DEPARTMENT OF NEUROSURGERY
RESIDENCY TRAINING
MANUAL
2013-2014

A DEPARTMENTAL GUIDE FOR RESIDENTS AND FACULTY. CAN BE VIEWED ONLINE ON NEUROSURGERY WEBSITE:
http://neurosurgery2.webdev.nyumc.org/education-training
OR ON ALEX: https://alex.med.nyu.edu/portal/

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S.1 PROGRAM OVERVIEW

The overall goal of the Department of Neurological Surgery training program at New York University (NYU) School of Medicine is to train highly motivated, confident, and clinically excellent neurological surgeons who are not only skilled in the technical aspects of the specialty but also appreciate the humanistic side of the practice of medicine and the collegiality of their peers. The NYU Neurological Surgery Department is organized into sub-specialty teams that span across the participating institutions with each individual faculty member focused in an area of clinical and research expertise including: vascular/endovascular neurosurgery, tumor and skull base neurosurgery, complex reconstructive and minimally invasive spinal surgery, pediatric neurosurgery, functional neurosurgery, peripheral nerve surgery, adult and pediatric epilepsy surgery, stereotactic radiosurgery, and neurotrauma. Affiliated faculty members also participate in resident teaching in endovascular neurosurgery (Interventional Neuroradiology), skull base surgery (Neuro-otology), and Neuro-oncology. The Department trains 2 residents per year and performs more than 3000 operative neurosurgical procedures yearly across the 3 participating institutions. The neurosurgical faculty consists of 17 neurosurgeons, 16 of whom are board certified by the American Board of Neurological Surgeons (the other is ABNS board eligible). At Tisch Hospital 5 state of the art neurosurgical suites are available daily. These OR’s have full microsurgical capabilities. There is also a dedicated combined OR / angiography suite was opened in 6/2011. Additionally, a 2-room digital neuroangiography suite is available to neurosurgery daily in the neuroradiology suite. We have added a new Gamma Knife® PERFEXION unit which has enhanced our capabilities in Stereotactic radiosurgery. We have also added five new Brain Lab Systems, a Stryker Navigation system, and a Stealth O-ARM system in addition to our compass and Cygnus systems that enhance our frame based and frameless Stereotactic surgery and spinal navigation capabilities. At Bellevue and the Manhattan VA Medical center both have 1 dedicated state of the art neurosurgical suite with full microsurgical capabilities available to the Neurosurgical service on scheduled OR days and for neurosurgical emergency cases. Future plans include the construction of a dedicated neurosurgical operating suite comprised of 8 state of the art OR’s (2 with intraoperative MRI capabilities, and 2 dedicated combined OR/angiography suites, comprising the second floor of the soon to be built Kimmel Pavilion. This facility will also include a brand new neurological intensive care unit, neurological care step-down unit, patient rooms as well as a pediatric hospital within a hospital with dedicated neurosurgical space.

i. FACILITIES - AFFILIATED AND PARTICIPATING INSTITUTIONS:
The NYU residency program provides graduated levels of responsibility in patient evaluation, management and surgery as residents rotate through the various services in the NYU Hospitals Center (Tisch Hospital), Bellevue Hospital Center (BHC), and the New York Harbor Health Care System (VA). At Tisch Hospital, junior and intermediate level residents work under the supervision of experienced neurosurgeons who allow them to assume more and more direct responsibility and surgical opportunities in the care of private patients as they progress through the program. Surgical techniques are learned and standards of care adopted. The Bellevue Hospital Center (BHC) service allows the intermediate level and chief residents more autonomy as they run both the out-patient and the in-patient neurosurgical service and perform all surgical procedures under close faculty supervision. Bellevue exposes residents to emergency patient management and trauma in addition to a large outpatient clinic and elective cases in a large city.
hospital that is a Level One Trauma Center. A chief resident, under the direct supervision of full time faculty, runs the neurosurgical service at the New York Harbor Health Care System (VA) and functions with increasing autonomy in this primarily elective in-patient and out-patient practice. At Bellevue and the VA, residents employ the methods and standards learned at Tisch Hospital and gain confidence. Over the seven years of the training program, residents progress from supervised patient care providers and surgical assistants to competent practitioners of neurosurgery who can function and operate “independently”.

The NYU Department of Neurosurgery is committed to training excellent Neurosurgeons as our primary goal. However, we want our residents to recognize that our specialty, indeed all fields of medicine, are a work in progress and it is their duty to continue its advancement throughout their careers. Indeed, one of our prime objectives is to encourage residents to pursue academic careers that will enrich the specialty further. However, it is stressed that our field primarily provides service to our fellow man; our efforts must have value to each individual patient and the financial and human cost must always be justified. NYU neurosurgery residents learn how to deal with patients and families in a compassionate and humanistic way. Our residents also learn that patient care is a team effort where each member of the team is equally important in attaining satisfactory patient outcomes. The team includes floor nurses, nurse practitioners, operating room personnel, social workers, case managers, consultants and house staff from other services, their fellow neurosurgical residents, medical students, and their consultant neurosurgeons.

GENERAL CONSIDERATIONS

• The Neurological Surgery Training Program New York University School of Medicine is a 7-year training program comprised of 6 years of clinical neurosurgery (including 1 year of internship, and 1 year as a chief resident), and 1 year of clinical or basic science research.

• The program requires strict adherence to the New York State 405 and ACGME duty hour requirements described in the residency handbook. There is a zero tolerance policy for work hour violations. Each resident is solely responsible for adhering to the duty hour requirements and reporting violations.

• All residents are required to pass the written examination of the American Board of Neurological Surgery prior to becoming Chief Resident and graduating from the training program.

• Residents are evaluated by the faculty at the completion of rotations or quarterly (whichever comes first). The residents provide evaluations of the faculty, facilities and program on an annual basis. Residents are evaluated on the basis of fulfilling the core competencies, operating room skills, and achieving the goals and objectives of the training program that are outlined in this handbook. They are provided direct feedback on their overall performance level during their semi-annual evaluations. They in turn provide direct feedback on the program and the faculty.
• Moonlighting is not permitted by any house staff members of the Department of Neurological Surgery at anytime.

• All residents are required to familiarize themselves with all of the policies and procedures of the NYU School of Medicine GME including those found in the generic NYU House staff manual. This information can be found online at http://gme.med.nyu.edu/ or through the NYU Advance Learning Exchange (ALEX) portal at https://alex.med.nyu.edu/portal/. NYU Neurosurgery program specific policies and selected institutional policies are found at the end of the print version of NYU Neurosurgery Resident Manual.

• All residents and faculty must follow the Institutional and HIPAA guidelines regarding patient privacy.

S.2 OVERALL EDUCATIONAL GOALS OF THE PROGRAM

CHRONOLOGICAL ROTATIONS, TRAINING STRUCTURE AND CURRICULUM

In the first postgraduate year (PGY-1) residents are required to participate in a neurosurgical internship at New York University. The intern year consists of a Neuroscience block that includes 3 months of neurology and one month each of neuropathology, neuroradiology, and neurosurgery (at Bellevue Hospital Center). The one-month Neurosurgery rotation allows the new residents to become familiar with the day-to-day operation of the NYU neurosurgical service thus allowing them to gain insight into what will be required of them as they progress through the neurosurgical residency. The internship also includes a General Surgery experience that includes adult general surgery, emergency medicine, ICU/Critical care, cardiothoracic surgery, and trauma surgery. Most of these rotations have major critical care experiences as part of the overall internship experience.

In the second year of neurosurgery residency (PGY-2), the residents have four three month rotations on four distinct NYU Neurosurgical Services: Tisch Hospital Team 1 (Tumor/Vascular/Skull Base/Functional/Epilepsy Service), Tisch Team 2 (Spine/Peripheral Nerve Services), Bellevue Hospital Center, and New York Harbor Health Care System (VA). The rotations provide neurosurgical ward and critical care experiences in varied neurosurgical practice environments. With close supervision, the residents are introduced to basic ward and operative procedures including CSF diversion (ventriculostomies and shunts), lumbar punctures, traction, simple spine, peripheral nerve procedures and intracranial pressure monitoring.

In the third year of neurosurgery residency (PGY-3), the residents rotate with increased levels of both ward, ICU, and operative responsibilities through the same four three month rotations as the PGY 2 year - Tisch (University Hospital) Team 1 (Tumor/Vascular/Skull Base/Functional/Epilepsy Service), Tisch Team 2 (Spine/Peripheral Nerve Services), Bellevue Hospital, and the New York Harbor Health Care System. The rotations continue to provide neurosurgical ward and critical care experiences in varied neurosurgical practice environments. With close supervision from the chief residents and faculty, the residents are introduced to increasingly complex ward and operative procedures, and outpatient clinics at BHC and the VA (one day/wk), and management of neurosurgical emergencies in the ER and the NICU. This includes both increased responsibility for operative and non-operative patient care.
The fourth neurosurgery year (PGY-4) is divided between 6 months as the senior resident on the Pediatric neurosurgery service at Tisch Hospital and 6 months as the senior resident on the Trauma service at Bellevue Hospital. These rotations provide graduated clinical and operative responsibility with a defined patient population. The 6-month rotation period allows for real exposure to the importance of continuity of care in neurosurgical and medical practice.

The fifth neurosurgery year (PGY-5) is entirely devoted to a hypothesis-driven basic science research project in order to establish the foundation for an academic or other innovative neurosurgical career or to a dedicated yearlong subspecialty clinical elective. Residents have chosen focused clinical electives in Functional, Endovascular, Radiosurgery, and Complex Spine in the past. The PGY 5 resident takes night call as the primary emergency consult resident and first assistant for the Bellevue Hospital Chief Resident in emergency / trauma cases with graduated levels of operative responsibility. Residents continue to attend neurosurgical didactic conferences and other major Departmental events during this year.

The sixth neurosurgery year (PGY-6) is divided between two 6-month senior resident rotations on the Tisch Hospital Neurosurgery services: Team 1 (Tumor/Vascular/Skull Base/Functional/Epilepsy Service), and Team 2 (Spinal and Peripheral Nerve Services). These rotations provide the opportunity to manage a clinical service with directed supervision and educational responsibility for junior residents and rotating medical students. Under the supervision of the Neurosurgical Faculty, the resident assumes increasing operative and non-operative patient care responsibility. This includes greater participation in the crucial portion of Neurosurgical operative procedures.

The seventh neurosurgery year (PGY-7) is devoted to 6 months of Chief Residency each at Bellevue Hospital Center and at the New York Harbor Health Care System. The Bellevue chief resident also serves as administrative chief resident for the NYU Neurosurgery Residency Program. With appropriate supervision, these rotations provide the residents with an opportunity to essentially completely direct a clinical service with longitudinal follow-up of all patients from initial consultation (in the clinics or ER) through to postoperative follow-up. The New York Harbor Health Care System is the regional VA Neurosurgical referral center for the tri-state region and Bellevue Hospital is a busy Level -1 trauma center and the jewel of the public hospital system (HHC system) in New York City.
Core Faculty in the Program:

John G. Golfinos, MD – Chairman

Howard Riina, MD – Vice Chairman & Program Director

Brain Tumors & Skull Base Neurosurgery

John Golfinos, MD – Associate Professor / Director, Brain Tumors
Chandranath Sen, MD – Professor / Director, Skull Base
Erik Parker, MD – Assistant Professor
Dimitris Placantonakis, MD, PhD – Assistant Professor
Benjamin Vallo, MD – Professor (no longer in clinical practice)
Stephen Rush, MD — Clinical Assistant Professor
Douglas Kondziolka, MD - Director, Gamma Knife

Spinal & Peripheral Nerve Neurosurgery

Anthony Frempong-Boadu, MD – Associate Professor / Director, Spinal Surgery & Director, Neurosurgery Residency Program
Noel Perin, MD – Associate Professor / Director, Minimally Invasive Spinal Surgery
Michael Smith, MD – Assistant Professor
Ramesh Babu, MD – Associate Professor

Cerebrovascular

Howard Riina, MD – Professor / Director, Endovascular Surgery
Jafar Jafar, MD – Professor / Director
Paul Huang, MD – Assistant Professor

Center for Neuromodulation (Deep Brain Stimulation and
Neurostimulation for Pain and Headache)
  Alon Mogilner, MD, PhD – Associate Professor / Director
  Michael Pourfar, MD – Associate Professor
Epilepsy
  Werner Doyle, MD – Associate Professor

Pediatric Neurosurgery
  Jeffrey Wisoff, MD – Associate Professor / Director
  Howard Weiner, MD – Professor
  David Harter, MD – Assistant Professor

Research
  Mitchell Chesler, MD, PhD – Professor
  Margaret Rice, MD, PhD – Professor
  Dimitris Placantonakis, MD, PhD – Assistant Professor
  Uzma Samadani, MD, PhD – Assistant Professor
  Hae-Ri Song, MD, PhD – Assistant Professor
  Howard Weiner, MD – Professor

Bellevue Hospital
  Paul Huang, MD – Assistant Professor / Chief
  Stephen Russell, MD – Assistant Professor

Veterans Affairs Medical Center
  Uzma Samadani, MD, PhD – Assistant Professor / Chief
Neurosurgery Department Conferences

The Neurosurgery Department holds intra- and interdepartmental teaching conferences throughout the week, with Fridays devoted to conferences from 7:30 a.m. to 3:00 p.m. Elective surgery is not performed on Fridays. In these conferences the emphasis is on resident education, as trainees present clinical problems and are questioned in order to sharpen their decision-making. The format is modeled after the oral neurosurgical board examination, thereby ensuring that our residents are well-prepared for this test by the time they finish their training.

Conference Schedule

**Monday**  9:00 am Craniofacial Conference  3:30 pm Epilepsy Case Conference

**Wednesday**  7:30 am Cerebrovascular Conference  8:00 am Neuro-Oncology Tumor Board

**Thursday**  7:30 am Pituitary Conference (Second Thursdays of the month)

**Friday**  7:15 am Gamma Knife Radiosurgery conference  8:00 am Pediatric Neuro-Oncology Tumor Board Speakers Unknowns Morbidity and Mortality  11:30 am Chairman Rounds  12:00 pm Pediatric Neurosurgery Case Conference  1:00 pm Neurosurgery Grand Rounds  2:30 pm Spine and Peripheral Nerve Conference

Conference Descriptions

**Monday, 9:00 am-Craniofacial Conference.** Held weekly in conjunction with the Department of Plastic Surgery, this internationally recognized clinic-conference focuses on children with complicated craniofacial abnormalities.

**Monday, 3:30 pm-Epilepsy Case Conference.** This is a multidisciplinary conference held to discuss surgical management of patients with treatment resistant epilepsy. Location: The conference room at the NYU Comprehensive Epilepsy Center, 223 E. 34th St. in Manhattan. For information, contact Margie Hernandez at 646-558-0801 or Elizabeth Odewale at 646-558-0802.

**Wednesday, 7:30 am-Cerebrovascular Conference.** This conference is a
combined neurosurgery and interventional neuroradiology. Interesting and difficult cases are reviewed and decisions are made regarding the most appropriate management strategies—either craniotomy or endovascular management.

**Wednesday, 8:00 am-Neuro-Oncology Tumor Board.** This is a multi-disciplinary conference of Neurosurgery, Neuro-Oncology, and Neuropathology. In the conference, brain tumor cases of the prior week are presented, imaging studies are reviewed, and management strategies are planned.

**Thursday, 7:30 am-Pituitary Conference (second Thursday of each month).** This is a multi-institutional and multi-disciplinary conference of the departments of Neurosurgery, Endocrinology, Neuro-Ophthalmology and Radiation Oncology. Interesting cases and difficult clinical problems are presented and their management discussed.

**Friday, 7:15 am-Gamma Knife Radiosurgery Conference.** Led by Dr. John Golfinos of Neurosurgery and Dr. Bernadine Donahue of Radiation Oncology, this conference reviews the large number of patients referred to NYU Langone in order to determine the appropriateness of Gamma Knife radiosurgery treatment.

**Friday, 8:00 am-Pediatric Neuro-Oncology Tumor Conference.** This is a multi-disciplinary conference of Neurosurgery, Neuro-oncology, and Neuropathology. During this conference, pediatric brain tumor cases of the prior week are presented, imaging studies are reviewed, and management strategies are planned.

**Friday, 11:30 am-Chair’s Rounds.** A favorite of residents, this conference is held every Friday except during July and August. During the conference, residents present interesting and problem cases from Bellevue Hospital and the Veterans Affairs Medical Center to Neurosurgery Department Chair Dr. John Golfinos for discussion of imaging findings, management, and surgical strategies.

**Friday, 12:00 pm-Pediatric Neurosurgery Case Conference.** This conference, which takes place over lunch, is led by Dr. Jeffrey Wisoff, Dr. Howard Weiner, and Dr. David Harter of Pediatric Neurosurgery and Dr. Edmond Knopp of Neuroradiology. In the conference, management strategies for patients scheduled for surgery in the upcoming week are discussed with active resident participation.
Friday, 1:00 pm-Neurosurgery Grand Rounds. This conference is held every Friday from September through June. It is attended by all Neurosurgery faculty, residents, and interested community neurosurgeons. During the first hour, a lecture related to the neurosciences is given by medical school faculty or visiting professors (about five per year). The second hour is devoted to presentation of interesting cases by residents, followed by discussion of their management by residents and faculty. The Grand Rounds on the first Friday of each month is devoted to a discussion of morbidity and mortality occurring at our three teaching hospitals during the prior month. Only medical professionals and trainees are allowed to attend.

Friday, 2:30 pm-Spine and Peripheral Nerve Conference. This conference is held every Friday throughout the year under the direction of Dr. Anthony Frempong of Neurosurgery. Pre- and postoperative cases are presented, and residents are asked to interpret imaging studies and discuss management strategies and technical aspects of surgical procedures. In addition to spine cases, one peripheral nerve case is reviewed each week.
S.3. PROGRAM ROTATIONAL GOALS, RESPONSIBILITIES, and OBJECTIVES

i. Neurosurgery PGY-1 - (Residents rotate as Neurosurgery Interns)

The goal of the neurosurgery internship at New York University is to provide residents with an in-depth foundation in the principles and practice of neurosurgery and in the clinical neurosciences that are of fundamental importance to neurosurgery. Residents who have matched in Neurological Surgery in the New York University program are required to participate in a neurosurgical internship at New York University. This internship year consists of rotations under the direction of the neurological surgery-training program in neuroradiology, clinical neurosurgery and neurology. The PGY 1 resident also attends the regional SNS resident boot camp. In addition, residents rotate in including experience in adult general surgery, cardiothoracic surgery, ICU/Critical care, emergency medicine, and trauma surgery all with major critical care experience as part of the internship experience. By the end of the internship year the PGY-1 resident should master the following:

• Patient Care
  o Perform and document a history and physical examination in a timely manner
  o Generate a differential diagnosis
  o Present synthesized and coherent clinical information to more senior members of the medical team
  o Learn to prioritize clinical care
  o Recognize when more senior help is needed and readily ask for assistance
  o Interact with patients and families
  o Become familiar and comfortable with operating room environment
  o Learn to perform a thorough neurological exam
  o Become competent with basic procedures/skills

• Medical Knowledge
  o Expand knowledge of fundamentals of neurology
    ▪ Specific readings
    ▪ Department of Neurology didactic lecture series
  o Expand knowledge of fundamentals of neuroradiology
    ▪ Specific readings
  o Neuroradiology lecture /conferences
  o Expand knowledge of fundamentals of neuro-ophthalmology
    ▪ Specific readings
  o Expand knowledge of fundamentals of neuropathology
    ▪ Specific readings
    ▪ Neuropathology lecture/conferences
  o Expand knowledge of fundamentals of neuroanatomy and neurophysiology
    ▪ Specific readings
  o Expand knowledge of fundamentals of general surgery
    ▪ Basic surgical skills
    ▪ Wound management
    ▪ Recognize surgical emergencies
    ▪ Learn basic OR etiquette
• Practice-based Learning and Improvement
  o Develop ability to learn from errors
  o Learn to apply knowledge base to patient management

• Interpersonal and Communication Skills
  o Learn to be a productive member of surgical service
  o Understand hierarchy of medical personnel and chain of command
  o Develop good record keeping skills and habits
  o Present complex cases succinctly
  o Communicate effectively with patients

• Professionalism
  o Treat others with respect and sensitivity
  o Accept responsibility
  o Demonstrate reliability

• System-based Practice
  o Develop early awareness of need to practice in an efficient and cost-effective manner

General Surgery Rotations (6 months)

The general surgery rotations are under the direction of Dr. Russell Berman, Residency Program Director for the New York University Department of Surgery in close coordination with the Neurosurgical Program Director. All neurosurgery intern schedules include rotations in adult general surgery, cardiothoracic surgery, ICU/Critical care, emergency medicine, and trauma surgery. These rotations are of great educational value to the future neurosurgeon. The general surgery rotations provide each neurosurgery resident with generous exposure to basic surgical skill set. Upon completion of the general surgery block, each resident is expected to have completed the Goals and Objectives of the specific R1 general surgery rotations as follows:

Adult General Surgery Goals and Objectives for Bellevue Hospital, Tisch Hospital, and VA Hospital

PATIENT CARE

Goals for First (R1) Resident Year:
Rotation length: 4 weeks

The goals for this rotation are for the R1 resident to gain broad exposure to general surgical patients and to start developing knowledge, skill, and competence in the following:
Objectives for R1 (PGY 1) in General Surgery

Patient Assessment, History and Physical
1. Perform a complete and thorough history and physical examination as it pertains to the surgical or potentially surgical patient.
   a. Become adept at reviewing medical records and reports
2. Integrate diagnostic laboratory and imaging studies into the patient evaluation and diagnostic process.
   a. Develop an appreciation for the correct utilization and interpretation of diagnostic imaging and laboratory tests in the workup of the surgical patient.
3. Develop and identify a differential diagnosis and treatment plan for the new surgical patient, or for a new problem that develops in an established patient.
4. Perform review of medications taken at home versus in the hospital as part of the medication reconciliation process.
5. Demonstrate professional and compassionate communication and interactive skills with patients, colleagues, and families, including the morbidly obese patients.

