexor carpi ulnaris</li> <li>• extensor carpi radialis</li> <li>• biceps</li> <li>• triceps</li> <li>• deltoids</li> <li>• iliopsoas</li> <li>• quadriceps</li> <li>• hamstrings</li> <li>• gastrocnemius</li> <li>• tibialis anterior</li> <li>• extensor hallucis longis</li> </ul> </li> <li>• Following sensory modalities: <ul style="list-style-type: none"> <li>• light touch</li> <li>• pinprick</li> <li>• proprioception</li> <li>• vibratory sense</li> </ul> </li> <li>• Sensory dermatomes</li> </ul>	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<ul style="list-style-type: none"> <li>• Following normal and abnormal reflexes:</li> <li>• Deep tendon reflexes <ul style="list-style-type: none"> <li>• brachioradialis</li> <li>• biceps</li> <li>• triceps</li> <li>• patellar</li> </ul> </li> <li>• Achilles tendon</li> <li>• Babinski response</li> <li>• Hoffman's test</li> <li>• Frontal release sign</li> <li>• Decerebrate posturing (See GCS)</li> <li>• Decorticate posturing (See GCS)</li> <li>• Know how to elicit clonus and evaluate muscle tone</li> </ul>			
	Define mild, moderate, and severe traumatic brain injury based upon the GCS.	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	Identify the following on CT scans: <ul style="list-style-type: none"> <li>• Subdural hematoma</li> <li>• Epidural hematoma</li> <li>• Intracerebral hemorrhage/contusion</li> <li>• Subarachnoid Hemorrhage</li> <li>• Midline Shift</li> <li>• Cisternal effacement</li> </ul>	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	Demonstrate a familiarity with the basic modalities of measuring intracranial pressure.	Clinical/Surgical Experience Journal Club Clinical Care	Home Course Self Test In-service Exam Focused Observation Oral Quizzes	Annual Annual Daily Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Conferences	Patient Presentations	Daily
	Demonstrate an understanding of the basic treatment modalities used to treat elevated intracranial pressure <ul style="list-style-type: none"> <li>• Head of bed</li> <li>• Hyperosmolar, hypernatremic euvoemia</li> <li>• Sedation/pharmacologic paralysis</li> <li>• CSF drainage</li> <li>• Hyperventilation (when appropriate)</li> <li>• Surgery</li> <li>• Control of temperature, glucose, other electrolytes</li> </ul>	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	Demonstrate an understanding of the issues involved in the diagnosis and treatment of blunt vascular injury <ul style="list-style-type: none"> <li>• Mechanisms of injury</li> <li>• Physical findings</li> <li>• Antiplatelet therapy</li> <li>• Anticoagulation</li> <li>• Associated injuries</li> <li>• brain injury</li> <li>• cervical spine</li> <li>• Indications for arteriography</li> </ul>	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	Know the findings associated with spinal shock.	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	Describe what constitutes a complete vs. an incomplete spinal cord injury.	Clinical/Surgical Experience Journal Club Clinical Care	Home Course Self Test In-service Exam Focused Observation Oral Quizzes	Annual Annual Daily Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Conferences	Patient Presentations	Daily
	Know indications for deferring abdominopelvic CT/performance of intraoperative.	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	Demonstrate the knowledge of diagnostic peritoneal lavage during craniotomy.	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	Demonstrate an understanding of the general indications for operations for penetrating peripheral nerve injuries: <ul style="list-style-type: none"> <li>• Avulsion Injury</li> <li>• Laceration</li> <li>• Crush Injury</li> <li>• Combined</li> <li>• Open vs. Closed</li> </ul>	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	Know the general indications for surgery for skull fractures: <ul style="list-style-type: none"> <li>• Open vs. Closed</li> <li>• Depressed vs. Non-depressed</li> </ul>	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	Demonstrate an understanding of the importance of early referral of head and spinal cord injury patients to rehabilitation services; recognize the potential impact of these services for long-term prognosis.	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	Apply basic knowledge of the following clinical, neuro-radiological and electrophysiological methods	Clinical/Surgical Experience	Home Course Self Test In-service Exam	Annual Annual

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<p>to decide (after appropriate neurological history and examination) which diagnostic tests or interventions would provide the least risk and most useful information for subsequent determination of the correct diagnosis:</p> <ul style="list-style-type: none"> <li>• Plain skull and spine radiographs</li> <li>• Computed (axial/sagittal / 3D) tomography of the head and spine</li> <li>• Magnetic resonance imaging (MRI) of the head and spine</li> <li>• Contrast studies (myelogram, cerebral or spinal angiogram)</li> <li>• Trans-cranial Doppler, PET-scan Electroencephalogram, nerve conduction studies, evoked potentials</li> <li>• Lumbar puncture and CSF analysis</li> </ul>	Journal Club Clinical Care Conferences	Focused Observation Oral Quizzes Patient Presentations	Daily Daily Daily
Practice Based Learning and Improvement	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Develop a personal program of self-study and professional growth with guidance from the teaching staff and faculty advisor.			
	Participate in teaching and organization of the educational conferences and activities of the Department of Surgery and assume responsibility for teaching and supervision of subordinate surgical house staff and medical students.			
Interpersonal and Communication Skills	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Create and sustain a therapeutic and ethically sound relationship with patients.			
	Work effectively with other members of the medical team including fellow residents and medical students.			
	Maintain professional interactions with other health			