Documentation
6. Perform accurate, complete, legible documentation of the history, physical examination, differential diagnosis and proposed treatment plan.
7. Develop effective medical communication skills and documentation, including the writing of daily progress notes that reflect the SOAP or SBAR acronyms, admission notes, discharge notes, operative notes.
8. Effectively utilize and implement the principles of informed consent and consideration of patient rights, including advanced directives, DNR, and HIPAA rules.

Patient Care and Management
9. Perform basic clinical care skills including phlebotomy, intravenous access, nasogastric tube placement, and urinary catheterization.
10. Develop efficient and accurate methods to collect relevant data for rounds.
11. Respond to and learn to manage changes in patient status/emergencies that may occur in the non-intensive care unit patient, including:
   a. Cardiac
      Cardiac arrhythmias
      Myocardial infarctions
      Hemodynamic instability
      Electrocardiogram changes
   b. Neurologic
      Mental status changes
      Knowledge of when and how to activate stroke emergency response team
   c. Fever, Infection, Sepsis
      Workup of fever in the postoperative and non-operative setting
      Interpretation of culture and sensitivity results
      Understand the antibiotic resistance profile in the hospital
      Understand universal precautions
      Understand the importance of hand washing and prevention of nosocomial infections
      Basics of full barrier precautions and sterile technique
      Understand impact of C. difficile on surgical patient
Recognize onset of sepsis and initiate care
d. Fluids and Electrolytes
   Intravenous fluid management including replacement and maintenance
   Recognize acid base disorders and management options
   Electrolyte replacement
   Enteral and parenteral nutritional support
12. Identify and routinely apply measures to assure optimal patient care.
13. Participate in Practice-based learning and improvement mechanisms.
14. Obtain an understanding of Systems-based practice, particularly in the private hospital setting.

Perioperative Care and Risk Assessment
15. Identify complications relating to preoperative, operative, postoperative, and non-operative interventions.
16. Recognize how complications impact upon the treatment plan and to identify the corrective actions necessary to obtain optimal overall patient outcomes.
17. Perform preoperative cardiac risk assessment and venous thromboprophylaxis risk assessment.
18. Write postoperative orders perform postoperative checks.

Operative Skills
19. Obtain an understanding of the pathophysiology and surgical anatomy of abdominal wall hernias, biliary tract disease, and neoplastic, inflammatory, and infectious disorders of the gastrointestinal tract and soft tissues.
20. Develop the intraoperative surgical skills necessary for effective treatment of surgical pathology, including the basics of sterile technique, suturing, knot tying, tissue handling, and knowledge of common surgical instrument names.
21. Develop knowledge of surgical site markings and the time out process.
22. Develop knowledge of surgical patient positioning and skin preparation.
23. Understand and develop the skill for the basics of hemostasis.
24. Develop the skills necessary to be an effective first assistant
25. Develop skills of surgical wound management
   Infection versus inflammatory reaction
   Abscess versus sterile fluid collection (seroma or hematoma)
   Wound packing, Vacuum Assisted Closure dressing
   Recognition of wound dehiscence, evisceration
26. Develop initial skills in lower and upper endoscopy.

Radiographic Interpretation
27. Recognize common plain radiographic findings in surgical patients including pneumonias, pleural effusions, pneumothorax, free intraperitoneal air, and small bowel obstruction.
28. Develop interpretation skills for CT scans and MRIs.

Outpatient Patient Care- A minimum of one half day per week is mandatory
29. Perform an outpatient comprehensive history, physical, and evaluation of the general surgery patient in an office-based setting.
30. Manage outpatient general surgical patients, including referrals to and interaction with other medical specialties, development of care plans, and the appropriate utilization of diagnostic imaging, laboratory, or physiologic studies.
Skills Laboratory
31. Complete the formal R1 skills lab curriculum and competencies for general surgical procedures.
32. Practice the above procedures and skills using advance simulation techniques.

Education
33. Educate medical students in patient care matters and principles of general surgery.
34. Maintain personal study as outlined in Medical Knowledge competency below, including core curriculum textbook readings.
35. Develop skills for searching the medical literature and begin to read articles critically.
36. Perform evaluations on senior residents, faculty, the rotation and the program in an anonymous fashion.

Department of Surgery - Cardiothoracic Surgery Rotation Goals and Objectives

Rotation: (R1)
Length: 4 weeks
Summary:
The R1 rotate on the Cardiothoracic Surgery service at Tisch Hospital to gain a familiarity with the diagnosis and management of cardiac and thoracic diseases by participating in the care of adult cardiac and thoracic surgery patients in the inpatient and outpatient setting. The R1 will work closely with R3, fellows and attendings.

OBJECTIVES:
The objectives of these rotations are for residents to develop knowledge and skills in:

8. Manage cardiovascular complications such as arrhythmias, hypertension and low cardiac output syndrome.
9. Get introduced to the setup and conduct of heart surgery.
10. The pre and post-operative care, including critical care management in high-risk patients and those patients undergoing cardiac and thoracic surgical procedures.
11. Formulation of a diagnostic and treatment plan for emergency room and inpatient consultations.
12. Professional and compassionate communication and interactive skills with patients, colleagues and families.
13. Practice-based learning and improvement.
14. Systems-based practice, particularly within the public hospital setting.
15. Understand the performance of thoracic surgery operative procedures including, thoracotomy, video-assisted thoracic surgery (VATS), bronchoscopy, and mediastinoscopy.

COMPETENCY-BASED GOALS
Medical Knowledge
1. Learn the anatomy of the thorax and the heart.
2. To obtain a basic understanding of the staging, work up and treatment of cardiovascular and thoracic diseases.
3. Be able to deal with respiratory complications such as COPD, pneumothorax, pulmonary embolism, shunting caused by intravenous antihypertensive medication, clots, nosocomial pneumonia.
4. Be able to monitor hemodynamics-using SWAN.

Patient Care
At the completion of these rotations residents should:
1. Have an understanding of and be able to deliver compassionate care to all patients.
2. Gain experience in delivering information to patients and their family members when appropriate, particular in the thoracic surgery population.
3. Be able to use knowledge and skills learned to enhance care of patients.

**Practice-Based Learning and Improvement**
At the completion of these rotations residents should:
1. Have gained insight into how to locate information relevant to a particular patient’s clinical situation and be able to apply that information to patient care.
2. Have a working knowledge of how to access scientific information relevant to a particular patient and be able to assimilate that information and apply it to patient care.
3. Be adept at using the available technology to access patient information.

**Interpersonal and Communication Skills**
At the completion of these rotations residents should:
1. Understand the importance of effective communication to patients, ancillary staff and colleagues.
2. Develop skills to communicate medical information to patients and their families.
3. Develop skills to communicate with co-workers and colleagues to allow for optimum patient care.
4. Development of communication skills to include the delivery of “bad news” and leadership in the explanation to patients and family of treatment plans and options in a culturally sensitive compassionate manner.

**Professionalism**
At the completion of these rotations residents should:
1. Understand the importance of a through commitment to carrying out professional responsibilities.
2. Demonstrate adherence to ethical principals.
3. Show sensitivity to diverse patient populations.

**System-Based Practice**
At the completion of these rotations residents should:
1. Understand the importance of working effectively in the health care delivery, particularly in the public hospital setting.
2. Understand the importance of coordination of patient care within the health care system and demonstrate a working knowledge of this.
3. Be exposed to considerations of cost-containment and risk-benefit analysis in patient care, particularly in the public hospital setting.
4. Understand the importance of quality patient care and optimal ways to achieve it.
5. Understanding of when to obtain consultations from other services.

**ICU/Critical Care -Rotation Goals and Objectives**

**Rotation:** (R1)
**Length:** 4 weeks
**Summary:**
The main goal of this rotation is to provide the R1 Resident an organized experience to enable him/her to acquire the basic knowledge and skills in the evaluation and management of patients in the intensive care setting.

OBJECTIVES:
The objectives of these rotations are to for residents to develop knowledge and skills in:
1. The performance of a thorough and complete basic evaluation including history and physical exam in surgical critical care patients.
2. The preoperative evaluation and preparation.
3. The management of all post operative care including critical care management in high risk patients and those undergoing extensive surgical procedures requiring such care.
4. Formulation of a diagnostic and treatment plan for emergency room and inpatient consultations.
5. Introductory level operative skills.
7. Professional and compassionate communication and interactive skills with patients, colleagues and families.
8. Practice-based learning and improvement.

COMPETENCY BASED GOALS
1. Patient Care
   The R1 will begin to learn to provide patient care that is compassionate, appropriate and effective for the treatment of health problems and the promotion of health. At the end of the rotation, the R1 will be knowledgeable in and be able to perform:

   Critical Care and Management of Shock
   • Differentiate types of shock (hemorrhagic, cardiogenic, septic, neurologic) and initiate appropriate therapy
   • Insert central venous and arterial catheters and obtain hemodynamic data; interpret data and initiate therapy
   • Recognize clinic presentation of a pneumothorax and insert chest tube
   • Recognize the indications for blood component therapy and initiate therapy
   • Recognize a transfusion reaction and initiate management
   • Institute measures to prevent upper GI bleeding in critically ill patients

   Coagulation and Anticoagulation
   • Choose the appropriate tests for diagnosis of a coagulopathy, and have a working knowledge of factor analysis
   • Apply effective preventive measures for DVT and PE
   • Initiate and monitor therapeutic anticoagulation and its complications
   • Diagnose and manage acute deep venous thrombosis
   • Acutely manage a patient with a suspected acute pulmonary embolus, and provide a differential diagnosis

   Applied Cardiac Physiology
   • Recognize rhythm disturbances, myocardial ischemia on EKG
   • Assess, formulate a differential diagnosis and initiate therapy for hypotension
   • Know and apply appropriate treatment for supraventricular tachycardia
   • Treat congestive failure and acute pulmonary edema
• Manage hypertension in a surgical patient. Understand multidrug therapy and the toxic and side effects of antihypertensive drugs.

**Applied Renal Physiology**
• Know the pathophysiology of the development of acute renal failure; the differentiation of prerenal, renal obstructive types of renal failure; and the general concepts of prevention and treatment of ARF
• Recognize and treat simple electrolyte disturbances
• Understand appropriate fluid replacement and balance

**Applied Pulmonary Physiology**
• Know the manifestations – clinical and by laboratory testing – of obstructive pulmonary disease and pulmonary insufficiency, and their surgical perioperative management
• Recognize bronchoconstrictive disorders and their perioperative management

**Applied Nutrition**
• Learn to manage the nutritional needs of a critically ill patient
• Placement of nasogastric tube and Dobhoff feeding tube

**Surgical Skills**
• Develop surgical skills in CPR, CVC placement, arterial catheter placement, and chest tube placement
• Perform first assistant in bedside bronchoscopy, pulmonary lavage, and tracheotomy
• Obtain oropharyngeal control of airway, provide Ambu ventilation and perform orotracheal intubation

**2. Medical Knowledge**
The R1 will begin to demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care. At the end of the rotation, the R1 will be knowledgeable in:
• Understand and utilize basic principles of mechanical ventilation
• Recognize clinic presentation of a pneumothorax
• Recognize the indications for blood component therapy and initiate therapy
• Recognize a transfusion reaction and initiate management
• Recognize rhythm disturbances, myocardial ischemia on EKG
• Assess, formulate a differential diagnosis and initiate therapy for hypotension
• Know and apply appropriate treatment for supraventricular tachycardia
• Know the pathophysiology of the development of acute renal failure; the differentiation of prerenal, renal obstructive types of renal failure; and the general concepts of prevention and treatment of ARF
• Know the manifestations – clinical and by laboratory testing – of obstructive pulmonary disease and pulmonary insufficiency, and their surgical perioperative management
• Recognize and treat simple electrolyte disturbances
• Pathology
• Current literature

**3. Practice-Based Learning and Improvement**
The R1 will begin to attain the ability to investigate and evaluate his/her care of patients, to appraise and assimilate scientific evidence and to continuously improve patient care. R1 residents will:

- Self-monitor to identify strengths and weaknesses and set goals for learning
- Incorporate feedback from peers, faculty, patients and ancillary staff for self-improvement
- Use information technology in patient care
- Analyze practice and implement improvements

4. **Interpersonal and Communication Skills**

R1 residents must begin to demonstrate interpersonal and communication skills that facilitate the flow of information between patients, their families and health professionals. R1 residents will:

- Communicate effectively with patients and families across all socioeconomic and cultural backgrounds
- Communicate effectively with physicians, other health professionals and health agencies
- Work effectively in a health care team
- Act as a consultant
- Maintain comprehensive, timely and legible medical records

5. **Professionalism**

The R1 resident will begin to demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles by showing:

- Compassion, integrity and respect to others not withstanding race, religion, age, gender or disabilities
- Responsiveness to patient needs that supersedes self-interest and respects the patient's privacy and autonomy
- Accountability to patients, society and the profession

6. **Systems-Based Practice**

The R1 resident must begin to demonstrate an awareness of and responsiveness to the larger context and system of health care by having the ability to call upon appropriate resources in the system to optimize health care. The resident will:

- Work effectively in various settings and systems
- Coordinate patient care within the health care system considering costs and risk-benefit analysis
- Advocate for quality care within inter-professional teams to enhance safety and improve quality
- Identify system errors and formulate solutions
- Be familiar with ethical, socioeconomic and medicolegal issues

**Trauma Surgery - Rotation Goals and Objectives**

Summary:
The overall goal of rotations on the Bellevue Hospital trauma service is to attain a thorough understanding of the pathophysiology of injury; to gain knowledge and experience in all phases of care of the trauma patient including resuscitation, operative judgment and technique, critical care, and rehabilitation.

**Rotation: Bellevue Hospital (R1)**
Length: 4 weeks

OBJECTIVES:
The objectives of this rotation are to for residents to develop knowledge and skills in:
1. Participate as a member of the surgical and emergency medicine team in the initial resuscitation of the injured patient and in the subsequent management of the trauma patient during the operative and post-operative phases.
2. Attain proficiency in diagnostic and therapeutic procedures.
3. Formulation of a diagnostic and treatment plan for emergency room and inpatient consultations.
4. Provide optimal patient care.
5. Professional and compassionate communication and interactive skills with patients, colleagues and families.
6. Practice-based learning and improvement.
7. Systems-based practice, particularly within the private hospital setting.

COMPETENCY-BASED GOALS
Medical Knowledge
At the completion of these rotations residents should:
1. Understand emergency airway management including endotracheal intubation, peripheral and central venous access, Swan-Ganz catheter insertion, closed tube thoracostomy, diagnostic peritoneal lavage, wound management, and performance of trauma ultrasonography (FAST).
2. Manage responsibilities such as wound care, nutritional and fluid management and chart documentation.
4. Be able to interpret radiographic findings, EKGs.
5. Learn the fundamental steps of operative management of trauma.

Skills:
R1 should be able to have the below specific skills at the end of this rotation:
1. Understand the principles and limitations of the ultrasound (FAST) and diagnostic peritoneal lavage.
2. Be able to initiate maneuvers to prevent hypothermia in the injured patient.
3. Perform basic wound management, simple suture repair, and compression and antibiotic prophylaxis.
4. Interpret blood gases and understand the importance of base deficit.

Patient Care
At the completion of these rotations residents should:
1. Have an understanding of and be able to deliver compassionate care to pediatric patients.
2. Gain experience in delivering information to patients’ family members when appropriate, particular in the pediatric population.
3. Be able to use knowledge and skills learned to enhance care of patients.

Practice-Based Learning and Improvement
At the completion of these rotations residents should:
1. Have gained insight into how to locate information relevant to a particular patient’s clinical situation and be able to apply that information to patient care.
2. Have a working knowledge of how to access scientific information relevant to a particular patient and be able to assimilate that information and apply to it patient care.
3. Be adept at using the available technology to access patient information.

Interpersonal and Communication Skills
At the completion of these rotations residents should:
1. Understand the importance of effective communication to patients, ancillary staff and colleagues.
2. Develop skills to communicate medical information to parents and family members of a pediatric patient.
3. Develop skills to communicate with co-workers and colleagues to allow for optimum patient care.

Professionalism
At the completion of these rotations residents should:
1. Understand the importance of a through commitment to carrying out professional responsibilities.
2. Demonstrate adherence to ethical principals.
3. Show sensitivity to diverse patient populations.

System-Based Practice
At the completion of these rotations residents should:
1. Understand the importance of working effectively in the health care delivery, particularly in the private hospital setting.
2. Understand the importance of coordination of patient care within the health care system and demonstrate a working knowledge of this.

Emergency Medicine - Rotation Goals and Objectives

Rotation: Bellevue Hospital (R1)
Length: 4 weeks
Summary:
The main goal of this rotation is to provide the R1 Resident an organized experience to enable him/her to acquire the basic knowledge and skills in the evaluation and management of patients presenting to the emergency room with emphasis on patients presenting with general surgery complaints. The R1 Resident should also gain a better appreciation of medical conditions often seen as co-morbidities in surgery patients including diabetes mellitus, hypertension, stroke, congestive heart disease, respiratory distress and myocardial infarction.

OBJECTIVES
The objectives of these rotations are to for residents to develop knowledge and skills in:
1. The performance of a thorough and complete basic evaluation including history and physical exam in adult and adolescent patients presenting with trauma (penetrating and blunt).
2. The preoperative evaluation and preparation.
3. Formulation of a diagnostic and treatment plan for emergency room and inpatient consultations.
4. Introductory level operative skills.
5. Optimal patient care.
6. Professional and compassionate communication and interactive skills with patients, colleagues and families.
7. Practice-based learning and improvement.
8. Systems-based practice, particularly within the private hospital setting.

COMPETENCY BASED GOALS

1. Patient Care
   The R1 will begin to learn to provide patient care that is compassionate, appropriate and effective for the treatment of health problems and the promotion of health. At the end of the rotation, the R1 will be knowledgeable in and be able to perform:
   • Primary assessment and appropriate steps to stabilize and treat patients with trauma (penetrating and blunt), respiratory distress, congestive heart failure, metabolic imbalances, myocardial infarction, and chronic pain
   • Establish the acuity level of patients in the ER, establish priorities and define the tasks necessary to manage the patients successfully
   • Monitor, observe, manage and maintain the stability of one or more patients who are at different stages in their work-ups including fundamental lab tests and radiological studies
   • Closure of simple and complex lacerations
   • Recognize and initiate treatment for an acute anaphylactic reaction
   • Develop some familiarity with disaster management
   • Collaborate with physicians and other professionals to evaluate and treat patients, arrange appropriate placement and transfer if necessary, formulate follow-up plan, and communicate effectively with patients, family, and involved health care members.

2. Medical Knowledge
   The R1 will begin to demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care. At the end of the rotation, the R1 will be knowledgeable in:
   • Acute problems in each organ system
   • Trauma management
   • Acute management of respiratory distress, congestive heart failure, metabolic imbalances, myocardial infarction, and chronic pain
   • Current literature

3. Practice-Based Learning and Improvement
   The R1 will begin to attain the ability to investigate and evaluate his/her care of patients, to appraise and assimilate scientific evidence and to continuously improve patient care. R1 residents will:
   • Self-monitor to identify strengths and weaknesses and set goals for learning
   • Incorporate feedback from peers, faculty, patients and ancillary staff for self-improvement
   • Use information technology in patient care
   • Analyze practice and implement improvements

4. Interpersonal and Communication Skills
   R1 residents must begin to demonstrate interpersonal and communication skills that facilitate the flow of information between patients, their families and health professionals. R1 residents will:
• Communicate effectively with patients and families across all socioeconomic and cultural backgrounds
• Communicate effectively with physicians, other health professionals and health agencies
• Work effectively in a health care team
• Act as a consultant
• Maintain comprehensive, timely and legible medical records

5. Professionalism
The R1 resident will begin to demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles by showing:
• Compassion, integrity and respect to others notwithstanding race, religion, age, gender or disabilities
• Responsiveness to patient needs that supersedes self-interest and respects the patient’s privacy and autonomy
• Accountability to patients, society and the profession

6. Systems-Based Practice
The R1 resident must begin to demonstrate an awareness of and responsiveness to the larger context and system of health care by having the ability to call upon appropriate resources in the system to optimize health care. The resident will:
• Work effectively in various settings and systems
• Coordinate patient care within the health care system considering costs and risk-benefit analysis
• Advocate for quality care within inter-professional teams to enhance safety and improve quality
• Identify system errors and formulate solutions
• Be familiar with ethical, socioeconomic and medicolegal issues

Neurology, Neuroradiology, Neuropathology, Neurosurgery

The neurologic rotations are under the direction of Dr. Saran Jonas, Chief of the Neurology Service at Bellevue Hospital, Drs. Ajax George senior neuroradiologist at the New York University Division of Neuroradiology and Wendy Hotson Chief of the Neuroradiology Service at Bellevue Hospital, Dr. Zag Zag, Director of Neuropathology for the New York University Division of Neuropathology, and Dr. Paul Huang, Chief of the Neurosurgery Service at Bellevue Hospital in close coordination with the Neurosurgical Program Director. These rotations provide the neurosurgery interns with an in depth exposure to basic neurological diagnosis and patient care. They gain experience with a wide range of neurological disorders, including cerebrovascular disease, neurodegenerative conditions, epilepsy, movement disorders, neuromuscular disorders, provides exposure to electroencephalography, electromyography, basics of neuropathology, and neurotrauma.

Goals and objectives specific to the Neurology rotation include:

Upon completion of the 3-month neurology block, each resident is expected to have completed the Goals and Objectives of the neurology rotations as follows:
• Understanding the causal mechanisms of a wide variety of adult neurological diseases
• Management of acute and chronic neurologic diseases
• Comprehensive exposure to outpatient management of patients with neurological disease
• Introduction to pediatric neurology
• Interpretation of electroencephalograms (EEGs), electromyograms (EMGs), and nerve conduction and other electrophysiological studies
• Interpretation of cerebrospinal fluid (CSF) and serological tests for neurological conditions
• Introduction to nerve and muscle biopsies and their interpretation in the diagnosis of complex neuropathies and myopathies
• Refinement of neurological examination and history-taking skills
• Acquire a basic understanding of the neuropathology that underlies neurological disease
• Exposure to neurologic research topics

**Neuroradiology**

**General Neuroradiology (1 month):**
This rotation provides an outstanding didactic experience in a field that is essential to the practice of neurosurgery. Residents work closely with the members of the neuroradiology faculty. The neurosurgery resident meets the NYU neuroradiology faculty in the reading room each morning to participate in the reading of all Neuroradiology studies obtained during the previous evening and as they occur during the day. The resident will observe and participate in the interpretation of MRI and CT studies and cerebral angiograms with the neuroradiology and interventional neuroradiology faculty. The resident is also required to complete assigned readings in neuroradiology that will greatly enhance this experience.

**Goals and objectives Neuroradiology rotation:**

• Understand the fundamental principles of current neuroradiological imaging techniques including MRI, CT, PET, functional MRI, MR perfusion, CT angiography, CT perfusion and digital subtraction angiography
• Understand the appropriate, efficient, and cost effective use of imaging studies
• Become adept in basic interpretation of neuroradiological studies including CT, MRI, MRA, CTA, MRP, CTP and digital subtraction angiography
• Understand the role of interventional neuroradiology in diagnosis and treatment of neurological disease, including endovascular management of neurovascular problems
• Become familiar with the relationship between imaging studies and neuropathological material

**Neuropathology**

**Neuropathology (1 month):**
This rotation provides an outstanding didactic experience in a field that is essential to the practice of neurosurgery. Residents work closely with the members of the neuropathology faculty. The neurosurgery resident meets the NYU neuropathology faculty in the reading room each morning to participate in the reading of all neuropathology specimens obtained during the previous day and as they occur during the day including preparing and reading frozen specimens. The resident will observe and participate in the interpretation of all pathologic specimen with the neuropathology
faculty. The resident is also required to complete assigned readings in neuropathology and attend adult and pediatric Tumor board that will greatly enhance this experience.

Goals and objectives Neuropathology rotation:

• Understand practical application of neuropathology to clinical practice
• Understand the fundamental principles of current neuropathological staining techniques
• Understand the appropriate, efficient, and cost effective use of pathology modalities including EM and special stains
• Become adept in basic interpretation of neuropathological slides
• Understand the role of neuropathology in the diagnosis, treatment and prognosis of neurological disease
• Become familiar with the relationship between imaging studies and neuropathological material
• Expand knowledge of fundamentals of neuroanatomy and neurophysiology
• Acquire a basic understanding of the neuropathology that underlies neurological disease
• Gain exposure to neurologic research topics

Neurosurgery

Neurosurgery (1 month):
The one-month Neurosurgery rotation allows the new residents to become familiar with the day-to-day operation of the NYU neurosurgical service thus allowing them to gain insight into what will be required of them as they progress through the neurosurgical residency. The intern will observe and participate in the neurosurgical cases with the chief resident and the Neurosurgical faculty. They will also be introduced to the outpatient neurosurgery by attending and participating in the neurosurgery clinic at Bellevue Hospital. The resident is also required to attend the SNS basic neurosurgical skills boot camp, complete assigned readings in neurosurgery and attend all neurosurgery didactic conferences.

Goals and objectives of the Neurosurgery intern rotation:

• Perform and document a history and physical examination in a timely manner
• Generate a differential diagnosis
• Present synthesized and coherent clinical information to more senior members of the medical team
• Learn to prioritize clinical care
• Recognize when more senior help is needed and readily ask for assistance
• Interact with patients and families
• Become familiar and comfortable with operating room environment
• Learn to perform a thorough neurological exam
• Become familiar with neurosurgical standard of care and its scientific underpinnings
• Become competent with basic procedures/skills
  o Invasive ICP monitoring
  o Shunt Taps
  o Lumbar Punctures
• Recognize neurosurgical emergencies
Neurosurgery PGY-2 - (Residents rotate as Junior Residents at Bellevue Hospital Center)

Neurosurgery PGY 2 residents must have successfully completed an accredited Neurosurgery internship at NYU in accordance with Neurosurgery RRC guidelines. They must demonstrate competence in all of the general medical and surgical principles of patient care, medical knowledge, interpersonal & communication skills, and professionalism at each stage throughout the training program. They must also demonstrate knowledge of patient rights, including HIPPA and the appropriate use of restraints and seclusion, in accordance with Bellevue Hospitals Center Policy on Restraints and Seclusion. The residency program provides graduated levels of responsibility in patient evaluation, management and surgery as residents rotate through the various neurosurgical services in the medical center. Junior level residents work directly with the Neurosurgical Faculty and chief residents at Bellevue Hospital Center’s very busy neurosurgical trauma and elective services. During these rotations the residents assume more and more direct responsibility and surgical opportunities in the care patients. Surgical techniques are learned and standards of care adopted. By the end of the PGY 2 Neurosurgery year the resident should master the following:

PATIENT CARE:

- The residents will learn how to take a neurological history, perform a neurological examination and derive a differential diagnosis
- Residents will learn to rapidly identify potential surgical risks preoperatively and learn methods to minimize those risks.
- With appropriate supervision, residents will learn to competently perform the following procedures:

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<tr>
<th>Procedures</th>
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<td>History</td>
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<td>Physical</td>
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<td>Neurological Examination</td>
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<td>Insertion nasogastric tube</td>
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<td>Lumbar puncture</td>
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<td>Arterial puncture</td>
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<td>Insertion IV lines</td>
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<td>Removal of sutures</td>
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<td>Insertion of Foley catheter</td>
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<td>EKG</td>
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<td>Incision/drainage of superficial abscess</td>
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<td>Suturing of lacerations</td>
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<td>Wound debridement</td>
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<td>Dressing changes</td>
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<tr>
<td>Insertion central venous catheter</td>
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<td>Insertion Swan-Ganz</td>
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<td>Emergency tracheotomy</td>
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<tr>
<td>Aspirate shunt reservoir</td>
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<tr>
<td>Insertion lumbar subarachnoid catheter</td>
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<tr>
<td>Twist drill craniostomy for ICP monitor</td>
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<tr>
<td>Burr hole for trauma</td>
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<tr>
<td>Burr hole/twist drill ventriculostomy</td>
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<tr>
<td>Twist drill for SEPS drainage of subdural hematomas</td>
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<tr>
<td>Application/insertion cervical traction</td>
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<td>Suture simple laceration scalp/back</td>
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Suture complex laceration scalp/back
Opening and closure craniotomy incisions
Externalize shunts

MEDICAL KNOWLEDGE:

• The residents will learn the neurodiagnostic studies available for the evaluation of patients. They will learn the importance of correlative neuroanatomy in interpreting these studies.
• The residents will learn:
  . The anatomy of the brain, spine, peripheral nerves and the bony coverings of each.
  . The physiology of normal brain and normal vasculature.
• The residents will develop competence in the interpretation of neurodiagnostic examinations in disease states. These include: conventional radiographs, cranial and spinal computed tomography, cranial and spinal magnetic resonance imaging, MR angiography, CT angiography and venograms, cerebral and spinal angiography.
• They will learn critical interpretation and correlation of clinical and neurodiagnostic (imaging) examinations based on a sound knowledge of neurology and neuropathology. They will discuss:
  • The definition of mild, moderate, and severe brain injury and identify the individual components and scores of the Glasgow Coma Scale and Glasgow Outcome Scale.
  • The clinical and radiologic pathways for clearance of the spine
  • The difference between complete and incomplete spinal injury and demonstrate the ability to accurately complete detailed ASIA grading and category assignment, and the prognosis of neurologic recovery for each.
  • The major patterns of spinal injury (complete, central cord, Brown-Sequard, cauda equina, etc). What mechanisms of injury and spinal column injury are most commonly associated with each? What is the prognosis for recovery for each?
  • The pathophysiology of craniocervical injuries in adults.
  • The pathophysiology of sub-axial spinal column and spinal cord injuries in adults.
  • Fundamental management of patients with head injuries, including intracranial pressure (ICP) monitoring
  • Stabilization and management of trauma to the spine, and spinal cord injury
  • Fundamental ICU care, particularly for multisystem-injured patients
  • Fundamental ER care of acute neurological injuries, including blunt and penetrating injuries and subarachnoid hemorrhage
  • Outpatient management of new and follow-up patients
  • Exposure to pediatric neurosurgical management
• Residents will discuss the indications and potential complications for all neurosurgical procedures. This will be acquired from discussions with faculty and by reading textbooks and the literature. It will be evaluated in didactic case conferences.
• They will learn how to write appropriate admission and medication orders for ward, ICU, and post-operative patients.
• They will discuss specific JCAHO hospital safety regulations.
• They will discuss the importance of timely and accurate medical record keeping including medication reconciliation.
• Knowledge of general medicine and surgical principles as well as the pathophysiology of neurosurgical diseases will be acquired with experience, reading and observation of the practice habits of senior neurosurgeons and nonsurgical consultants, and in didactic case conferences.

INTERPERSONAL COMMUNICATION SKILLS:
• They will learn how to communicate the pertinent positives and negatives of a general medical and neurological examination to senior residents, neurosurgical attendings, and consulting physicians in an accurate and timely fashion.
• They will learn how to communicate critical interpretation and correlation of clinical and neurodiagnostic (imaging) examinations based on a sound knowledge of neurology and neuropathology to senior residents, neurosurgical attendings, and consulting physicians in an accurate and timely fashion.
• They will learn to be competent in communicating with team members in the hand-over process in order to minimize errors during transitions of care.
• They will learn to communicate clearly and promptly with the nursing and support staff in order to obtain the best patient care.
• They will learn to communicate patient information, care plans, and prognosis effectively and compassionately with patients and their families.
• They will also learn to present in weekly didactic case conferences and at Journal Club.

SYSTEMS BASED PRACTICE:
• Residents will learn that patient care is a team effort where each member of the team is equally important in attaining satisfactory patient outcomes. The team includes floor nurses, nurse practitioners, operating room personnel, social workers, case managers, rehabilitation specialists, consultants and house staff from other services, other neurosurgical residents and medical students and consultant neurosurgeons.
• They will learn to coordinate and manage communication between services on co-managed patients.
• They will interact and coordinate the longitudinal care of neurosurgical patients through discussions with Neurosurgical NP’s, Physician Assistants, Physiatrists, Physical Therapists, Social Workers, and Discharge Planning nurses.
• They will discuss the regulatory issues involved in reporting brain death and non-accidental neurologic injury (especially in the pediatric population).

PRACTICE-BASED LEARNING:
• The resident will learn to analyze his or her own practice for needed improvements.
• They will also learn to use evidence from scientific studies to guide their medical decision-making.
• They will discuss the application of research and statistical methods.
• They will participate in clinical research projects, where appropriate, including participating in the IRB and consent process.
• Residents may attend the RUNN Woods Hole Neurosurgical Research Course.

PROFESSIONALISM:
• Trainees will learn constructive collegiality with faculty, their fellow residents, consultants and house staff from other specialties and services, and with nurses and paramedical personnel.
• Residents will learn how to deal with patients and families in a compassionate and humanistic way.
• Maintain professional rapport and comportment with patient families, nurses, other physician teams and other hospital personnel.
• Demonstrate respect for patients and colleagues from diverse cultural, ethnic and religious backgrounds.
• Demonstrate honesty in all professional interactions.
• Residents will maintain timely and accurate medical records.
• Residents will also:
  . Attend all required conferences in a timely fashion.
  . Pre-round on ICU patients and present timely, accurate data to the team.
  . Participate in discussion of ethical dilemmas related to care delivery, consent, and life support in severely injured patients.
  . Provide consultation to the ED and other services in timely fashion.
  . Demonstrate dress, grooming and behavior consistent with institutional and departmental guidelines.
  . Comply with all GME and Departmental regulations regarding duty hour restrictions and report personal schedule in timely and accurate fashion.
  . Appear for duty appropriately rested and fit to provide the services required by their patients.
  . Accurately self-report fatigue in situations that may compromise safety and/or patient care.
  . Must be committed to and responsible for promoting patient safety.
  . Must demonstrate responsiveness to patient needs that supersedes self-interest.
  . Must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient’s care to another qualified and rested provider.

METHODS OF EVALUATION:
• Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination.
  o They are required to obtain a passing grade on this examination prior to completing their residency training.
  o They are also expected to improve their percentile performance on the ABNS primary examination each year.
• Resident will also attend weekly didactic conferences and the monthly Journal Club.
• Conference attendance and participation will be reviewed and discussed with the resident. They are required to attend at least 75% of all mandatory resident conferences.
• The senior residents who report directly to the attending surgeons will also evaluate the junior residents.
• The Neurosurgery Attending Staff reviews Resident Medical Documentation.
• Resident academic productivity regarding published abstracts, meeting presentations, and published manuscripts, awards, etc. are also reviewed
• The resident will also be evaluated on their attainment of these goals and objectives as well as on their performance in conferences on a semi-annual basis through written evaluation of all 6 competencies (see resident evaluations) and verbal feedback from the Chairman and Program Director.
Faculty members, a senior resident (as is appropriate), and the Neurosurgical NP’s evaluate all residents after each rotation. They are evaluated on all 6 competencies (see resident evaluations). Their attendance and performance in didactic teaching conferences and their case logs are also reviewed. The Chairman and Program Director review these evaluations and give verbal feedback to the residents on a semi-annual basis.

Residents are promoted each year based on demonstration of competent performance of all requirements as outlined above.

Neurosurgery PGY-2 - (Residents rotate as Junior Residents on Tisch teams 1 & 2)
Neurosurgery PGY-2 residents must have successfully completed an accredited PGY-1 year neurosurgical internship. They must demonstrate competence in all of the general medical and surgical principles of patient care, medical knowledge, interpersonal & communication skills, and professionalism at each stage throughout the training program. They must also demonstrate knowledge of patient rights, including HIPPA and the appropriate use of restraints and seclusion. Resident physicians are permitted to conduct face-to-face evaluation of patients in restraints or seclusion and to order patient restraints and seclusion in accordance with New York University Hospitals Center Policy on Restraints and Seclusion. The residency program provides graduated levels of responsibility in patient evaluation, management and surgery as residents rotate through the various neurosurgical services in the medical center. Junior and intermediate level residents work with master neurosurgeons on two distinct adult services at Tisch Hospital: (Tumor/Vascular/Skull Base/Functional/Epilepsy Service) (Spinal/Peripheral Services). They also rotate through the Pediatric/Pediatric Epilepsy services at Tisch Hospital. During these rotations the residents assume more and more direct responsibility and surgical opportunities in the care patients. Surgical techniques are learned and standards of care adopted. In addition to mastering the procedures outlined below, by the end of the PGY 2 Neurosurgery year the resident should be able to master the following:

PATIENT CARE:
- The residents will learn how to take a neurological history, perform a neurological examination and derive a differential diagnosis
- Residents will learn to rapidly identify potential surgical risks preoperatively and discuss methods to minimize those risks.
- With appropriate supervision, residents will learn to competently perform the following procedures:

  Procedures
  - History
  - Physical
  - Neurological Examination
  - Insertion nasogastric tube
  - Lumbar puncture
  - Arterial puncture
  - Insertion IV lines
  - Removal of sutures
  - Insertion of Foley catheter
  - EKG
  - Incision/drainage of superficial abscess
  - Suturing of lacerations
  - Wound debridement
Dressing changes
Insertion central venous catheter
Insertion Swan-Ganz
Emergency tracheotomy
Aspirate shunt reservoir
Insertion lumbar subarachnoid catheter
Twist drill craniostomy for ICP monitor
Burr hole for trauma
Burr hole/twist drill ventriculostomy
Twist drill for SEPS drainage of subdural hematomas
Application/insertion cervical traction
Suture simple laceration scalp/back
Suture complex laceration scalp/back
Open and closure craniotomy incisions
Externalize shunts

MEDICAL KNOWLEDGE:

• The residents will learn neurodiagnostic studies available for the evaluation of patients. They will learn the importance of correlative neuroanatomy in interpreting these studies
• The residents will discuss:
  . The anatomy of the brain, spine, peripheral nerves and the bony coverings of each.
  . The physiology of normal brain and normal vasculature.
• The residents will develop competence in the interpretation of neurodiagnostic examinations in disease states. These include: conventional radiographs, carotid ultrasonography, cranial and spinal computed tomography, cranial and spinal magnetic resonance imaging, MR angiography, CT angiography and venograms, cerebral and spinal angiography.
• They will learn critical interpretation and correlation of clinical and neurodiagnostic (imaging) examinations based on a sound knowledge of neurology and neuropathology. They will discuss:
  . The definition of mild, moderate, and severe brain injury and identify the individual components and scores of the Glasgow Coma Scale and Glasgow Outcome Scale.
  . The clinical and radiologic pathways for clearance of the spine
  . The difference between complete and incomplete spinal injury and demonstrate the ability to accurately complete detailed ASIA grading and category assignment, and the prognosis of neurologic recovery for each.
  . The major patterns of spinal injury (complete, central cord, Brown-Sequard, cauda equina, etc). What mechanisms of injury and spinal column injury are most commonly associated with each? What is the prognosis for recovery for each?
    . The pathophysiology of craniocervical injuries in adults.
    . The pathophysiology of sub-axial spinal column and spinal cord injuries in adults.
• Residents will discuss the indications and potential complications for all neurosurgical procedures. This will be acquired from discussions with faculty and by reading textbooks and the literature. It will also be evaluated in didactic case conferences.
• They will learn how to write appropriate admission and medication orders for ward, ICU, and post-operative patients.
• They will discuss specific JCAHO hospital safety regulations.
• They will learn the importance of timely and accurate medical record keeping including medication reconciliation.
• Knowledge of general medicine and surgical principles as well as the pathophysiology of neurosurgical diseases will be acquired with experience, reading and observation of the practice habits of senior neurosurgeons and nonsurgical consultants, and in didactic case conferences.

INTERPERSONAL COMMUNICATION SKILLS:
• They will learn how to communicate the pertinent positives and negatives of a general medical and neurological examination to senior residents, neurosurgical attendings, and consulting physicians in an accurate and timely fashion.
• They will learn how to communicate critical interpretation and correlation of clinical and neurodiagnostic (imaging) examinations based on a sound knowledge of neurology and neuropathology to senior residents, neurosurgical attendings, and consulting physicians in an accurate and timely fashion.
• They will learn to be competent in communicating with team members in the hand-over process in order to minimize errors during transitions of care.
• They will learn to communicate clearly and promptly with the nursing and support staff in order to obtain the best patient care.
• They will learn to communicate patient information, care plans, and prognosis effectively and compassionately with patients and their families.
• They will also learn to present in weekly didactic case conferences and at Journal Club

SYSTEMS BASED PRACTICE:
• Residents will learn that patient care is a team effort where each member of the team is equally important in attaining satisfactory patient outcomes. The team includes floor nurses, nurse practitioners, operating room personnel, social workers, case managers, rehabilitation specialists, consultants and house staff from other services, other neurosurgical residents and medical students and consultant neurosurgeons.
• They will learn to coordinate and manage communication between services on co-managed patients.
• They will interact and coordinate the longitudinal care of neurosurgical patients through discussions with Neurosurgical NP’s, Psychiatrists, Physical Therapists, Social Workers, and Discharge Planning nurses.
• They will discuss the regulatory issues involved in reporting brain death and non-accidental neurologic injury (especially in the pediatric population).

PRACTICE-BASED LEARNING:
• The resident will learn to analyze his or her own practice for needed improvements.
• They will also learn to use evidence from scientific studies to guide their medical decision-making.
• They will discuss the application of research and statistical methods.
• They will participate in clinical research projects where appropriate including participating in the IRB and consent process.
• Residents may attend the RUNN Woods Hole Neurosurgical Research Course.
PROFESSIONALISM:
• Trainees will learn constructive collegiality with faculty, their fellow residents, consultants and house staff from other specialties and services, but also with nurses and paramedical personnel.
• Residents will learn how to deal with patients and families in a compassionate and humanistic way.
• Maintain professional rapport and comportment with patient families, nurses, other physician teams and other hospital personnel.
• Demonstrate respect for patients and colleagues from diverse cultural, ethnic and religious backgrounds.
• Demonstrate honesty in all professional interactions.
• Residents will maintain timely and accurate medical records.
• Residents will also:
  • Attend all required conferences in a timely fashion.
  • Pre-round on ICU patients and present timely, accurate data to team.
  • Participate in discussion of ethical dilemmas related to care delivery, consent, and life support in severely injured patients.
  • Provide consultation to the ED and other services in timely fashion.
  • Demonstrate dress, grooming and behavior consistent with institutional and departmental guidelines.
  • Comply with all GME and Departmental regulations regarding duty hour restrictions and report personal schedule in timely and accurate fashion.
  • Appear for duty appropriately rested and fit to provide the services required by their patients.
  • Accurately self-report fatigue in situations that may compromise safety and/or patient care.
  • Must be committed to and responsible for promoting patient safety.
  • Must demonstrate responsiveness to patient needs that supersedes self-interest.
  • Must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient’s care to another qualified and rested provider.