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	care providers and hospital staff.			
Professionalism	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Participate in compassionate patient care maintaining the highest moral and ethical values with a professional attitude.			
	The resident should be sensitive to the needs and feelings of others, including the patient's family members, allied health care personnel, fellow residents, and medical students.			
	Demonstrate respect, compassion, integrity in the care of patients on a daily basis and sensitivity to patients' culture, age, and gender.			
System- Based Practice	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Understand how the health care organization affects surgical practice.			
	Demonstrates cost effective health care.			
	Knows how to partner with health care managers and allied health personnel to improve health care. moonlighting"			

#### Fourth Year Neurosurgery Resident (NS4/PGY5)

Progression to the next level assumes that resident can perform all tasks from preceding level. Invasive procedures and operations, even though they may be performed independently, presume discussion with the attending physician beforehand, or, in the case of emergency, life-saving procedures, immediately afterwards as soon as the patient has been stabilized and communication is feasible. During the neurosurgery rotation at the Regional Medical Center, the fourth year residents (NS4/PGY-5) are expected to expand and cultivate knowledge and skills developed during previous years of learning and to achieve the following objectives based on the six general competencies:

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
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Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
Patient Care	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Perform the following procedures including but not limited to: <ul style="list-style-type: none"> <li>• Application of Gardner-Wells tongs/Closed Cervical Spinal Column Reduction</li> <li>• Some operations, e.g.,               <ul style="list-style-type: none"> <li>○ Lumbar Discectomy (without fusion)</li> <li>○ Cervical Discectomy (without fusion)</li> <li>○ Resection simple convexity meningioma</li> <li>○ Shunt Revision</li> <li>○ Stimulator or Pump Removal</li> <li>○ Placement of Stereotactic Biopsy Frame</li> </ul> </li> <li>• Some more complicated operative procedures, e.g.,               <ul style="list-style-type: none"> <li>• Craniotomy for evacuation of subdural hematoma</li> <li>• Craniotomy for evacuation of epidural hematoma</li> <li>• Craniotomy for evacuation of intraparenchymal hematoma</li> <li>• Craniotomy/Exenteration of Frontal Sinus</li> <li>• Ventriculoperitoneal Shunt Placement</li> <li>• Uncomplicated spinal fusion/instrumentation</li> </ul> </li> </ul>	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Obtain a thorough and orderly medical history relevant to neurological surgery disorders.	Clinical/Surgical Experience	Focused Observation Clinical Outcomes Evaluation Forms	Daily Weekly Quarterly

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
		Morning Rounds	Patient Presentations	Daily
	Perform a comprehensive and systematic physical examination relevant to neurological surgery disorders.	Clinical/Surgical Experience	Focused Observation Clinical Outcomes Evaluation Forms	Daily Weekly Quarterly
		Morning Rounds	Patient Presentations	Daily
	Create a patient management plan based on patient information, preferences, up-to-date scientific evidence, and clinical judgement.	Clinical/Surgical Experience	Focused Observation Clinical Outcomes Evaluation Forms	Daily Weekly Quarterly
		Morning Rounds	Patient Presentations	Daily
Medical Knowledge	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
Practice Based Learning and Improvement	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			
Interpersonal and Communication Skills	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			
Professionalism	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	See General Neurosurgery Goals and Objectives			
Systems Based	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
Practice	See General Neurosurgery Goals and Objectives			

**Fifth Year Neurosurgery Resident (NS5/PGY6)**

Progression to the next level assumes that resident can perform all tasks from preceding level. Invasive procedures and operations, even though they may be performed independently, presume discussion with the attending physician beforehand, or, in the case of emergency, life-saving procedures, immediately afterwards as soon as the patient has been stabilized and communication is feasible. During the neurosurgery rotation at the Regional Medical Center, the fifth year residents (NS5/PGY6) are expected to expand and cultivate knowledge and skills developed during previous years of learning and to achieve the following objectives:

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
Patient Care	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	<u>Perform the following procedures including but not limited to:</u> <ul style="list-style-type: none"> <li>• Some more complicated operative procedures, e.g., <ul style="list-style-type: none"> <li>• Craniotomy for evacuation of subdural hematoma</li> <li>• Craniotomy for evacuation of epidural hematoma</li> <li>• Craniotomy for evacuation of intraparenchymal hematoma</li> <li>• Craniotomy/Exenteration of Frontal Sinus</li> <li>• Ventriculoperitoneal Shunt Placement</li> <li>• Uncomplicated spinal fusion/instrumentation</li> </ul> </li> <li>• More complicated operative procedures, e.g., <ul style="list-style-type: none"> <li>• Complex spinal instrumentation</li> </ul> </li> </ul>	Clinical/Surgical Experience  Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<ul style="list-style-type: none"> <li>Craniotomy for Brain Tumor Resection</li> </ul>			
	Obtain a thorough and orderly medical history relevant to neurological surgery disorders.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Perform a comprehensive and systematic physical examination relevant to neurological surgery disorders.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Create a patient management plan based on patient information, preferences, up-to-date scientific evidence, and clinical judgement.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
Medical Knowledge	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			

**Goals and Objectives for VA Medical Center (Hospital #4)**

**Neurosurgery Resident Rotation**

Residents will be regularly evaluated on the following six competencies, eventually achieving the expected level of a new practitioner. This will be completed partially through the regular evaluation processes already in place, and partially by regular review by the Program Director and Director of Residency Education; the pertinent information will be reviewed and compiled as part of the semi-annual review by the Program Director, and summarized on a checklist (attached). Achievement of satisfactory performance levels for all six competencies will be necessary for successful completion of the program.

### Third year Neurosurgery Resident (NS3/PGY4)

During the neurosurgery rotation at the VA Medical Center, the third year residents (NS3/PGY-4) are expected to expand and cultivate knowledge and skills developed during previous training and to achieve the following objectives:

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
Patient Care	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Demonstrate increasing responsibility, skill, and maturity in caring for their patients.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Assess and manage patients in the ambulatory clinic, in the emergency department and on the wards and in the ICU.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Perform the following common neurosurgical procedures, and near competency in more complex procedures including but not limited to: <ul style="list-style-type: none"> <li>• Lumbar laminectomy</li> <li>• Cervical discectomy</li> <li>• Spinal fusions and instrumentation</li> <li>• Medistatic and primary brain tumors</li> </ul>	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Demonstrate a familiarity with less common, specialized neurosurgical procedures (such as gamma	Clinical/Surgical Experience	Focused Observation Clinical Outcomes	Daily Weekly

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	knife, endoscopy, endovascular procedures etc.)	Morning Rounds	Evaluation Forms Patient Presentations	Quarterly Daily
	Obtain a thorough and orderly medical history relevant to neurological surgery disorders.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Perform a comprehensive and systematic physical examination relevant to neurological surgery disorders.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Create a patient management plan based on patient information, preferences, up-to-date scientific evidence, and clinical judgement.	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
	Diagnose, evaluate, and manage the following neurological disorders requiring surgery including but not limited to: <ul style="list-style-type: none"> <li>• Degenerative spine and peripheral nerve</li> <li>• Dementia</li> <li>• Brain tumors</li> <li>• Spinal stenosis</li> </ul>	Clinical/Surgical Experience Morning Rounds	Focused Observation Clinical Outcomes Evaluation Forms Patient Presentations	Daily Weekly Quarterly Daily
Medical Knowledge	<b>SPECIALTY SPECIFIC OBJECTIVES</b>			
	Demonstrate an understanding of the various clinical disease states of the adult patients on their service, and be knowledgeable with how age and co-morbidities affect management and outcomes.	Clinical/Surgical Experience Journal Club Clinical Care Conferences	Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations	Annual Annual Daily Daily Daily
	Demonstrate working knowledge of the surgical anatomy as well as microdissection techniques.	Clinical/Surgical Experience Journal Club Clinical Care	Home Course Self Test In-service Exam Focused Observation Oral Quizzes	Annual Annual Daily Daily

Competency	Required Skill(s)	Teaching Method(s)	Formative Evaluation Method(s)	Frequency of Evaluation
	<p>Summarize several factors to consider when making critical decisions about treatment options for the <b>elderly neurosurgical patient</b>, to include:</p> <ul style="list-style-type: none"> <li>a. Patient views</li> <li>b. Quality-of-life issues (pre-operative functional status and ability to rehabilitate)</li> <li>c. Acceptable risks (consideration of comorbid conditions)</li> <li>d. Challenge of making an accurate diagnosis for the elderly patient</li> </ul>	<p>Conferences</p> <p>Clinical/Surgical Experience Journal Club Clinical Care Conferences</p>	<p>Patient Presentations</p> <p>Home Course Self Test In-service Exam Focused Observation Oral Quizzes Patient Presentations</p>	<p>Daily</p> <p>Annual Annual Daily Daily Daily</p>