METHODS OF EVALUATION:
• Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination.
  • They are required to obtain a passing grade on this examination prior to completing their residency training.
  • They are also expected to improve their percentile performance on the ABNS primary examination each year.
• Resident will also attend weekly didactic conferences and the monthly Journal Club.
• Conference attendance and participation will be reviewed and discussed with the resident. They are required to attend at least 75% of all mandatory resident conferences.
• The senior residents who report directly to the attending surgeons will also evaluate the junior residents.
• The Neurosurgery Attending Staff reviews Resident Medical Documentation.
• Resident academic productivity regarding published abstracts, meeting presentations, and published manuscripts, awards, etc. are also reviewed.
The resident will also be evaluated on their attainment of these goals and objectives as well as on their performance in conferences on a semi-annual basis through written evaluation of all 6 competencies (see resident evaluations) and verbal feedback from the Chairman and Program Director.

Faculty members, a senior resident (as is appropriate), and the Neurosurgical NP's evaluate all residents after each rotation. They are evaluated on all 6 competencies (see resident evaluations). Their attendance and performance in didactic teaching conferences and their case logs are also reviewed. The Chairman and Program Director review these evaluations and give verbal feedback to the residents on a semi-annual basis.

Residents are promoted each year based on demonstration of competent performance of all requirements as outlined above.

Neurosurgery PGY-2 - (Residents rotate as Junior Residents at New York Harbor Health Care System)

Neurosurgery PGY2 residents must have successfully completed an accredited neurosurgery internship. They must demonstrate competence in all of the general medical and surgical principles of patient care, medical knowledge, interpersonal & communication skills, and professionalism at each stage throughout the training program. They must also demonstrate knowledge of patient rights, including HIPPA and the appropriate use of restraints and seclusion. Resident physicians are permitted to conduct face-to-face evaluation of patients in restraints or seclusion and to order patient restraints and seclusion in accordance with Manhattan VA Hospitals Center Policy on Restraints and Seclusion. The residency program provides graduated levels of responsibility in patient evaluation, management and surgery as residents rotate through the various neurosurgical services in the medical center. Junior and intermediate level residents work with master neurosurgeons at the Neurosurgical Service at the Manhattan VA Medical Center. During these rotations the residents assume more and more direct responsibility and surgical opportunities in the care patients. Surgical techniques are learned and standards of care adopted. In addition to mastering the procedures outlined below, by the end of the PGY 2 Neurosurgery year the resident should be able to master the following:

PATIENT CARE:

- The residents will learn how to take a neurological history, perform a neurological examination and derive a differential diagnosis
- Residents will learn to rapidly identify potential surgical risks preoperatively and discuss methods to minimize those risks.
- With appropriate supervision, residents will learn to competently perform the following procedures:

  Procedures
  
  History
  Physical
  Neurological Examination
  Insertion nasogastric tube
  Lumbar puncture
  Arterial puncture
  Insertion IV lines
  Removal of sutures
  Insertion of Foley catheter
  EKG
Incision/drainage of superficial abscess
Suturing of lacerations
Wound debridement
Dressing changes
Insertion central venous catheter
Insertion Swan-Ganz
Emergency tracheotomy
Aspirate shunt reservoir
Insertion lumbar subarachnoid catheter
Twist drill craniostomy for ICP monitor
Twist drill for SEPS drainage of subdural hematomas
Burr hole for trauma
Burr hole/twist drill ventriculostomy
Application/insertion cervical traction
Suture simple laceration scalp/back
Suture complex laceration scalp/back
Open and closure craniotomy incisions
Externalize shunts

MEDICAL KNOWLEDGE:

- The residents will learn the neurodiagnostic studies available for the evaluation of patients. They will discuss the importance of correlative neuroanatomy in interpreting these studies.
- The residents will discuss:
  - The anatomy of the brain, spine, peripheral nerves and the bony coverings of each.
  - The physiology of normal brain and normal vasculature.
- The residents will develop competence in the interpretation of neurodiagnostic examinations in disease states. These include: conventional radiographs, carotid ultrasonography, cranial and spinal computed tomography, cranial and spinal magnetic resonance imaging, MR angiography, CT angiography and venograms, cerebral and spinal angiography.
- They will learn critical interpretation and correlation of clinical and neurodiagnostic (imaging) examinations based on a sound knowledge of neurology and neuropathology. They will learn:
  - The definition of mild, moderate, and severe brain injury and identify the individual components and scores of the Glasgow Coma Scale and Glasgow Outcome Scale.
  - The clinical and radiologic pathways for clearance of the spine.
  - The difference between complete and incomplete spinal injury and demonstrate the ability to accurately complete detailed ASIA grading and category assignment, and the prognosis of neurologic recovery for each.
  - The major patterns of spinal injury (complete, central cord, Brown-Sequard, cauda equina, etc). What mechanisms of injury and spinal column injury are most commonly associated with each? What is the prognosis for recovery for each?
  - The pathophysiology of craniocervical injuries in adults.
  - The pathophysiology of sub-axial spinal column and spinal cord injuries in adults.
- Residents will discuss the indications and potential complications for all neurosurgical procedures. This will be acquired from discussions with faculty and
by reading textbooks and the literature. It will also be evaluated in didactic case conferences.

- They will learn how to write appropriate admission and medication orders for ward, ICU, and post-operative patients.
- They will discuss specific JCAHO hospital safety regulations.
- They will learn the importance of timely and accurate medical record keeping including medication reconciliation.
- Knowledge of general medicine and surgical principles as well as the pathophysiology of neurosurgical diseases will be acquired with experience, reading and observation of the practice habits of senior neurosurgeons and nonsurgical consultants, and in didactic case conferences.

INTERPERSONAL COMMUNICATION SKILLS:

- They will learn how to communicate the pertinent positives and negatives of a general medical and neurological examination to senior residents, neurosurgical attendings, and consulting physicians in an accurate and timely fashion.
- They will learn how to communicate critical interpretation and correlation of clinical and neurodiagnostic (imaging) examinations based on a sound knowledge of neurology and neuropathology to senior residents, neurosurgical attendings, and consulting physicians in an accurate and timely fashion.
- They will learn to be competent in communicating with team members in the hand-over process in order to minimize errors during transitions of care.
- They will learn to communicate clearly and promptly with the nursing and support staff in order to obtain the best patient care.
- They will learn to communicate patient information, care plans, and prognosis effectively and compassionately with patients and their families.
- They will also learn to present in weekly didactic case conferences and at Journal Club

SYSTEMS BASED PRACTICE:

- Residents will learn that patient care is a team effort where each member of the team is equally important in attaining satisfactory patient outcomes. The team includes floor nurses, nurse practitioners, operating room personnel, social workers, rehabilitation specialists, consultants and house staff from other services, other neurosurgical residents and medical students and consultant neurosurgeons.
- They will learn to coordinate and manage communication between services on co-managed patients.
- They will interact and coordinate the longitudinal care of neurosurgical patients through discussions with Neurosurgical NP’s, Physiatrists, Physical Therapists, Social Workers, and discharge planning nurses.
- They will learn the regulatory issues involved in reporting brain death and non-accidental neurologic injury (especially in the pediatric population).

PRACTICE-BASED LEARNING:

- The resident will learn to analyze his or her own practice for needed improvements.
- They will also learn to use evidence from scientific studies to guide their medical decision making
- They will learn the application of research and statistical methods.
• They will participate in clinical research projects where appropriate including participating in the IRB and consent process.
• Residents may attend the RUNN Woods Hole Neurosurgical Research Course

PROFESSIONALISM:
• Trainees will learn constructive collegiality with faculty, their fellow residents, consultants and house staff from other specialties and services, but also with nurses and paramedical personnel.
• Residents will learn how to deal with patients and families in a compassionate and humanistic way.
• Maintain professional rapport and comportment with patient families, nurses, other physician teams and other hospital personnel.
• Demonstrate respect for patients and colleagues from diverse cultural, ethnic and religious backgrounds.
• Demonstrate honesty in all professional interactions.
• Residents will maintain timely and accurate medical records.
• Residents will also:
  . Attend all required conferences in a timely fashion.
  . Pre-round on ICU patients and present timely, accurate data to team.
  . Participate in discussion of ethical dilemmas related to care delivery, consent, and life support in severely injured patients.
  . Provide consultation to the ED and other services in timely fashion.
  . Demonstrate dress, grooming and behavior consistent with institutional and departmental guidelines.
  . Comply with all GME and Departmental regulations regarding duty hour restrictions and report personal schedule in timely and accurate fashion.
  . Appear for duty appropriately rested and fit to provide the services required by their patients.
  . Accurately self-report fatigue in situations that may compromise safety and/or patient care.
  . Must be committed to and responsible for promoting patient safety.
  . Must demonstrate responsiveness to patient needs that supersedes self-interest.
  . Must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient’s care to another qualified and rested provider.

METHODS OF EVALUATION:
• Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination.
  o They are required to obtain a passing grade on this examination prior to completing their residency training.
  o They are also expected to improve their percentile performance on the ABNS primary examination each year.
• Resident will also attend weekly didactic conferences and the monthly Journal Club.
• Conference attendance and participation will be reviewed and discussed with the resident. They are required to attend at least 75% of all mandatory resident conferences.
• The senior residents who report directly to the attending surgeons will also evaluate the junior residents.
- The Neurosurgery Attending Staff reviews Resident Medical Documentation.
- Resident academic productivity regarding published abstracts, meeting presentations, and published manuscripts, awards, etc. are also reviewed.
- The resident will also be evaluated on their attainment of these goals and objectives as well as on their performance in conferences on a semi-annual basis through written evaluation of all 6 competencies (see resident evaluations) and verbal feedback from the Chairman and Program Director.
- Faculty members, a senior resident (as is appropriate), and the Neurosurgical NP’s evaluate all residents after each rotation. They are evaluated on all 6 competencies (see resident evaluations). Their attendance and performance in didactic teaching conferences and their case logs are also reviewed. The Chairman and Program Director review these evaluations and give verbal feedback to the residents on a quarterly basis.
- Residents are promoted each year based on demonstration of competent performance of all requirements as outlined above.
iii. Neurosurgery PGY3 - (Residents rotate as Intermediate level Junior Residents on Tisch Teams 1 & 2)

Neurosurgery PGY3 residents must demonstrate competence in all principles of patient care, medical knowledge, interpersonal & communication skills, and professionalism, as well as, in all procedures required of a Neurosurgery PGY2 resident prior to progressing to the Neurosurgery PGY3 year. During this year, the resident’s clinical responsibility increases. The resident will become adept with neurosurgical instruments, operating microscope, navigation systems, and patient positioning. An attending physician supervises all Operating Room procedures performed by residents.

PATIENT CARE:

• Residents will learn important details such as patient positioning and optimal surgical approaches for each procedure. This will be learned from experienced supervising senior neurosurgery house staff and the Neurosurgical faculty.

• They will learn the technical aspects of the operations and will be evaluated by supervising senior neurosurgical house staff and attending staff in the operative theater.

• They are responsible for the basic function of the Neurosurgery services and urgent daytime neurosurgery consultations in the Hospital and in the Emergency Department.

• They must demonstrate with the appropriate supervision the ability to recognize and treat neurosurgical emergencies:
  - Status epilepticus
  - Unstable spine and spinal cord injury
  - Acute shunt malfunction
  - Cerebral Herniation / Increased intracranial pressure
  - Acute intracranial hemorrhage
  - CNS infection
  - Sub-arachnoid hemorrhage / Vasospasm
  - Metabolic Disorders / intoxication / withdrawal (EtOH and Narcotic)

• They will learn to obtain and evaluate proper diagnostic radiological studies.

MEDICAL KNOWLEDGE:

• Residents will learn the necessary elements for a good surgical outcome: proper patient selection, identification and preoperative stabilization of other disease processes which can cause problems in the postoperative period such as hypertension, cardiovascular disease, pulmonary insufficiency, diabetes, alcoholism, clotting disorders, renal insufficiency, atherosclerosis and endocrinologic dysfunction.

• The residents will be taught to identify and manage emergency situations: epidural hematoma, cerebral herniation, postoperative clot, traumatic spinal cord injury, obstructive hydrocephalus, cerebral ischemia, spinal cord compression, status epilepticus and others. They will also learn the preoperative selection of endovascular neurosurgery candidates as well as the preoperative counseling, preoperative and, postoperative care of endovascular neurosurgery patients.

• They learn this through extensive clinical exposure and didactic question and answer sessions in the multiple conferences offered throughout the academic year.

• With appropriate supervision, residents will learn to competently perform the following procedures:

Procedures

All Neurosurgery PGY2 procedures
Incision, burr holes and removal of bone flap for craniotomy
Incision, burr holes and removal of bone flap for sub-occipital craniotomy
Ventriculo-peritoneal shunt
Ventriculo-pleural shunt
Ventriculo-atrial shunt
Closure of laminectomy wounds
Closure anterior cervical fusion wounds
Laminectomy for lumbar disc
Lumbar laminectomy for stenosis
CSF shunt lumbar
Carpal tunnel release
Ulnar nerve release
Lumbar pedicle screw placement
Lateral mass screw placement
Fundamental cerebral and spinal angiography

INTERPERSONAL and COMMUNICATION SKILLS:
- They will learn how to communicate the pertinent positives and negatives of a general medical and neurological examination to senior residents, neurosurgical attendings, and consulting physicians in an accurate and timely fashion.
- They will learn how to communicate critical interpretation and correlation of clinical and neurodiagnostic (imaging) examinations based on a sound knowledge of neurology and neuropathology to senior residents, neurosurgical attendings, and consulting physicians in an accurate and timely fashion.
- They will learn to be competent in communicating with team members in the hand-over process in order to minimize errors during transitions of care.
- They will learn to communicate clearly and promptly with the nursing and support staff in order to obtain the best patient care.
- They will learn to communicate patient information, care plans, and prognosis effectively and compassionately with patients and their families.
- They will also learn to present in weekly didactic case conferences and at Journal Club

SYSTEMS-BASED PRACTICE:
- In addition to skills mastered in the PGY2 year, trainees will learn what the delivery of health care costs (daily hospitalization costs, the costs of imaging procedures and laboratory tests, surgical fees, anesthesia charges, etc.).
- They will be taught to practice cost-effective medicine without sacrificing good clinical outcomes.
- The resident will discuss JACHO patient safety standards regarding patient identification, medication order writing, surgical site preparation (including hair removal), peri-operative antibiotic administration, the pre-operative time out site and operative identification procedure, and peri-operative DVT prophylaxis algorithm.
- They will learn effective interaction with the peri-operative nursing and anesthesia personnel in delivering appropriate operative patient care including:
  - Site identification and preparation (as above).
  - Communication of need for modification of anesthetic technique (i.e. neurophysiologic monitoring).
  - Availability of cell saver / blood products.
  - Alert nursing staff of potential for frozen section.
  - Review and correction of peri-operative risk factors and co-morbidities prior to starting procedure (i.e. Alerting electrophysiology of need to interrogate pacemaker or place a magnet).
PRACTICE-BASED LEARNING:
• Residents will learn to critically analyze the literature and presentations at meetings. Journal articles and conference presentations are discussed between residents and faculty in formal “Journal Clubs”, in conferences and in day-to-day discussions with faculty members.
• Residents may attend the Chicago Neurosurgical Review Course.
• Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination. They are required to obtain a passing grade on this examination prior to completing their residency training.
• They will participate in clinical research projects where appropriate including participating in the IRB and consent process.

PROFESSIONALISM:
• Trainees will learn constructive collegiality with faculty, their fellow residents, consultants and house staff from other specialties and services, and with nurses and paramedical personnel.
• Residents will learn how to deal with patients and families in a compassionate and humanistic way.
• Maintain professional rapport and comportment with patient families, nurses, other physician teams and other hospital personnel.
• Demonstrate respect for patients and colleagues from diverse cultural, ethnic and religious backgrounds.
• Demonstrate honesty in all professional interactions.
• Residents will maintain timely and accurate medical records.
• Residents will also:
  • Attend all required conferences in a timely fashion.
  • Pre-round on ICU patients and present timely, accurate data to team.
  • Participate in discussion of ethical dilemmas related to care delivery, consent, and life support in severely injured patients.
  • Provide consultation to the ED and other services in timely fashion.
  • Demonstrate dress, grooming and behavior consistent with institutional and departmental guidelines.
  • Comply with all GME and Departmental regulations regarding duty hour restrictions and report personal schedule in timely and accurate fashion.
  • Appear for duty appropriately rested and fit to provide the services required by their patients.
  • Accurately self-report fatigue in situations that may compromise safety and/or patient care.
  • Must be committed to and responsible for promoting patient safety.
  • Must demonstrate responsiveness to patient needs that supersedes self-interest.
  • Must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient’s care to another qualified and rested provider.

METHOD OF EVALUATION:
• Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination.
  o They are required to obtain a passing grade on this examination prior to completing their residency training.
They are also expected to improve their percentile performance on the ABNS primary examination each year.

- Resident will also attend weekly didactic conferences and the monthly Journal Club.
- Conference attendance and participation will be reviewed and discussed with the resident. They are required to attend at least 75% of all mandatory resident conferences.
- The senior residents who report directly to the attending surgeons will also evaluate the junior residents.
- The Neurosurgery Attending Staff reviews Resident Medical Documentation.
- Resident academic productivity regarding published abstracts, meeting presentations, and published manuscripts, awards, etc. are also reviewed.
- The resident will also be evaluated on their attainment of these goals and objectives as well as on their performance in conferences on a semi-annual basis through written evaluation of all 6 competencies (see resident evaluations) and verbal feedback from the Chairman and Program Director.
- Faculty members, a senior resident (as is appropriate), and the Neurosurgical NP's evaluate all residents after each rotation. They are evaluated on all 6 competencies (see resident evaluations). Their attendance and performance in didactic teaching conferences and their case logs are also reviewed. The Chairman and Program Director review these evaluations and give verbal feedback to the residents on a semi-annual basis.
- Residents are promoted each year based on demonstration of competent performance of all requirements as outlined above.

**Neurosurgery PGY3 - (Residents rotate as Intermediate level Junior Residents at Bellevue Hospital Center)**

Neurosurgery PGY3 residents must demonstrate competence in all principles of patient care, medical knowledge, interpersonal & communication skills, and professionalism as well as in all procedures required of a Neurosurgery PGY2 resident prior to progressing to the Neurosurgery PGY3 year. During this year, the resident’s clinical responsibility increases. The resident will become adept with neurosurgical instruments, operating microscope, navigation systems, and patient positioning. An attending physician supervises all Operating Room procedures performed by residents. In addition to mastering the procedures outlined below, the Neurosurgery PGY3 resident must master:

**PATIENT CARE:**

- Residents will discuss important details such as patient positioning and optimal surgical approaches for each procedure. This will be learned from experienced supervising senior neurosurgery house staff and the Neurosurgical faculty.
- They will learn the technical aspects of the operations and will be evaluated by supervising senior neurosurgical house staff and attending staff in the operative theater.
- They are responsible for the basic function of the Neurosurgery services and urgent daytime neurosurgery consultations in the Hospital and in the Emergency Department.
- They must demonstrate with the appropriate supervision the ability to recognize and treat neurosurgical emergencies:
  - Status epilepticus
  - Unstable spine and spinal cord injury
  - Acute shunt malfunction
• Cerebral Herniation / Increased intracranial pressure
• Acute intracranial hemorrhage
• CNS infection
• Sub-arachnoid hemorrhage / Vasospasm
• Metabolic Disorders / intoxication / withdrawal (EtOH and Narcotic)

MEDICAL KNOWLEDGE:
• Residents will learn the necessary elements for a good surgical outcome: proper patient selection, identification and preoperative stabilization of other disease processes which can cause problems in the postoperative period such as hypertension, cardiovascular disease, pulmonary insufficiency, diabetes, alcoholism, clotting disorders, renal insufficiency, atherosclerosis and endocrinologic dysfunction.
• The residents will be taught to identify and manage emergency situations: epidural hematoma, cerebral herniation, postoperative clot, traumatic spinal cord injury, obstructive hydrocephalus, cerebral ischemia, spinal cord compression, status epilepticus and others. They learn this through extensive clinical exposure and didactic question and answer sessions in the multiple conferences offered throughout the academic year.
• With appropriate supervision, residents will learn to competently perform the following procedures:

  Procedures
  All Neurosurgery PGY2 procedures
  Incision, burr holes and removal of bone flap for craniotomy
  Incision, burr holes and removal of bone flap for sub-occipital craniotomy
  Ventriculo-peritoneal shunt
  Ventriculo-pleural shunt
  Ventriculo-atrial shunt
  Closure laminectomy wounds
  Closure anterior cervical fusion wounds
  Laminectomy for lumbar disc
  Lumbar laminectomy for stenosis
  CSF shunt lumbar
  Carpal tunnel release
  Ulnar nerve release
  Lumbar pedicle screw placement
  Lateral mass screw placement

INTERPERSONAL and COMMUNICATION SKILLS:
• They will learn how to communicate the pertinent positives and negatives of a general medical and neurological examination to senior residents, neurosurgical attendings, and consulting physicians in an accurate and timely fashion.
• They will learn how to communicate critical interpretation and correlation of clinical and neurodiagnostic (imaging) examinations based on a sound knowledge of neurology and neuropathology to senior residents, neurosurgical attendings, and consulting physicians in an accurate and timely fashion.
• They will learn to be competent in communicating with team members in the hand-over process in order to minimize errors during transitions of care.
• They will learn to communicate clearly and promptly with the nursing and support staff in order to obtain the best patient care.
• They will learn to communicate patient information, care plans, and prognosis effectively and compassionately with patients and their families.
• They will also learn to present in weekly didactic case conferences and at Journal Club

SYSTEMS-BASED PRACTICE:
• In addition to skills mastered in the PGY3 year, trainees will learn what the delivery of health care costs (daily hospitalization costs, the costs of imaging procedures and laboratory tests, surgical fees, anesthesia charges, etc.).
• They will be taught to practice cost-effective medicine without sacrificing good clinical outcomes.
• The resident will discuss JACHO patient safety standards regarding patient identification, medication order writing, surgical site preparation (including hair removal), peri-operative antibiotic administration, the pre-operative time out site and operative identification procedure, and peri-operative DVT prophylaxis algorithm.
• They will learn effective interaction with the peri-operative nursing and anesthesia personnel in delivering appropriate operative patient care including:
  o Site identification and preparation (as above).
  o Communication of need for modification of anesthetic technique (i.e. neurophysiologic monitoring).
  o Availability of cell saver / blood products.
  o Alert nursing staff of potential for frozen section.
  o Review and correction of peri-operative risk factors and co-morbidities prior to starting procedure (i.e. Alerting electrophysiology of need to interrogate pacemaker or place a magnet).

PRACTICE-BASED LEARNING:
• Residents will learn to critically analyze the literature and presentations at meetings. Journal articles and conference presentations are discussed between residents and faculty in formal “Journal Clubs”, in conferences and in day-to-day discussions with faculty members.
• Residents may attend the Chicago Neurosurgical Review Course.
• Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination. They are required to obtain a passing grade on this examination prior to completing their residency training.
• They will participate in clinical research projects where appropriate including participating in the IRB and consent process.

PROFESSIONALISM:
• Trainees will learn constructive collegiality with faculty, their fellow residents, consultants and house staff from other specialties and services, and with nurses and paramedical personnel.
• Residents will learn how to deal with patients and families in a compassionate and humanistic way.
• Maintain professional rapport and comportment with patient families, nurses, other physician teams and other hospital personnel.
• Demonstrate respect for patients and colleagues from diverse cultural, ethnic and religious backgrounds.
• Demonstrate honesty in all professional interactions.
• Residents will maintain timely and accurate medical records.
• Residents will also:
Attend all required conferences in a timely fashion.
Pre-round on ICU patients and present timely, accurate data to team.
Participate in discussion of ethical dilemmas related to care delivery, consent, and life support in severely injured patients.
Provide consultation to the ED and other services in timely fashion.
Demonstrate dress, grooming and behavior consistent with institutional and departmental guidelines.
Comply with all GME and Departmental regulations regarding duty hour restrictions and report personal schedule in timely and accurate fashion.
Appear for duty appropriately rested and fit to provide the services required by their patients.
Accurately self-report fatigue in situations that may compromise safety and/or patient care.
Must be committed to and responsible for promoting patient safety.
Must demonstrate responsiveness to patient needs that supersedes self-interest.
Must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient’s care to another qualified and rested provider.

METHOD OF EVALUATION:
- Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination.
  - They are required to obtain a passing grade on this examination prior to completing their residency training.
  - They are also expected to improve their percentile performance on the ABNS primary examination each year.
- Resident will also attend weekly didactic conferences and the monthly Journal Club.
- Conference attendance and participation will be reviewed and discussed with the resident. They are required to attend at least 75% of all mandatory resident conferences.
- The senior residents who report directly to the attending surgeons will also evaluate the junior residents.
- The Neurosurgery Attending Staff reviews Resident Medical Documentation.
- Resident academic productivity regarding published abstracts, meeting presentations, and published manuscripts, awards, etc. are also reviewed.
- The resident will also be evaluated on their attainment of these goals and objectives as well as on their performance in conferences on a semi-annual basis through written evaluation of all 6 competencies (see resident evaluations) and verbal feedback from the Chairman and Program Director.
- Faculty members, a senior resident (as is appropriate), and the Neurosurgical NP’s evaluate all residents after each rotation. They are evaluated on all 6 competencies (see resident evaluations). Their attendance and performance in didactic teaching conferences and their case logs are also reviewed. The Chairman and Program Director review these evaluations and give verbal feedback to the residents on a semi-annual basis.
- Residents are promoted each year based on demonstration of competent performance of all requirements as outlined above.
Neurosurgery PGY3 - (Residents rotate as Intermediate level Junior Residents at New York Harbor Health Care System (VA))

Neurosurgery PGY3 residents must demonstrate competence in all principles of patient care, medical knowledge, interpersonal & communication skills, and professionalism as well as in all procedures required of a Neurosurgery PGY2 resident prior to progressing to the Neurosurgery PGY3 year. During this year, the resident’s clinical responsibility increases. The resident will become adept with neurosurgical instruments, operating microscope, navigation systems, and patient positioning. An attending physician supervises all Operating Room procedures performed by residents. In addition to mastering the procedures outlined below, the Neurosurgery PGY3 resident must master:

PATIENT CARE:
- Residents will learn important details such as patient positioning and optimal surgical approaches for each procedure. This will be learned from experienced supervising senior neurosurgery house staff and the Neurosurgical faculty.
- They will learn the technical aspects of the operations and will be evaluated by supervising senior neurosurgical house staff and attending staff in the operative theater.
- They are responsible for the basic function of the Neurosurgery services and urgent daytime neurosurgery consultations in the Hospital and in the Emergency Department.
- They must demonstrate with the appropriate supervision the ability to recognize and treat neurosurgical emergencies:
  - Status epilepticus
  - Unstable spine and spinal cord injury
  - Acute shunt malfunction
  - Cerebral Herniation / Increased intracranial pressure
  - Acute intracranial hemorrhage
  - CNS infection
  - Sub-arachnoid hemorrhage / Vasospasm
  - Metabolic Disorders / intoxication / withdrawal (EtOH and Narcotic)
- They will learn to obtain and evaluate proper diagnostic radiological studies.

MEDICAL KNOWLEDGE:
- Residents will learn the necessary elements for a good surgical outcome: proper patient selection, identification and preoperative stabilization of other disease processes which can cause problems in the postoperative period such as hypertension, cardiovascular disease, pulmonary insufficiency, diabetes, alcoholism, clotting disorders, renal insufficiency, atherosclerosis and endocrinologic dysfunction.
- The residents will be taught to identify and manage emergency situations: epidural hematoma, cerebral herniation, postoperative clot, traumatic spinal cord injury, obstructive hydrocephalus, cerebral ischemia, spinal cord compression, status epilepticus and others. They learn this through extensive clinical exposure and didactic question and answer sessions in the multiple conferences offered throughout the academic year.
- With appropriate supervision, residents will learn to competently perform the following procedures:
  **Procedures**
  - All Neurosurgery PGY2 procedures
  - Incision, burr holes and removal of bone flap for craniotomy
  - Incision, burr holes and removal of bone flap for sub-occipital craniotomy
Ventriculo-peritoneal shunt
Ventriculo-pleural shunt
Ventriculo-atrial shunt
Closure laminectomy wounds
Closure anterior cervical fusion wounds
Laminectomy for lumbar disc
Lumbar laminectomy for stenosis
CSF shunt lumbar
Carpal tunnel release
Ulnar nerve release
Lumbar pedicle screw placement
Lateral mass screw placement

INTERPERSONAL and COMMUNICATION SKILLS:
• They will learn how to communicate the pertinent positives and negatives of a general medical and neurological examination to senior residents, neurosurgical attendings, and consulting physicians in an accurate and timely fashion.
• They will learn how to communicate critical interpretation and correlation of clinical and neurodiagnostic (imaging) examinations based on a sound knowledge of neurology and neuropathology to senior residents, neurosurgical attendings, and consulting physicians in an accurate and timely fashion.
• They will learn to be competent in communicating with team members in the hand-over process in order to minimize errors during transitions of care.
• They will learn to communicate clearly and promptly with the nursing and support staff in order to obtain the best patient care.
• They will learn to communicate patient information, care plans, and prognosis effectively and compassionately with patients and their families.
• They will also learn to present in weekly didactic case conferences and at Journal Club

SYSTEMS-BASED PRACTICE:
• In addition to skills mastered in the PGY 2 year, trainees will learn what the delivery of health care costs (daily hospitalization costs, the costs of imaging procedures and laboratory tests, surgical fees, anesthesia charges, etc.).
• They will be taught to practice cost-effective medicine without sacrificing good clinical outcomes.
• The resident will discuss JACHO patient safety standards regarding patient identification, medication order writing, surgical site preparation (including hair removal), peri-operative antibiotic administration, the pre-operative time out site and operative identification procedure, and peri-operative DVT prophylaxis algorithm.
• They will learn effective interaction with the peri-operative nursing and anesthesia personnel in delivering appropriate operative patient care including:
  o Site identification and preparation (as above).
  o Communication of need for modification of anesthetic technique (i.e. neurophysiologic monitoring).
  o Availability of cell saver / blood products.
  o Alert nursing staff of potential for frozen section.
  o Review and correction of peri-operative risk factors and co-morbidities prior to starting procedure (i.e. Alerting electrophysiology of need to interrogate pacemaker or place a magnet).
PRACTICE-BASED LEARNING:
• Residents will learn to critically analyze the literature and presentations at meetings. Journal articles and conference presentations are discussed between residents and faculty in formal “Journal Clubs”, in conferences and in day-to-day discussions with faculty members.
• Residents may attend the Chicago Neurosurgical Review Course.
• Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination. They are required to obtain a passing grade on this examination prior to completing their residency training.
• They will participate in clinical research projects where appropriate including participating in the IRB and consent process.

PROFESSIONALISM:
• Trainees will learn constructive collegiality with faculty, their fellow residents, consultants and house staff from other specialties and services, and with nurses and paramedical personnel.
• Residents will learn how to deal with patients and families in a compassionate and humanistic way.
• Maintain professional rapport and comportment with patient families, nurses, other physician teams and other hospital personnel.
• Demonstrate respect for patients and colleagues from diverse cultural, ethnic and religious backgrounds.
• Demonstrate honesty in all professional interactions.
• Residents will maintain timely and accurate medical records.
• Residents will also:
  • Attend all required conferences in a timely fashion.
  • Pre-round on ICU patients and present timely, accurate data to team.
  • Participate in discussion of ethical dilemmas related to care delivery, consent, and life support in severely injured patients.
  • Provide consultation to the ED and other services in timely fashion.
  • Demonstrate dress, grooming and behavior consistent with institutional and departmental guidelines.
  • Comply with all GME and Departmental regulations regarding duty hour restrictions and report personal schedule in timely and accurate fashion.
  • Appear for duty appropriately rested and fit to provide the services required by their patients.
  • Accurately self-report fatigue in situations that may compromise safety and/or patient care.
  • Must be committed to and responsible for promoting patient safety.
  • Must demonstrate responsiveness to patient needs that supersedes self-interest.
  • Must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient’s care to another qualified and rested provider.

METHOD OF EVALUATION:
• Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination.
  • They are required to obtain a passing grade on this examination prior to completing their residency training.
They are also expected to improve their percentile performance on the ABNS primary examination each year.

- Resident will also attend weekly didactic conferences and the monthly Journal Club.
- Conference attendance and participation will be reviewed and discussed with the resident. They are required to attend at least 75% of all mandatory resident conferences.
- The senior residents who report directly to the attending surgeons will also evaluate the junior residents.
- The Neurosurgery Attending Staff reviews Resident Medical Documentation.
- Resident academic productivity regarding published abstracts, meeting presentations, and published manuscripts, awards, etc. are also reviewed.
- The resident will also be evaluated on their attainment of these goals and objectives as well as on their performance in conferences on a semi-annual basis through written evaluation of all 6 competencies (see resident evaluations) and verbal feedback from the Chairman and Program Director.
- Faculty members, a senior resident (as is appropriate), and the Neurosurgical NP’s evaluate all residents after each rotation. They are evaluated on all 6 competencies (see resident evaluations). Their attendance and performance in didactic teaching conferences and their case logs are also reviewed. The Chairman and Program Director review these evaluations and give verbal feedback to the residents on a semi-annual basis.
- Residents are promoted each year based on demonstration of competent performance of all requirements as outlined above.
Neurosurgery PGY 4 - (Residents rotate as Senior Residents on Pediatric Neurosurgery and Epilepsy/Functional Neurosurgery)

Neurosurgery PGY4 residents must demonstrate competence in all the competency based principles of patient care, medical knowledge, interpersonal & communication skills, and professionalism as well as in all procedures required of a Neurosurgery PGY3 resident prior to progressing to the Neurosurgery PGY4 year. An attending physician supervises all Operating Room procedures performed by residents and supervises all patient contact. In addition to mastering the procedures outlined below, the Neurosurgery PGY3 resident must master:

PEDIATRICNEUROSURGERY

PATIENT CARE PEDIATRICS:

- Perform all of the diagnostic, procedural and communicative skills and competency-based requirements outlined in the previous years, and apply those to the pediatric and the functional/epilepsy patient population.
- With appropriate supervision, residents will learn to competently perform the following procedures in the pediatric patient population:

  **Pediatric Neurosurgical Procedures**
  - Incision, burr holes and removal of bone flap for craniotomy
  - Incision, burr holes and removal of bone flap for sub-occipital craniotomy
  - Ventriculo-peritoneal shunt
  - Ventriculo-pleural shunt
  - Ventriculo-atrial shunt
  - Closure laminectomy wounds
  - Laminectomy for lumbar disc
  - Craniotomy for trauma
  - Craniotomy for craniofacial repair
  - Cranioplasty
  - Laminectomy lumbar
  - Laminectomy thoracic/cervical
  - Peripheral nerve repair/decompression
  - Craniotomy/microsurgical technique for tumor
  - Craniotomy/microsurgical technique for vascular lesion

  Demonstrate the ability to position, prepare and drape pediatric patients, including infants, for insertion of CNS implanted devices (including CSF shunt)
  - Demonstrate appropriate placement of cranial immobilization devices, including Mayfield pins, in young children

MEDICAL KNOWLEDGE PEDIATRICS:

- Discuss the embryology of congenital CNS malformation.
- Demonstrate the proper performance of a complete and a targeted neurological examination in different age groups and circumstances:
  - Infant
  - Child
  - Adolescent
  - Developmentally delayed patient.
- Demonstrate the ability to obtain and evaluate proper radiological studies in children:
  - MRI brain and spine
  - Cine MRI CSF flow study
  - MRA/MRV
• CT brain and spine
• 3D CT skull for synostosis
• CSF shunt and baclofen pump x-ray series
• VNS x-ray series.

• Demonstrate ability to manage, with supervision, neurosurgical emergencies in children:
  o Status epilepticus
  o Cerebral herniation
  o CNS infection
  o Unstable spine
  o Severe CNS metabolic abnormality
  o Severe CSF shunt malfunction.

• Demonstrate the ability to evaluate patients for CSF shunt infection and/or failure.
• Demonstrate the ability to evaluate pediatric neurotrauma patients.
• Demonstrate the ability to evaluate pediatric neurotrauma patients.
• Demonstrate the ability to perform basic bedside and ICU procedures in children:
  o CSF shunt tap
  o ICP monitor
  o Ventriculostomy
  o Lumbar puncture/Lumbar drain placement.

• Discuss the intra- and peri-operative physiology of the premature infant, infant and child.
• Discuss the pathophysiology and management of congenital, post-hemorrhagic, post-infectious, and post-traumatic, and myelomeningocele-associated hydrocephalus.
• Discuss the tumor biology of CNS malignancy in children.
• Discuss management of myelomeningocele patients in pre-natal, infant, child and adult age groups.
• Discuss the pathophysiology of childhood epilepsies, cortical dysplasia and heterotopia.
• Discuss the appropriate medical, surgical and endoscopic management of obstructive and communicating hydrocephalus.
• Discuss primary and secondary management of tethered spinal cord, including diagnosis of secondary tethering.
• Discuss ICU management of severe traumatic brain injury in children
• Discuss the diagnosis and management of non-accidental trauma including notification of the appropriate authorities.
• Discuss the role of surgery in medically refractory epilepsy treatment in children, including resective surgery and VNS.
• Discuss intra-operative and post-operative strategies for resection and adjunctive therapy in medulloblastoma, cerebellar astrocytoma and hypothalamic astrocytoma.
• Discuss appropriate post-traumatic and peri-operative narcotic orders in infants and children.
• Discuss appropriate pain management, sedation agents, doses and the regulatory limits on supervised sedation in pediatric patients.
• Discuss the principles of medical and surgical management of spinal cord injuries common to childhood: SCIWORA and craniocervical injury.
• Discuss and demonstrate the appropriate management for spinal cord and column injury in infants and children including ICU care, bracing, and surgery.
• Discuss the treatment of Chiari I malformation and syringomyelia, including the differential diagnosis of and various direct and indirect surgical treatments for syringomyelia.
• Discuss the management of congenital birth palsies.
• Discuss the medical and surgical management options in severe spasticity and dystonia related to cerebral palsy.
• Discuss the medical and surgical management principles in patients with neurocutaneous disorders, including neurofibromatosis types I and II, hereditary hemorrhagic telangiectasia, and tuberous sclerosis.
• Discuss the medical and surgical management of patients with intracranial and intraspinal cysts.
• Discuss the medical and surgical management of CNS infections and parasitic infection.
• Discuss to write appropriate PICU and post-op orders appropriate for a premature infant, infant, child, and adolescent.
• Demonstrate the ability to participate in the multi-disciplinary management of craniosynostosis patients, including peri-operative planning and management, and postoperative care.

INTERPERSONAL and COMMUNICATION SKILLS:
• They will learn how to communicate the pertinent positives and negatives of a general medical and neurological examination to neurosurgical attendings, and consulting physicians.
• They will learn how to communicate critical interpretation and correlation of clinical and neurodiagnostic (imaging) examinations based on a sound knowledge of neurology and neuropathology to senior residents, neurosurgical attendings, and consulting physicians.
• They will present in weekly didactic case conferences and at Journal Club
• Provide accurate detailed sign out for all covering residents.
• They will learn to be competent in communicating with team members in the hand-over process in order to minimize errors during transitions of care.
• Communicate treatment plans effectively with the pediatric house staff and nurses.
• They will learn to communicate patient information, care plans, and prognosis effectively and compassionately with parents and with the patient as is appropriate.
• They will learn to communicate operative information regarding risks benefit and alternatives to parents and patient (as is appropriate) in an effective and compassionate fashion in order to obtain intervention or surgical consent.

SYSTEMS-BASED PRACTICE:
• Trainees will learn what the delivery of health care costs (daily hospitalization costs, the costs of imaging procedures and laboratory tests, surgical fees, anesthesia charges, etc.).
• They will be taught to practice cost-effective medicine without sacrificing good clinical outcomes.
• Discuss specific JCAHO hospital safety regulations that are particularly important in the management of non-verbal, very young, and very low weight patients
• Discuss the appropriate notification procedures upon the diagnosis of non-accidental trauma in the pediatric population.
• Attend pediatric oncology, craniofacial, and spasticity conferences.
• Manage communication between the Pediatric ICU teams and pediatricians for co-managed patients.
PRACTICE-BASED LEARNING:
• Residents will learn to critically analyze the literature and presentations at meetings. Journal articles and conference presentations are discussed between residents and faculty in formal “Journal Clubs”, in conferences and in day-to-day discussions with faculty members.
• Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination. They are required to obtain a passing grade on this examination prior to completing their residency training.
• They will participate in clinical research projects where appropriate including participating in the IRB and consent process.
• The resident will present at pediatric tumor board and will present the pediatric M&M’s in the monthly M&M conference.
• Residents will learn that their best teachers are their patients. Much can be learned by studying their patients’ symptoms, whether these are relieved by a surgical procedure or other therapy, what benefit they derive from procedures and at what cost and, of course, the long-term follow-up.

PROFESSIONALISM:
• Trainees will learn constructive collegiality with faculty, their fellow residents, consultants and house staff from other specialties and services, and with nurses and paramedical personnel.
• Residents will learn how to deal with patients and families in a compassionate and humanistic way.
• Maintain professional rapport and comportment with patient families, nurses, other physician teams and other hospital personnel.
• Demonstrate respect for patients and colleagues from diverse cultural, ethnic and religious backgrounds.
• Demonstrate honesty in all professional interactions,
• Residents will maintain timely and accurate medical records.
• Residents will also:
  . Attend all required conferences in a timely fashion.
  . Pre-round on ICU patients and present timely, accurate data to team.
  . Participate in discussion of ethical dilemmas related to care delivery, consent, and life support in severely injured patients.
  . Provide consultation to the ED and other services in timely fashion.
  . Demonstrate dress, grooming and behavior consistent with institutional and departmental guidelines.
  . Comply with all GME and Departmental regulations regarding duty hour restrictions and report personal schedule in timely and accurate fashion.
  . Appear for duty appropriately rested and fit to provide the services required by their patients.
  . Accurately self-report fatigue in situations that may compromise safety and/or patient care.
  . Must be committed to and responsible for promoting patient safety.
  . Must demonstrate responsiveness to patient needs that supersedes self-interest.
  . Must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient’s care to another qualified and rested provider.

METHOD OF EVALUATION:
• Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination.
  o They are required to obtain a passing grade on this examination prior to completing their residency training.
  o They are also expected to improve their percentile performance on the ABNS primary examination each year.
• Resident will also attend weekly didactic conferences and the monthly Journal Club.
• Conference attendance and participation will be reviewed and discussed with the resident. They are required to attend at least 75% of all mandatory resident conferences.
• The senior residents who report directly to the attending surgeons will also evaluate the junior residents.
• The Neurosurgery Attending Staff reviews Resident Medical Documentation.
• Resident academic productivity regarding published abstracts, meeting presentations, and published manuscripts, awards, etc. is also reviewed.
• The resident will also be evaluated on their attainment of these goals and objectives as well as on their performance in conferences on a semi-annual basis through written evaluation of all 6 competencies (see resident evaluations) and verbal feedback from the Chairman and Program Director.
• Faculty members, a senior resident (as is appropriate), and the Neurosurgical NP’s evaluate all residents after each rotation. They are evaluated on all 6 competencies (see resident evaluations). Their attendance and performance in didactic teaching conferences and their case logs are also reviewed. The Chairman and Program Director review these evaluations and give verbal feedback to the residents on a semi-annual basis.
• Residents are promoted each year based on demonstration of competent performance of all requirements as outlined above.

EPILEPSY
PATIENT CARE EPILEPSY:
• Perform all of the diagnostic, procedural and communicative skills and competency-based requirements outlined in the previous years, and apply those to the pediatric and the functional/epilepsy patient population.
• With appropriate supervision, residents will learn to competently perform the following procedures in the functional/epilepsy patient population:

Epilepsy/Functional Neurosurgery Procedures:
• Craniotomy for Grid Placement –
• Craniotomy for Functional Resection –
• Craniotomy for Functional Brain Mapping –
• Awake Craniotomies: craniotomies under local anesthesia with unique technical considerations for “awake” craniotomies.
• Burr Holes for Deep Brain Stimulation
• Burr Holes for Placement of linear electrode arrays and depth electrodes using natural landmarks, frameless and stereotactic frame based techniques for localization and trajectory planning.
• Multistage Cortical resection for medically refractory epilepsy
• Vagus Nerve Stimulator Implantation
  o De novo implantation
  o Removal and revision of the system
• Rudimentary programming of the stimulation parameters.
  • Laminectomy lumbar/thoracic for implantation of Spinal Cord Stimulators
    o Percutaneous and laminectomy implantation
    o De novo implantation
    o Revisions and, and removal
    o Rudimentary programming
  • Performing laminectomy under local anesthesia for optimal electrode positioning.
  • Laminectomy lumbar/thoracic for implantation of Intrathecal Pumps
  • DBS placement for movement disorders
  • All Neurosurgery PGY3 procedures

MEDICAL KNOWLEDGE EPILEPSY:
• Discuss the pathophysiology of childhood epilepsies, cortical dysplasia and heterotopia, benign and low-grade neoplasms, and common syndromes that are associated with epilepsy such as Tuberous Sclerosis.
• Discuss the role of surgery in the treatment of medically refractory epilepsy in children and adults.
• Discuss the role of vagus nerve stimulation related to intracranial surgery for epilepsy management.
• Discuss the role of the various diagnostic and therapeutic surgical procedures in light of the various characteristic medically resistant epilepsies.
• To relate the resective and augmentative techniques to the evolving understanding of epilepsy from a functional and physiologic rather than a purely anatomic problem.
• Discuss the relationship of experimental options such as responsive neurostimulation and deep brain stimulation to the current neurosurgical understanding of epilepsy management.
• Discuss the role of and the interpretation in the epilepsy surgery evaluation process in formulating a surgical plan that includes:
  o Video EEG monitoring
  o Wada testing
  o Functional imaging (fMRI, PET, SPECT, MEG)
  o Neuropsychological evaluation and seizure semiology
• Discuss the various surgical approaches, electrode designs and implantation options to be able to sample from the convexity as well as hidden cortical surfaces.
• Discuss post implant care for the implanted patient.
• Discuss electrode removal.
• Discuss complications unique to electrodes.
• Discuss the options and considerations required for anatomic and functional resections in light of functional neurologic consequences.
• Discuss how functional imaging relates to the use of intra-operative functional study.
• Discuss how functional imaging is useful for both for invasive EEG and functional mapping
• Discuss the common complications and risk avoidance issues in the setting for epilepsy surgery but also its appropriateness adapted to special cases of neoplasm associated with seizures or eloquent cortex.
• Discuss the limitations and design of the surgical implantation to maximize efficacy.
• Discuss the theory, limitations, and interpretation of physiologic findings, of the diagnostic-therapeutic staged craniotomy epilepsy surgery, compared and contrasted to the standard single stage procedures such as classic antero-medial temporal lobe resection.
• Discuss procedure design how specific electrodes are located and used to answer important physiologic questions to maximize epilepsy control and minimize functional deficits from resection.
• Design and discuss appropriate resective epilepsy surgical procedure based on interpretation of diagnostic modalities.
• Discuss the relationship to percutaneous implantation of Spinal cord stimulators, the revisions and de novo implantation, and removal, and rudimentary programming.

INTERPERSONAL and COMMUNICATION SKILLS:
• They will learn how to communicate the pertinent positives and negatives of a general medical and neurological examination to neurosurgical attendings, and consulting physicians.
• They will learn how to communicate critical interpretation and correlation of clinical and neurodiagnostic (imaging) examinations based on a sound knowledge of neurology and neuropathology to senior residents, neurosurgical attendings, and consulting physicians.
• They will present in weekly didactic case conferences and at Journal Club
• Provide accurate detailed sign out for all covering residents.
• They will learn to be competent in communicating with team members in the hand-over process in order to minimize errors during transitions of care.
• Communicate treatment plans effectively with the neurology house staff, epilepsy fellows, neurology consultants, and nurses.
• They will learn to communicate patient information, care plans, and prognosis effectively and compassionately with the patient as is appropriate.
• They will learn to communicate operative information regarding risks, benefit and alternatives and expectations to the patient in an effective and compassionate fashion in order to obtain intervention or surgical consent.

SYSTEMS-BASED PRACTICE:
• Trainees will learn what the delivery of health care costs (daily hospitalization costs, the costs of imaging procedures and laboratory tests, surgical fees, anesthesia charges, etc.).
• They will be taught to practice cost-effective medicine without sacrificing good clinical outcomes.
• Attend the multidisciplinary adult and pediatric epilepsy conferences to develop an understanding of how a team reviews, analyzes and then works together to therapeutically manage a functional problem such as epilepsy.
• Manage communication between the ICU team and neurologists for co-managed patients.

PRACTICE-BASED LEARNING:
• Residents will learn to critically analyze the literature and presentations at meetings. Journal articles and conference presentations are discussed between residents and faculty in formal “Journal Clubs”, in conferences and in day-to-day discussions with faculty members. Each epilepsy surgical surgery case is discussed just prior to the operation in detail by the attending with the resident. Specifically reviewed are the pre-surgical data, the surgical issues and the surgical nuances pertaining to the immediate case. How the surgery is designed to supplement the pre-surgical clinical information or how the functional considerations relate to the intended ablation or augmentation aspect of the surgery.
• Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination. They are required to obtain a passing grade on this examination prior to completing their residency training.
• They will participate in clinical research projects where appropriate including participating in the IRB and consent process.
• Residents will learn that their best teachers are their patients. Much can be learned by studying their patients’ symptoms, whether these are relieved by a surgical procedure or other therapy, what benefit they derive from procedures and at what cost and, of course, the long-term follow-up.

PROFESSIONALISM:
• Trainees will learn constructive collegiality with faculty, their fellow residents, consultants and house staff from other specialties and services, but also with nurses and paramedical personnel.
• Residents will learn how to deal with patients and families in a compassionate and humanistic way.
• Maintain professional rapport and comportment with patient families, nurses, other physician teams and other hospital personnel
• Demonstrate respect for patients and colleagues from diverse cultural, ethnic and religious backgrounds
• Demonstrate honesty in all professional interactions
• Residents will maintain timely and accurate medical records.
• Residents will also:
  . Attend all required conferences in a timely fashion
  . Pre-round on ICU patients and present timely, accurate data to team
  . Participate in discussion of ethical dilemmas related to care delivery, consent, and life support in severely injured patients.
  . Provide consultation to the ED and other services in timely fashion
  . Demonstrate dress, grooming and behavior consistent with institutional and departmental guidelines
  . Comply with all GME and Departmental regulations regarding duty hour restrictions and report personal schedule in timely and accurate fashion.
  . Appear for duty appropriately rested and fit to provide the services required by their patients.
  . Accurately self-report fatigue in situations that may compromise safety and/or patient care.
  . Must be committed to and responsible for promoting patient safety.
  . Must demonstrate responsiveness to patient needs that supersedes self-interest.
  . Must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient’s care to another qualified and rested provider.

METHOD OF EVALUATION:
• Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination.
  o They are required to obtain a passing grade on this examination prior to completing their residency training.
  o They are also expected to improve their percentile performance on the ABNS primary examination each year.
• Resident will also attend weekly didactic conferences and the monthly Journal Club.
• Conference attendance and participation will be reviewed and discussed with the resident. They are required to attend at least 75% of all mandatory resident conferences.
• The senior residents who report directly to the attending surgeons will also evaluate the junior residents.
• The Neurosurgery Attending Staff reviews Resident Medical Documentation.
• Resident academic productivity regarding published abstracts, meeting presentations, and published manuscripts, awards, etc. are also reviewed.
• The resident will also be evaluated on their attainment of these goals and objectives as well as on their performance in conferences on a semi-annual basis through written evaluation of all 6 competencies (see resident evaluations) and verbal feedback from the Chairman and Program Director.
• Faculty members, a senior resident (as is appropriate), and the Neurosurgical NP’s evaluate all residents after each rotation. They are evaluated on all 6 competencies (see resident evaluations). Their attendance and performance in didactic teaching conferences and their case logs are also reviewed. The Chairman and Program Director review these evaluations and give verbal feedback to the residents on a semi-annual basis.
• Residents are promoted each year based on demonstration of competent performance of all requirements as outlined above.
v. Neurosurgery PGY 5 (Residents rotate as Senior Residents at Bellevue Hospital Center)
The PGY 5 neurosurgery resident year is primarily an elective one in which the resident can choose to pursue neuroscience research or a directed intense neurosurgical subspecialty experience. Past residents have had concentrated experiences in Functional neurosurgery, Spinal neurosurgery, Endovascular neurosurgery, Pediatric neurosurgery, and Radiosurgery. The resident is expected to pass the ABNS primary examination during this year and to produce at least one manuscript for presentation at a national meeting and eventual publication. The R4 resident takes night call as the primary emergency trauma consult resident and first assistant for the Bellevue Hospital Chief residents in emergency/trauma cases with graduated levels of operative responsibility. Neurosurgery PGY 5 residents must demonstrate competence in all principles of patient care, medical knowledge, interpersonal & communication skills, and professionalism as well as in all procedures required of a Neurosurgery PGY4 resident prior to progressing to the Neurosurgery PGY5 year. Surgical techniques are learned and standards of care adopted. An attending physician supervises all Operating Room procedures performed by residents. In addition to mastering the procedures outlined below, the Neurosurgery PGY5 resident must master:

PATIENT CARE:
• They will demonstrate competence in performing operative procedures neatly and carefully, respecting tissue planes and preserving normal structures.
• Residents will master all prior items on this graduated level of responsibilities and program goals handout and with appropriate supervision, residents will learn to competently perform the following procedures:

Procedures
- Craniotomy for trauma
- Craniotomy for tumor
- Craniotomy for craniofacial repair
- Cranioplasty
- Stereotactic biopsies and resections
- Laminectomy lumbar
- Laminectomy thoracic/cervical
- Anterior cervical approach to spine
- Peripheral nerve repair/decompression
- Carotid endarterectomy
- Craniotomy/microsurgical technique for tumor
- Craniotomy/microsurgical technique for vascular lesion
- Transsphenoidal pituitary surgery
- Skull base craniotomy for tumor
- Extracranial / Intracranial vascular bypass surgery
- Transthoracic decompression of the spine
- Retroperitoneal decompression of the spine
- Complex spinal reconstruction for tumor/trauma
- All Neurosurgery PGY 4 procedures

MEDICAL KNOWLEDGE:
• The resident will master the knowledge applicable to the chosen area of research and clinical expertise during this elective year.
• The resident will also demonstrate under appropriate supervision the ability to master
the evaluation and care of operative and non-operative neurosurgical emergencies.

INTERPERSONAL and COMMUNICATION SKILLS:
• They will learn how to communicate the pertinent positives and negatives of a
general medical and neurological examination to senior residents, neurosurgical
attendings, and consulting physicians in an accurate and timely fashion.
• They will learn how to communicate critical interpretation and correlation of
clinical and neurodiagnostic (imaging) examinations based on a sound
knowledge of neurology and neuropathology to senior residents, neurosurgical
attendings, and consulting physicians in an accurate and timely fashion.
• They will learn to be competent in communicating with team members in the
hand-over process in order to minimize errors during transitions of care.
• They will learn to communicate clearly and promptly with the nursing and support
staff in order to obtain the best patient care.
• They will learn to communicate patient information, care plans, and prognosis
effectively and compassionately with patients and their families.
• They will organize Journal Club including selecting and assigning the articles.
• They will also learn to present in weekly didactic case conferences.

SYSTEMS-BASED PRACTICE:
• Residents will be prepared for the regulatory and financial aspects of a clinical
practice when they finish their residency. Residents will learn what it costs to run a
practice and be cognizant of such information as: the mechanics of billing and
collection, diagnostic and billing codes, Medicare and Medicaid regulations, etc.
• As trainees become more mature it will be important for them to realize that we have
very few answers in neurological surgery. There will always be better ways of helping
our patients: more efficient, less invasive, less morbid procedures, alternative
therapies, better instrumentation, translational research, etc. In our program we
stress to residents, as they become young neurosurgeons that during their
subsequent careers they must strive leave the field better than they found it. During
their residency they must question the validity of every procedure we do, especially
in terms of cost/benefit and patient outcome. Residents are encouraged to be
creative and use facilities that are available throughout the institution for
development of instrumentation, software development, statistical analysis and basic
science collaboration.

PRACTICE-BASED LEARNING:
• Residents will learn to critically analyze the literature and presentations at meetings.
Journal articles and conference presentations are discussed between residents and
faculty in formal “Journal Clubs”, in conferences and in day-to-day discussions with
faculty members.
• They will participate in clinical research projects where appropriate including
participating in the IRB and consent process.
• Residents will be involved in clinical prospective and retrospective follow-up studies
and will learn the necessary data acquisition and analysis tools so that they can
continue their investigations during their training and throughout their careers.
• Residents will learn that neurosurgery is not insular. Reading the literature in our field
as well as other disciplines will spawn ideas for the improvement of our techniques
and practices. Development of web pages and sharing knowledge with colleagues in
other countries by means of the Internet increases the excitement of and enriches our field.

- Participation at national meetings is encouraged. Post-residency fellowships overseas are also encouraged and contacts made with foreign colleagues support these. Trainees will realize early on that neurosurgery is international.
- Senior residents will teach, and mentor students and their junior residents, do clinical and basic science research throughout their residency and are encouraged to pursue an academic career upon completion of their training.
- Residents will learn that their best teachers are their patients. Much can be learned by studying their patients’ symptoms, whether these are relieved by a surgical procedure or other therapy, what benefit they derive from procedures and at what cost and, of course, the long-term follow-up

PROFESSIONALISM:
  - Trainees will learn constructive collegiality with faculty, their fellow residents, consultants and house staff from other specialties and services, but also with nurses and paramedical personnel.
  - Residents will learn how to deal with patients and families in a compassionate and humanistic way.
  - Maintain professional rapport and comportment with patient families, nurses, other physician teams and other hospital personnel.
  - Demonstrate respect for patients and colleagues from diverse cultural, ethnic and religious backgrounds.
  - Demonstrate honesty in all professional interactions.
  - Residents will maintain timely and accurate medical records.
  - Residents will also:
    - Attend all required conferences in a timely fashion.
    - Pre-round on ICU patients and present timely, accurate data to team.
    - Participate in discussion of ethical dilemmas related to care delivery, consent, and life support in severely injured patients.
    - Provide consultation to the ED and other services in timely fashion.
    - Demonstrate dress, grooming and behavior consistent with institutional and departmental guidelines.
    - Comply with all GME and Departmental regulations regarding duty hour restrictions and report personal schedule in timely and accurate fashion.
    - Appear for duty appropriately rested and fit to provide the services required by their patients.
    - Accurately self-report fatigue in situations that may compromise safety and/or patient care.
    - Must be committed to and responsible for promoting patient safety.
    - Must demonstrate responsiveness to patient needs that supersedes self-interest.
    - Must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient’s care to another qualified and rested provider.

METHOD OF EVALUATION:
  - Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination.
    - They are required to obtain a passing grade on this examination during this year of their residency training.
They are also expected to improve their percentile performance on the ABNS primary examination each year.

- Resident will also attend weekly didactic conferences and the monthly Journal Club.
- Conference attendance and participation will be reviewed and discussed with the resident. They are required to attend at least 75% of all mandatory resident conferences.
- The senior residents who report directly to the attending surgeons will also evaluate the junior residents.
- The Neurosurgery Attending Staff reviews Resident Medical Documentation.
- Resident academic productivity regarding published abstracts, meeting presentations, and published manuscripts, awards, etc. is also reviewed.
- The resident will also be evaluated on their attainment of these goals and objectives as well as on their performance in conferences on a semi-annual basis through written evaluation of all 6 competencies (see resident evaluations) and verbal feedback from the Chairman and Program Director.
- Faculty members, a senior resident (as is appropriate), and the Neurosurgical NP’s evaluate all residents after each rotation. They are evaluated on all 6 competencies (see resident evaluations). Their attendance and performance in didactic teaching conferences and their case logs are also reviewed. The Chairman and Program Director review these evaluations and give verbal feedback to the residents on a semi-annual basis.
- Residents are promoted each year based on demonstration of competent performance of all requirements as outlined above.
vi. Neurosurgery PGY 6 (Residents rotate as Senior Residents at Tisch Hospital on Teams 1 & 2)

Neurosurgery PGY6 residents must demonstrate competence in all principles of patient care, medical knowledge, interpersonal & communication skills, and professionalism as well as in all procedures required of a Neurosurgery PGY5 resident prior to progressing to the Neurosurgery PGY6 year. The PGY6 resident works directly as the primary assistant for the attending neurosurgeons on all operations performed at the Tisch Hospital. The PGY6 resident is also primarily responsible, with attending supervision, for the in-patient care and evaluation of neurosurgical patients at Tisch Hospital. At Tisch Hospital, senior level residents work with master neurosurgeons on two distinct adult services; (Tumor/Vascular/Skull Base/Functional/Epilepsy Service) (Spine/Peripheral Services). During these rotations the residents assume more and more direct responsibility and surgical opportunities in the care of private patients. Surgical techniques are learned and standards of care adopted. An attending physician supervises all Operating Room procedures performed by residents. In addition to mastering the procedures outlined below, the Neurosurgery R5 residents must master:

**PATIENT CARE:**

- They will demonstrate competence in performing operative procedures neatly and carefully, respecting tissue planes and preserving normal structures. They will master the use of physiologic mapping techniques and neuronavigation (frame based and frameless) as adjuncts to surgery.
- Residents will master all prior items on this graduated level of responsibilities and program goals handout and with appropriate supervision, residents will learn to competently perform the following procedures:

**Procedures**

- Craniotomy for trauma
- Craniotomy for tumor primary and metastatic
- Craniotomy for craniofacial repair
- Cranioplasty
- Frame Based and Frameless Stereotatic biopsies and resections
- DBS and motion disorders surgery
- Carotid endarterectomy
- Craniotomy/microsurgical technique for tumor
- Craniotomy/microsurgical technique for vascular lesion (aneurysm and AVM)
- Transphenoidal pituitary surgery
- Endoscopic surgery for tumor and CSF diversion (3rd Ventriculostomy)
- Skull base craniotomy for tumor
- Craniotomy for posterior fossa surgery
- Extracranial / Intracranial vascular bypass surgery
- Serve as primary interventionalist for INR cases, including highly complex procedures
- Carotid Endarterectomy
- Fundamental procedures in Interventional Neuroradiology (including treatment of aneurysms, arteriovenous malformations and fistulas, cranial and spinal tumor embolizations, and carotid occlusive disease)
- Angiography
  - Learn fundamentals of cerebral and spinal angiography.
- Vascular
  - Coiling of intracranial aneurysms
• Learn Balloon remodeling techniques
• Learn Intracranial stenting techniques
• Embolization for AVMs and AV fistulas
• Learn to use different embolic materials (NBCA, ONYX)
• Management of extracranial carotid disease (Angioplasty and Stenting)
• Use of endovascular techniques as an adjunct and primary treatment for neurovascular disease

Craniocervical decompressive surgery
Laminectomy lumbar for tumor (intra and extra dural)
Laminectomy thoracic/cervical for decompression and resection of tumors (intradural –inc. intramedullary- and extra dural)
Peripheral nerve repair/decompression
Anterior cervical approach to spine inc. transoral
Anterior spinal instrumentation
Anterolateral spinal instrumentation
Transthoracic decompression of the spine
Retroperitoneal decompression of the spine
Transpedicular and extracavitary decompression of the spine
Cranio-cervical reconstruction
Complex spinal reconstruction for tumor/trauma/deformity
Anterior and posterior spinal osteotomies for deformity
Posterior spinal instrumentation (cranio-cervical-thoracolumbar-sacral-pelvic)
All Neurosurgery PGY 4 and 5 procedures

MEDICAL KNOWLEDGE:
• Discuss the appropriate management of low back pain and spondylosis prior to surgical consideration, including PT, epidural steroids, pain management, etc.
• Discuss appropriate pre-operative smoking cessation protocols.
• Discuss ASA anesthetic risk classes and appropriate pre-operative anesthesia evaluation.
• Discuss cardiac ischemia risk assessment and reduction prior to surgery.
• List the principal factors that influence successful wound healing.
• Discuss the appropriate use of bracing in the evaluation of lumbar spondylolisthesis/instability.
• Discuss management protocols for patients on either anti-platelet or anti-coagulant therapy for various indications prior to spinal or cranial surgery.
• Review the signs, symptoms and pathophysiology of common syndromes of degenerative spinal disorders such as radiculopathy, myelopathy, instability and neurogenic claudication.
• Identify the common syndromes of spinal cord injury.
• Discuss the biomechanics of the craniocervical junction, cervical and thoracolumbar spine
• Discuss the definition of spinal instability and recognize the radiographic signs of congenital, degenerative, neoplastic and traumatic spinal instability.
• Identify the classical brain stem ischemic syndromes.
• Explain the concepts of cerebral blood flow, cerebral auto regulation, ischemic thresholds, intracranial pressure and cerebral perfusion pressure.
• Recognize the common causes of brain ischemic states.
• Discuss the epidemiology, physiology and underlying pathophysiology of ischemic brain injury, including concepts of critical therapeutic window.
• Recognize the common causes of intracranial, subarachnoid and intraspinal
hemorrhage.

- Recognize the typical clinical course of patients with ischemic and hemorrhagic stroke, including peak risk intervals for edema, vasospasm and re-bleeding.
- Discuss the cutting edge practice of Interventional Neuroradiology.
- Discuss the differential diagnosis of ring-enhancing intracranial masses.
- Discuss the various tumors that may arise in the cerebellopontine angle.
- Discuss the classification schemes, anatomic location, and cell of origin, clinical presentation, molecular biology and natural history of common intrinsic brain neoplasms.
- Discuss the pathophysiology of Parkinson’s disease and essential tremor.
- Discuss the benefits and limitations of frame-based stereotactic procedures versus frameless stereotactic procedures.
- Discuss the classification of trigeminal facial pain and its therapeutic implications.
- Demonstrate an understanding of the anatomy, physiology, pathophysiology and presentation of peripheral nerve disease.

**INTERPERSONAL and COMMUNICATION SKILLS:**

- They will learn how to communicate the pertinent positives and negatives of a general medical and neurological examination to senior residents, neurosurgical attendings, and consulting physicians.
- They will learn how to communicate critical interpretation and correlation of clinical and neurodiagnostic (imaging) examinations based on a sound knowledge of neurology and neuropathology to senior residents, neurosurgical attendings, and consulting physicians.
- They will learn to be competent in communicating with team members in the hand-over process in order to minimize errors during transitions of care.
- They will present in weekly didactic case conferences and at Journal Club.

**SYSTEMS-BASED PRACTICE:**

- Residents will be prepared for the regulatory and financial aspects of a clinical practice when they finish their residency. Residents will learn what it costs to run a practice and be cognizant of such information as: the mechanics of billing and collection, diagnostic and billing codes, Medicare and Medicaid regulations, etc.
- As trainees become more mature is will be important for them to realize that we have very few answers in neurological surgery. There will always be better ways of helping our patients: more efficient, less invasive, less morbid procedures, alternative therapies, better instrumentation, translational research, etc. In our program we stress to residents, as they become young neurosurgeons that during their subsequent careers they must strive leave the field better than they found it. During their residency they must question the validity of every procedure we do, especially in terms of cost/benefit and patient outcome. Residents are encouraged to be creative and use facilities that are available throughout the institution for development of instrumentation, software development, statistical analysis and basic science collaboration.

**PRACTICE-BASED LEARNING:**

- Residents will learn to critically analyze the literature and presentations at meetings. Journal articles and conference presentations are discussed between residents and faculty in formal “Journal Clubs”, in conferences and in day-to-day discussions with faculty members.
• They will participate in clinical research projects where appropriate including participating in the IRB and consent process.
• Residents will be involved in clinical prospective and retrospective follow-up studies and will learn the necessary data acquisition and analysis tools so that they can continue their investigations during their training and throughout their careers.
• Residents will learn that neurosurgery is not insular. Reading the literature in our field as well as other disciplines will spawn ideas for the improvement of our techniques and practices. Development of web pages and sharing knowledge with colleagues in other countries by means of the Internet increases the excitement of and enriches our field.
• Participation at national meetings is encouraged. Post-residency fellowships overseas are also encouraged and contacts made with foreign colleagues support these. Trainees will realize early on that neurosurgery is international.
• Senior residents will teach, and mentor students and their junior residents, do clinical and basic science research throughout their residency and are encouraged to pursue an academic career upon completion of their training.
• Residents will learn that their best teachers are their patients. Much can be learned by studying their patients’ symptoms, whether these are relieved by a surgical procedure or other therapy, what benefit they derive from procedures and at what cost and, of course, the long-term follow-up.

PROFESSIONALISM:
• Trainees will learn constructive collegiality with faculty, their fellow residents, consultants and house staff from other specialties and services, but also with nurses and paramedical personnel.
• Residents will learn how to deal with patients and families in a compassionate and humanistic way.
• Maintain professional rapport and comportment with patient families, nurses, other physician teams and other hospital personnel.
• Demonstrate respect for patients and colleagues from diverse cultural, ethnic and religious backgrounds.
• Demonstrate honesty in all professional interactions.
• Residents will maintain timely and accurate medical records.
• Residents will also:
  • Attend all required conferences in a timely fashion.
  • Pre-round on ICU patients and present timely, accurate data to team.
  • Participate in discussion of ethical dilemmas related to care delivery, consent, and life support in severely injured patients.
  • Provide consultation to the ED and other services in timely fashion.
  • Demonstrate dress, grooming and behavior consistent with institutional and departmental guidelines.
  • Comply with all GME and Departmental regulations regarding duty hour restrictions and report personal schedule in timely and accurate fashion.
  • Appear for duty appropriately rested and fit to provide the services required by their patients.
  • Accurately self-report fatigue in situations that may compromise safety and/or patient care.
  • Must be committed to and responsible for promoting patient safety.
  • Must demonstrate responsiveness to patient needs that supersedes self-interest.
  • Must recognize that under certain circumstances, the best interests of the
patient may be served by transitioning that patient’s care to another qualified and rested provider.

METHOD OF EVALUATION:
• Resident will present at weekly didactic conferences and the monthly Journal Club.
• Conference attendance and participation will be reviewed and discussed with the resident. They are required to attend at least 90% of all mandatory resident conferences.
• The senior residents who report directly to the attending surgeons will also evaluate the junior residents.
• The Neurosurgery Attending Staff reviews Resident Medical Documentation.
• Resident academic productivity regarding published abstracts, meeting presentations, and published manuscripts, awards, etc. are also reviewed
• The resident will also be evaluated on their attainment of these goals and objectives as well as on their performance in conferences on a semi-annual basis through written evaluation of all 6 competencies (see resident evaluations) and verbal feedback from the Chairman and Program Director.
• Faculty members, a senior resident (as is appropriate), and the Neurosurgical NP’s evaluate all residents after each rotation. They are evaluated on all 6 competencies (see resident evaluations). Their attendance and performance in didactic teaching conferences and their case logs are also reviewed. The Chairman and Program Director review these evaluations and give verbal feedback to the residents on a semi-annual basis.
• Residents are promoted each year based on demonstration of competent performance of all requirements as outlined above.
Over the six previous years of the training program, residents progress from supervised patient care providers and surgical assistants to competent practitioners who can function and operate independently with faculty acting as back-up. Neurosurgery PGY7 residents must demonstrate competence in all principles of patient care, medical knowledge, interpersonal & communication skills, and professionalism as well as in all procedures required of a Neurosurgery PGY6 resident prior to progressing to the Neurosurgery R6 year. An attending physician supervises all Operating Room procedures performed by residents. The PGY7 neurological experience offers the residents a unique experience that is duplicated in very few programs in the country. During this year the residents with strict attending supervision get the opportunity to run very busy diverse neurological practices with the emphasis placed on the evaluation and management of neurological patients from the “start to finish.” This includes an extensive outpatient practice where the PGY7 resident has the primary responsibility to evaluate and manage all outpatient neurological problems including emergencies and transfers from other institutions. This also includes the pediatric patient population. This year allows the residents a seamless transition into the world of a fully independent practicing neurosurgeon. The PGY7 resident sits in with the attendings at Bellevue hospital when purchasing decisions are made for the clinics and the operating room. They interface with the other services as the primary neurological contact. These interactions are all done with close attending supervision but it does allow for the sense of autonomous decision-making. In particular;

The Bellevue Hospital chief resident, who consults with full time faculty, runs the neurological service and functions at the level of a fully trained neurosurgeon in this primarily elective practice. The rotation allows the resident more autonomy as they run the neurological service and performs all surgical procedures under close faculty supervision. Bellevue exposes residents to outpatient, emergency patient, and trauma patient management in addition to a large elective caseload in a large city hospital. The chief resident with attending supervision employs the methods and high standards learned at Tisch Hospital and gains confidence, enabling him or her to become a competent independent neurological practitioner.

PATIENT CARE:
- Chief resident will teach, and mentor students and their junior residents, do clinical and basic science research throughout their residency and are encouraged to pursue an academic career upon completion of their training.
- Chief resident will manage all ICU and ward neurological patients and obtain consultations.
- Formulate treatment plans for neurological patients utilizing the best available evidence based studies.
- Discuss the appropriate use of peri-operative and chronic anti-coagulation in patients with cerebrovascular disease.
- With appropriate supervision, residents will learn to competently perform the following procedures:
  - Craniotomy for anterior circulation aneurysm
  - Craniotomy for AVM
  - Craniotomy for tumor:
  - Carotid endarterectomy
• Transsphenoidal hypophysectomy
• Skull base repair of CSF leak
• Combined surgery for cranial base tumor resections and reconstruction

• Demonstrate an understanding of indications for surgical intervention for neurological diseases.
• Provide in-patient neurosurgical consultation with faculty supervision.
• Provide outpatient neurosurgical clinic care at Bellevue with faculty supervision.
• Independently perform all Neurosurgery PGY5 and PGY6 procedures with appropriate faculty supervision.
• Demonstrate the ability to recognize and treat complications related to neurosurgical diseases and procedures, including cerebral vasospasm, CSF leak, stroke, seizure, metabolic disorder, etc.
• Determine discharge readiness and direct discharge planning.
• By the end of this year, the Chief Resident will demonstrate competence in independently performing (under faculty supervision) all of the common neurosurgical procedures performed by contemporary neurological surgeons in the United States.
• The Chief Resident will master all items on the program goals handout and demonstrate the ability to perform independently and competently as a neurological surgeon.

MEDICAL KNOWLEDGE:
• Discuss the relevant surgical anatomy of the brain, spine, peripheral nerves and the bony coverings of each, particularly as they relate to diagnosis, surgical approaches, and treatment of neurosurgical diseases.
• Discuss the pathophysiology of aneurysmal subarachnoid hemorrhage, cerebral vasospasm and communicating hydrocephalus after SAH.
• Discuss and discuss the bleeding risk according to aneurysm type, location, and family history and Hunt-Hess classification.
• Describe the pathophysiology, classification (typological, anatomical and surgical grade) and bleeding risk of arteriovenous malformations.
• Discuss and discuss the pathophysiology of carotid stenosis, TIA, RIND, stroke, reperfusion syndrome, and chronic cerebral ischemia.
• Identify threshold levels for flow-related cerebral ischemia in gray and white matter for electrical dysfunction and irreversible neuronal death and describe the various available methodologies for measuring or clinically estimating cerebral blood flow.
• Discuss and discuss the pathophysiology of neoplastic diseases of the nervous system and its coverings.
• Learn and discuss the differential diagnosis of skull base tumors presenting in various locations/compartments and the associated clinical presentations (with particular attention to associated cranial nerve deficits).
• Learn and discuss current theory in adjunctive neuro-oncology care,
• Learn and discuss the physiology and pathophysiology of the hypothalamic-pituitary endocrine axis and the associated diagnostic findings in pituitary tumor patients and patients with other sellar and supra-sellar lesions.
• Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination. They are required to obtain a passing grade on this examination prior to completing their residency training.
• Residents will master all items on this graduated level of responsibilities and program goals handout prior to completing residency training. Thus allowing them to be
competent independent practitioners of Neurosurgery. This handout is given to all residents and reviewed with them annually.

INTERPERSONAL and COMMUNICATION SKILLS:
- They will learn how to communicate the pertinent positives and negatives of a general medical and neurological examination neurosurgical attendings, and consulting physicians.
- Discuss how to evaluate, work up and treat patients in the out patient clinic setting.
- Discuss how to effectively communicate with patients and their families regarding the patient's diagnosis, condition, need for intervention (or not), and the risks, benefits, and alternatives of it.
- They will discuss how to effectively communicate with patients and their families regarding bad news including poor outcome, death, and brain death.
- They will discuss how to communicate critical interpretation and correlation of clinical and neurodiagnostic (imaging) examinations based on a sound knowledge of neurology and neuropathology to senior residents, neurosurgical attendings, and consulting physicians.
- They will learn to be competent in communicating with team members in the hand-over process in order to minimize errors during transitions of care.
- They will present in weekly didactic case conferences and at Journal Club.
- They will communicate with social work, rehabilitation specialists, and discharge planning nurses to coordinate the follow-up and long term care of their patients.
- Communicate with post-operative patients in the outpatient clinics regarding their progress, prognosis, activity level, and return to work status.

SYSTEMS-BASED PRACTICE:
- Coordinate the pre-operative clearance and scheduling of all surgical patients.
- Schedule the appropriate consulting surgeons and OR equipment in order to ensure ability to perform the appropriate procedure.
- Present all out patient clinic patients to the attendings during the weekly outpatient teaching rounds including pertinent positives and negatives and treatment plan.
- Coordinate the out patient work up of all potential surgical patients and ensure appropriate follow up for non-surgical patients.
- Residents will be prepared for the regulatory and financial aspects of a clinical practice when they finish their residency. Residents will discuss what it costs to run a practice and be cognizant of such information as: the mechanics of billing and collection, diagnostic and billing codes, Medicare and Medicaid regulations, etc.
- As trainees become more mature is will be important for them to realize that we have very few answers in neurological surgery. There will always be better ways of helping our patients: more efficient, less invasive, less morbid procedures, alternative therapies, better instrumentation, translational research, etc. In our program we stress to residents, as they become young neurosurgeons that during their subsequent careers they must strive leave the field better than they found it. During their residency they must question the validity of every procedure we do, especially in terms of cost/benefit and patient outcome. Residents are encouraged to be creative and use facilities that are available throughout the institution for development of instrumentation, software development, statistical analysis and basic science collaboration.

PRACTICE-BASED LEARNING:
• Residents will learn to critically analyze the literature and presentations at meetings. Journal articles and conference presentations are discussed between residents and faculty in formal “Journal Clubs”, in conferences and in day-to-day discussions with faculty members.

• Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination. They are required to obtain a passing grade on this examination prior to completing their residency training.

• They will participate in clinical research projects where appropriate including participating in the IRB and consent process.

• Residents will be involved in clinical prospective and retrospective follow-up studies and will learn the necessary data acquisition and analysis tools so that they can continue their investigations during their training and throughout their careers.

• Residents will learn that neurosurgery is not insular. Reading the literature in our field as well as other disciplines will spawn ideas for the improvement of our techniques and practices. Development of web pages and sharing knowledge with colleagues in other countries by means of the Internet increases the excitement of and enriches our field.

• Participation at national meetings is encouraged. Post-residency fellowships overseas are also encouraged and contacts made with foreign colleagues support these. Trainees will realize early on that neurosurgery is international.

• Senior residents will teach, and mentor students and their junior residents, do clinical and basic science research throughout their residency and are encouraged to pursue an academic career upon completion of their training.

• Residents will learn that their best teachers are their patients. Much can be learned by studying their patients’ symptoms, whether these are relieved by a surgical procedure or other therapy, what benefit they derive from procedures and at what cost and, of course, the long-term follow-up.

PROFESSIONALISM:
• Trainees will learn constructive collegiality with faculty, their fellow residents, consultants and house staff from other specialties and services, but also with nurses and paramedical personnel.

• Residents will learn how to deal with patients and families in a compassionate and humanistic way.

• Maintain professional rapport and comportment with patient families, nurses, other physician teams and other hospital personnel

• Demonstrate respect for patients and colleagues from diverse cultural, ethnic and religious backgrounds

• Demonstrate honesty in all professional interactions

• Residents will maintain timely and accurate medical records.

• Residents will also:
  • Attend all required conferences in a timely fashion
  • Pre-round on ICU patients and present timely, accurate data to team
  • Participate in discussion of ethical dilemmas related to care delivery, consent, and life support in severely injured patients.
  • Provide consultation to the ED and other services in timely fashion
  • Demonstrate dress, grooming and behavior consistent with institutional and departmental guidelines
  • Comply with all GME and Departmental regulations regarding duty hour restrictions and report personal schedule in timely and accurate fashion.
  • Appear for duty appropriately rested and fit to provide the services
Residents will learn how to “run” an operating room including instructing staff and anesthesia colleagues in an effective and professional manner.

METHOD OF EVALUATION:

- Resident will present at weekly didactic conferences and the monthly Journal Club.
- Conference attendance and participation will be reviewed and discussed with the resident. They are required to attend at least 90% of all mandatory resident conferences.
- The Neurosurgery Attending Staff reviews the residents Medical Documentation.
- Resident academic productivity regarding published abstracts, meeting presentations, and published manuscripts, awards, etc. are also reviewed.
- The resident will also be evaluated on their attainment of these goals and objectives as well as on their performance in conferences on a semi-annual basis through written evaluation of all 6 ACGME competencies (see resident evaluations) and verbal feedback from the Chairman and Program Director.
- Faculty members, and the Neurosurgical NP’s evaluate the residents after each rotation. They are evaluated on all 6 competencies (see resident evaluations). Their attendance and performance in didactic teaching conferences and their case logs are also reviewed. The Chairman and Program Director review these evaluations and give verbal feedback to the residents on a semi-annual basis.
- Residents are graduated at the end of this year based on demonstration of competent performance of all requirements as outlined above and based on a clear demonstration that they have become competent independent practitioners of Neurosurgery.

Neurosurgery PGY 7 (Residents rotate as Chief Residents at the New York Harbor Health Care System (VA) for 6 months)

Over the six previous years of the training program, residents progress from supervised patient care providers and surgical assistants to competent practitioners who can function and operate independently with faculty acting as back-up. Neurosurgery PGY7 residents must demonstrate competence in all principles of patient care, medical knowledge, interpersonal & communication skills, and professionalism as well as in all procedures required of a Neurosurgery PGY6 resident prior to progressing to the Neurosurgery PGY7 year. An attending physician supervises all Operating Room procedures performed by residents. The PGY7 neurosurgical experience offers the residents a unique experience that is duplicated in very few programs in the country. During this year the residents with strict attending supervision get the opportunity to run very busy diverse neurosurgical practices with the emphasis placed on the evaluation and management of neurosurgical patients from the “start to finish.” This includes an extensive outpatient practice where the PGY7 resident has the primary responsibility to evaluate and manage all patient neurosurgical problems including emergencies and...
transfers from other institutions. This also includes the pediatric patient population. This year allows the residents a seamless transition into the world of a fully independent practicing neurosurgeon. The PGY7 resident sits in with the attendings at the Veterans hospital when purchasing decisions are made for the clinics and the operating room. They interface with the other services as the primary neurosurgical contact. These interactions are all done with close attending supervision but it does allow for the sense of autonomous decision-making. In particular;

The Chief resident consults with full time faculty, runs the neurosurgical service at the New York Harbor Health Care System (VA) in this primarily elective practice. At the VA, the chief resident supervises and mentors junior resident, and medical students. The rotation allows the resident more autonomy as they run the neurosurgical service and performs all surgical procedures under close faculty supervision. They gain exposure at the VA to out patient, emergency patient management in addition to a large elective caseload at a regional Neurosurgical referral hospital. The chief resident with attending supervision employ the methods and high standards learned at Tisch Hospital and gain confidence, enabling them to become competent independent neurosurgical practitioners.

PATIENT CARE:
• Chief residents will teach, and mentor students and their junior residents, do clinical and basic science research throughout their residency and are encouraged to pursue an academic career upon completion of their training.
• Chief residents will manage all ICU and ward neurosurgical patients and obtain consultation.
• Formulate treatment plans for neurosurgical patients utilizing the best available evidence based studies.
• Discuss the appropriate use of peri-operative and chronic anti-coagulation in patients with cerebrovascular disease.
• With appropriate supervision, residents will learn to competently perform the following procedures:
  o Craniotomy for anterior circulation aneurysm
  o Craniotomy for AVM
  o Craniotomy for tumor:
  o Carotid endarterectomy
  o Transsphenoidal hypophysectomy
  o Skull base repair of CSF leak
  o Combined surgery for cranial base tumor resections and reconstruction
• Demonstrate an understanding of indications for surgical intervention for neurological diseases.
• Provide in-patient neurosurgical consultation with faculty supervision.
• Provide outpatient neurosurgical clinic care at the New York Harbor Health Care System with faculty supervision.
• Independently perform all Neurosurgery PGY5 and PGY6 procedures with appropriate faculty supervision.
• Demonstrate the ability to recognize and treat complications related to neurosurgical diseases and procedures, including cerebral vasospasm, CSF leak, stroke, seizure, metabolic disorder, etc.
• Determine discharge readiness and direct discharge planning.
• By the end of this year, the Chief Resident will demonstrate competence in
independently performing (under faculty supervision) all of the common neurosurgical procedures performed by contemporary neurological surgeons in the United States.

• The Chief Resident will master all items on the program goals handout and demonstrate the ability to perform independently and competently as a neurological surgeon.

MEDICAL KNOWLEDGE:
• Discuss the relevant surgical anatomy of the brain, spine, peripheral nerves and the bony coverings of each, particularly as they relate to diagnosis, surgical approaches, and treatment of neurosurgical diseases.
• Discuss the pathophysiology of aneurysmal subarachnoid hemorrhage, cerebral vasospasm and communicating hydrocephalus after SAH.
• Discuss and discuss the bleeding risk according to aneurysm type, location, and family history and Hunt-Hess classification.
• Describe the pathophysiology, classification (typological, anatomical and surgical grade) and bleeding risk of arteriovenous malformations.
• Learn and discuss the pathophysiology of carotid stenosis, TIA, RIND, stroke, reperfusion syndrome, and chronic cerebral ischemia.
• Identify threshold levels for flow-related cerebral ischemia in gray and white matter for electrical dysfunction and irreversible neuronal death and describe the various available methodologies for measuring or clinically estimating cerebral blood flow.
• Learn and discuss the pathophysiology of neoplastic diseases of the nervous system and its coverings.
• Learn and discuss the differential diagnosis of skull base tumors presenting in various locations/compartments and the associated clinical presentations (with particular attention to associated cranial nerve deficits).
• Learn and discuss current theory in adjunctive neuro-oncology care,
• Learn and discuss the physiology and pathophysiology of the hypothalamic-pituitary endocrine axis and the associated diagnostic findings in pituitary tumor patients and patients with other sellar and supra-sellar lesions.
• Residents will master all items on this graduated level of responsibilities and program goals handout prior to completing residency training. Thus allowing them to be competent independent practitioners of Neurosurgery. This handout is given to all residents and reviewed with them annually.

INTERPERSONAL and COMMUNICATION SKILLS:
• They will learn how to communicate the pertinent positives and negatives of a general medical and neurological examination neurosurgical attendings, and consulting physicians.
• They will discuss how to evaluate, work up and treat patients in the out patient clinic setting.
• They will discuss how to effectively communicate with patients and their families regarding the patient’s diagnosis, condition, need for intervention (or not), and the risks, benefits, and alternatives of it.
• They will also discuss how to effectively communicate with patients and their families regarding bad news including poor outcome, death, and brain death.
• They will discuss how to communicate critical interpretation and correlation of clinical and neurodiagnostic (imaging) examinations based on a sound knowledge of neurology and neuropathology to senior residents, neurosurgical attendings, and consulting physicians.
• They will learn to be competent in communicating with team members in the hand-over process in order to minimize errors during transitions of care.
• They will present in weekly didactic case conferences and at Journal Club.
• They will communicate with social work, rehabilitation specialists, and discharge planning nurses to coordinate the follow-up and long term care of their patients.
• Communicate with post-operative patients in the outpatient clinics regarding their progress, prognosis, activity level, and return to work status.

SYSTEMS-BASED PRACTICE:
• Coordinate the pre-operative clearance and scheduling of all surgical patients.
• Schedule the appropriate consulting surgeons and OR equipment in order to ensure ability to perform the appropriate procedure.
• Present all out patient clinic patients to the attendings during the weekly outpatient teaching rounds including pertinent positives and negatives and treatment plan.
• Coordinate the out patient work up of all potential surgical patients and ensure appropriate follow up for non-surgical patients.
• Residents will be prepared for the regulatory and financial aspects of a clinical practice when they finish their residency. Residents will discuss what it costs to run a practice and be cognizant of such information as: the mechanics of billing and collection, diagnostic and billing codes, Medicare and Medicaid regulations, etc.
• As trainees become more mature is will be important for them to realize that we have very few answers in neurological surgery. There will always be better ways of helping our patients: more efficient, less invasive, less morbid procedures, alternative therapies, better instrumentation, translational research, etc. In our program we stress to residents, as they become young neurosurgeons that during their subsequent careers they must strive leave the field better than they found it.
• During their residency they must question the validity of every procedure we do, especially in terms of cost/benefit and patient outcome. Residents are encouraged to be creative and use facilities that are available throughout the institution for development of instrumentation, software development, statistical analysis and basic science collaboration.

PRACTICE-BASED LEARNING:
• Residents will learn to critically analyze the literature and presentations at meetings. Journal articles and conference presentations are discussed between residents and faculty in formal “Journal Clubs”, in conferences and in day-to-day discussions with faculty members.
• Resident fund of medical knowledge will be evaluated annually by sitting for the written portion of the ABNS primary examination. They are required to obtain a passing grade on this examination prior to completing their residency training.
• They will participate in clinical research projects where appropriate including participating in the IRB and consent process.
• Residents will be involved in clinical prospective and retrospective follow-up studies and will learn the necessary data acquisition and analysis tools so that they can continue their investigations during their training and throughout their careers.
• Residents will learn that neurosurgery is not insular. Reading the literature in our field as well as other disciplines will spawn ideas for the improvement of our techniques and practices. Development of web pages and sharing knowledge with colleagues in other countries by means of the Internet increases the excitement of and enriches our field.
• Participation at national meetings is encouraged. Post-residency fellowships overseas are also encouraged and contacts made with foreign colleagues support these. Trainees will realize early on that neurosurgery is international.
• Senior residents will teach, and mentor students and their junior residents, do clinical and basic science research throughout their residency and are encouraged to pursue an academic career upon completion of their training.
• Residents will learn that their best teachers are their patients. Much can be learned by studying their patients’ symptoms, whether these are relieved by a surgical procedure or other therapy, what benefit they derive from procedures and at what cost and, of course, the long-term follow-up.

PROFESSIONALISM:
• Trainees will learn constructive collegiality with faculty, their fellow residents, consultants and house staff from other specialties and services, but also with nurses and paramedical personnel.
• Residents will learn how to deal with patients and families in a compassionate and humanistic way.
• Maintain professional rapport and comportment with patient families, nurses, other physician teams and other hospital personnel.
• Demonstrate respect for patients and colleagues from diverse cultural, ethnic and religious backgrounds.
• Demonstrate honesty in all professional interactions.
• Residents will maintain timely and accurate medical records.
• Residents will also:
  . Attend all required conferences in a timely fashion.
  . Pre-round on ICU patients and present timely, accurate data to team.
  . Participate in discussion of ethical dilemmas related to care delivery, consent, and life support in severely injured patients.
  . Provide consultation to the ED and other services in timely fashion.
  . Demonstrate dress, grooming and behavior consistent with institutional and departmental guidelines.
  . Comply with all GME and Departmental regulations regarding duty hour restrictions and report personal schedule in timely and accurate fashion.
  . Appear for duty appropriately rested and fit to provide the services required by their patients.
  . Accurately self-report fatigue in situations that may compromise safety and/or patient care.
  . Must be committed to and responsible for promoting patient safety.
  . Must demonstrate responsiveness to patient needs that supersedes self-interest.
  . Must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient’s care to another qualified and rested provider.
• Residents will learn how to “run” an operating room including instructing staff and anesthesia colleagues in an effective and professional manner.

METHOD OF EVALUATION:
• Resident will present at weekly didactic conferences and the monthly Journal Club.
- Conference attendance and participation will be reviewed and discussed with the resident. They are required to attend at least 90% of all mandatory resident conferences.
- The Neurosurgery Attending Staff reviews the residents Medical Documentation.
- Resident academic productivity regarding published abstracts, meeting presentations, and published manuscripts, awards, etc. are also reviewed.
- The resident will also be evaluated on their attainment of these goals and objectives as well as on their performance in conferences on a semi-annual basis through written evaluation of all 6 ACGME competencies (see resident evaluations) and verbal feedback from the Chairman and Program Director.
- Faculty members, and the Neurosurgical NP’s evaluate the residents after each rotation. They are evaluated on all 6 competencies (see resident evaluations). Their attendance and performance in didactic teaching conferences and their case logs are also reviewed. The Chairman and Program Director review these evaluations and give verbal feedback to the residents on a semi-annual basis.

Residents are graduated at the end of this year based on demonstration of competent performance of all requirements as outlined above and based on a clear demonstration that they have become competent independent practitioners of Neurosurgery.
4. Appendix A – Departmental Policies
   i. Duty Hours And Work Environment Policy
   ii. Alertness and Fatigue Mitigation Policy
   iii. Moonlighting Policy- (Template)
   iv. Policy For Supervision Of Residents
   v. Neurosurgery Scope of Practice/ Levels of Supervision
   vi. Departmental Evaluation Policy
   vii. Transition of Care Policy
   viii. Professionalism and Patient Safety (TBD)
   ix. Case Logs (TBD)
RESIDENT WORK HOUR POLICY

It is the policy of the Department of Neurological Surgery at New York University Medical Center to fully comply with New York State 405 Regulations and with ACGME policy on work hours for post-graduate trainees (i.e. residents and fellows). The program director, site directors, and clinical service chiefs are accountable for ensuring strict compliance with all work hours policies. The GME Committee receives periodic reports on work hour compliance as part of the QA process. Duty hours are defined as all clinical and academic activities related to the educational program: patient care, both inpatient and outpatient, administrative duties related to patient care, the provision for transfer of patient care, time spent in-house during call activities, time spent off site engaging in at home call activities, and scheduled academic activities such as conferences. Duty hours do not include reading and preparation time spent away from the duty site. The NYU-Department of Neurological Surgery fully supports the Resident Work Hour Limitations established by New York State 405 Regulations, the Neurological Surgery Residency Review Committee and the ACGME with the following requirements:

**Maximum Hours of Work per week:**

- Resident Duty hours are limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call and at home call activities.

- Residents are scheduled for a minimum of one day free of duty every week (when averaged over four weeks). At-home call **cannot be** assigned on these free days.

**Maximum Duty Length Periods are as follows:**

- Duty periods of PGY-1 residents must not exceed 16 hours in duration.
- Duty periods of PGY-2 residents and above may be scheduled to a maximum of 24 hours of continuous duty in the hospital.

  - We encourage residents to use alertness management strategies in the context of patient care responsibilities. Strategic napping, especially after 16 hours of continuous duty and between the hours of 10:00 p.m. and 8:00 a.m., is strongly suggested.

  - It is essential for patient safety and resident education that effective transitions in care occur. Residents may be allowed to remain on-site in order to accomplish these tasks. This period of time must be no longer than an additional four hours.

  - Residents are not be assigned additional clinical responsibilities after 24 hours of continuous in-house duty.

  - In unusual circumstances, residents, **on their own initiative**, may remain beyond their scheduled period of duty to continue to provide care to a single patient. Justifications for such extensions of duty are limited to reasons of required continuity for a severely ill or unstable patient, academic importance of the events transpiring, or humanistic attention to the needs of a patient or family. Under those circumstances, the resident must: appropriately hand over
the care of all other patients to the team responsible for their continuing care; and, document the reasons for remaining to care for the patient in question and submit that documentation in every circumstance to the site directors and the program director. The program director reviews each submission of additional service, and tracks both individual resident and program-wide episodes of additional duty.

**Moonlighting is strictly prohibited** by the NYU Department of Neurological Surgery (See enclosed moonlighting policy and sign off sheet)

**Minimum Time Off between Scheduled Duty Periods is as follows:**

- PGY-1 residents should have 10 hours, and must have eight hours, free of duty between scheduled duty periods.

- Intermediate-level residents (PGY 2-5) should have 10 hours free of duty, and must have eight hours between scheduled duty periods. They must have at least 14 hours free of duty after 24 hours of in-house duty.

- Residents in the final years of education (PGY 6-7) must be prepared to enter the unsupervised practice of medicine and care for patients over irregular or extended periods.
  
  - This preparation must occur within the context of the 80-hour maximum duty period length, and one-day-off-in-seven standards. While it is desirable that residents in their final years of education have eight hours free of duty between scheduled duty periods, there may be circumstances when these residents must stay on duty to care for their patients or return to the hospital with fewer than eight hours free of duty. The site directors and the program director strictly monitor circumstances of return-to-hospital activities with fewer than eight hours away from the hospital by residents in their final years of education.

**Maximum Frequency of In-House Night Float:**

NYU Department of Neurological Surgery does not participate in in-House Night Float

**Maximum In-House On-Call Frequency**

PGY-2 residents and above must be scheduled for in-house call no more frequently than every-third-night (when averaged over a four-week period).

**At-Home Call**

- Time spent in the hospital by residents on at-home call must count towards the 80-hour maximum weekly hour limit. The frequency of at-home call is not subject to the every-third-night limitation, but must satisfy the requirement for one-day-in-seven free of duty, when averaged over four weeks.

- At-home call must not be so frequent or taxing as to preclude rest or reasonable personal time for each resident.

- Residents are permitted to return to the hospital while on at-home call to care for
new or established patients. Each episode of this type of care, while it must be included in the 80-hour weekly maximum, will not initiate a new “off-duty period”.

- Verbal inquires are made by the site directors, and clinical service chiefs, or by the program director regarding if the At-home call was so taxing as to preclude rest or reasonable personal time for the resident. If this is the case resident is instructed to return home (car fare is provided) and not to return until the next schedule duty period at which point they are re-evaluated.

Our department in accordance has implemented procedures to relieve a postgraduate trainee due to fatigue (see Fatigue Policy). Stress and fatigue can be either self-reported or observed by other trainees, or responsible attending staff. All of our residents and faculty are required to take on line training modules to enable them to recognize undue stress or fatigue in themselves or others. Adequate backup through qualified physician extenders or supervising attending physicians is always available and is utilized as needed to assure that patient care is not jeopardized by resident stress or fatigue. A stressed or fatigued resident is instructed to return home (car fare is provided) and not to return until the next schedule duty period at which point they are re-evaluated.

The facilities afforded the residents at NYU are there to ensure an appropriate environment for learning and providing patient care. This includes food service capabilities during assigned duty hours and suitable on-call rooms suitable for each resident on night duty in the hospital.

Monitoring of compliance with the New York State 405 Regulations and with ACGME policy on work hours for post-graduate trainees (i.e. residents and fellows) is conducted by the Department of Neurological Surgery on a monthly basis through the distribution, collection, and evaluation of duty hours booklets (see enclosed) by all of our residents at all of our participating institutions. The site directors and program director on a monthly basis review the duty hours booklets. They are submitted for institutional review on a quarterly basis with plans of correction instituted for any violations. They are reviewed as a component of the resident’s professionalism during the resident semi-annual reviews.

All duty hours violations should be reported immediately to the site directors or the program director. If need be, they can be reported anonymously to the compliance hotlines as below:

**To Report Duty Hour Violations at NYU:**
An anonymous NYULMC Compliance Hotline has been established and is available 24 hours a day 7 days a week. For questions or concerns, faculty and staff can call the multilingual hotline and obtain a tracking number. Issues and concerns are forwarded to the Office of Compliance for follow-up. **The Compliance Hotline number is (866)-NYU-1212.**

**To Report Duty Hour Violations at Bellevue:**
The Bellevue Resident Hot line can be found on the Bellevue Intranet Home Page. This hotline is completely anonymous.
On the left hand side:
1. Select "Patient Safety Hotline"
2. Then, go to the "blue" section
3. Select either one of the following:
4. Fill in the fields as prompted.
5. A self-selected password is required so you can follow-up on the response to your complaint.

Duty Hours, Fatigue or “Workplace”

- Resident Fatigue or Duty hour limit (self or colleague)
  - Site supervisor VA, Bellevue or Tisch service
    - Program director or assistant
      - Chairman

- Chief Resident
ALERTNESS MANAGEMENT/FATIGUE MITIGATION MONITORING POLICY

New York University Neurosurgery Program, in compliance with the New York State Department of Health Regulations and ACGME program requirements, requires that all residents be monitored for signs of fatigue. It is the responsibility of the Program Director, site directors, and clinical service chiefs to monitor the on-call and assignment schedules of all post graduate trainees to ensure that residents are receiving ample time for rest, in compliance with NYS and ACGME duty hour regulations. Our program educates all of our faculty and residents about the signs and symptoms of fatigue and methods of fatigue mitigation to manage the potential negative effects of fatigue on patient care and learning by using the Sleep, Alertness, and Fatigue Education in Residency [SAFER] on line educational resources found on the NYU GME website Sleep, Alertness, and Fatigue Education in Residency (SAFER).

Any post-graduate trainee who is experiencing fatigue should immediately notify his/her program of his/her state of fatigue. When a program director, site directors, or clinical service chiefs, or chief residents determine that a resident is too fatigued to perform his/her duties effectively, the program director will arrange for the resident to be temporarily relieved from all on-call and clinical duties. Adequate backup through qualified physician extenders or supervising attending physicians is always available and is utilized as needed to assure that patient care is not jeopardized by resident stress or fatigue and to ensure continuity of patient care in the event that a resident may be unable to perform his/her patient care duties. Adequate sleep facilities options are provided for fatigued residents but, in general a stressed or fatigued resident is instructed to return home (car fare is provided) and not to return until the next schedule duty period at which point they are re-evaluated. It is the responsibility of the Program Director / designee to notify the appropriate individuals of the change in the on-call and clinical assignment schedule.

As stated in the duty hours policy, all duty hours violations should be reported immediately to the site directors or the program director. If need be, they can be reported anonymously to the compliance hotlines as below:

To Report Duty Hour Violations at NYU:
An anonymous NYULMC Compliance Hotline has been established and is available 24 hours a day 7 days a week. For questions or concerns, faculty and staff can call the multilingual hotline and obtain a tracking number. Issues and concerns are forwarded to the Office of Compliance for follow-up. The Compliance Hotline number is (866)-NYU-1212.

To Report Duty Hour Violations at Bellevue:
The Bellevue Resident Hot line can be found on the Bellevue Intranet Home Page. This hotline is completely anonymous. On the left hand side:
1. Select "Patient Safety Hotline"
2. Then, go to the "blue" section
3. Select either one of the following:
   * "Patient related issue"
   * "Resident related issue"
   * "Supply related issue"
   * "Other"
4. Fill in the fields as prompted.

Duty Hours, Fatigue or “Workplace”

- Resident Fatigue or Duty hour limit (self or colleague)
- Site supervisor VA, Bellevue or Tisch service
- Program director or assistant
- Chairman

Chief Resident
MOONLIGHTING POLICY

New York University Department of Neurological Surgery Neurosurgery Residency
Moonlighting Policy

The NYU Residency Program in Neurological Surgery DOES NOT allow moonlighting under any circumstances.

I, _______________________________ have seen, read, and agree to abide by the moonlighting policy as outlined above.

Signed by: ___________________________ Date: ________________
PGY Level _____

Signed by: ___________________________ Date: ________________
Anthony Frempong-Boadu, M.D.
Program Director
SUPERVISION POLICY

Supervision of Residents
In the clinical learning environment, each patient must have an identifiable, appropriately credentialed and privileged attending physician who is ultimately responsible for that patient’s care. At Tisch Hospital it is the admitting faculty member. At Bellevue Hospital and at the Manhattan VA Medical center it is the on call faculty member/ admitting faculty member or the Site Director.

This information should be available to residents, faculty members, consulting faculty and residents, the nursing staff, and patients.

Residents and faculty members must inform patients of their respective roles in each patient’s care.

Levels of Supervision
The program must demonstrate that the appropriate level of supervision is in place for all residents who care for patients. Supervision may be exercised through a variety of methods. Some activities require the physical presence of the supervising faculty member. For many aspects of patient care, the supervising physician may be a more advanced resident or fellow. Other portions of care provided by the resident can be adequately supervised by the immediate availability of the supervising faculty member or resident physician, either in the institution, or by means of telephonic and/or electronic modalities. In some circumstances, supervision may include post-hoc review of resident-delivered care with feedback as to the appropriateness of that care.

To ensure oversight of resident supervision and graded authority and responsibility, the program must use the following classification of supervision:

Direct Supervision – the supervising physician is physically present with the resident and patient.

Indirect Supervision:

- Direct supervision immediately available – the supervising physician is physically within the hospital or other site of patient care, and is immediately available to provide Direct Supervision.

- Direct supervision available – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision.

Oversight – The supervising physician is available to provide review of procedures or encounters with feedback provided after care is delivered.

The program director and faculty members assign the privilege of progressive authority and responsibility, conditional independence, and a supervisory role in patient care delegated to each resident.

The program director evaluates each resident’s abilities based on the specific criteria set forth in the departments Program Goals and Rotational Responsibilities document. When available, evaluation should be guided by specific national standards-based criteria.
Faculty members functioning as supervising physicians should delegate portions of care to residents, based on the needs of the patient and the skills of the residents.

Senior residents or fellows should serve in a supervisory role of junior residents in recognition of their progress toward independence, based on the needs of each patient and the skills of the individual resident or fellow.

Programs must set guidelines for circumstances and events in which residents must communicate with appropriate supervising faculty members, such as the transfer of a patient to an intensive care unit, or end-of-life decisions (see the supervisory flow chart below).

Each resident must know the limits of his/her scope of authority, and the circumstances under which he/she is permitted to act with conditional independence. In particular, PGY-1 residents should be supervised either directly or indirectly with direct supervision immediately available.

Faculty supervision assignments should be of sufficient duration to assess the knowledge and skills of each resident and delegate to him/her the appropriate level of patient care authority and responsibility.

The specific overview of resident supervision and graded authority and responsibility using the classifications of supervision is found in our departmental Scope of Practice document (included), which is available on line at ALEX https://alex.med.nyu.edu/portal/.
NYU Neurosurgery Clinical Supervision Chart

Chairman

Program Director

Service Chief/Site Director/Division Director*

General Faculty

Physician Extenders (PA, NP)  Chief Resident  Consultants and/or primary service faculty, fellows, and residents

Junior Residents

Interns

* = Service Chief at Tisch, Site Director at Bellevue and VA, Division Director for Peds
TRANSITIONS OF CARE POLICY

Programs must design clinical assignments to minimize the number of transitions in patient care.

Sponsoring institutions and programs must ensure and monitor effective, structured hand-over processes to facilitate both continuity of care and patient safety.

Programs must ensure that residents are competent in communicating with team members in the hand-over process.

The sponsoring institution must ensure the availability of schedules that inform all members of the health care team of attending physicians and residents currently responsible for each patient’s care.

All patient orders, results, medications, progress and consult notes are located in our EMR systems at the various sites and all patients must have a medication reconciliation when they are transferred between care settings or services at all of our institutions. This helps to alleviate opportunities for loss of information and continuity during transitions of care. Ultimately as is designated in our supervision policy the attending physician is responsible for the care of any individual patient. We do however recognize that transitions of care occur between house staff as the come on and off shifts in order to minimize the these effects our program encourages the following steps to minimize transitions, errors during transitions, and to maximize patient care:

**Designate a quiet space where transitions of care occur.** This room should:

- Include computers so residents can access medical information using the hospital EMR
- Allow for private uninterrupted discussions about each individual patient.
  - At Tisch Hospital transition of care discussions should take place in the Chiefs office or in the 12-floor conference room.
  - At Bellevue Hospital transition of care discussions should take place in the resident office
  - At the VA Medical Center transition of care discussions should take place in the resident office

**Reduce interruptions during transition of care.**

- The chief or senior resident on the service resident leads the transition of care process
- Residents to avoid distractions caused by pagers, phone calls, and other tasks
- If an interruption occurs, residents should begin the discussion of the patient over again.

**Use computerized templates (route sheets) for all transitions of care.**

- These Electronic templates that are generated from the hospital EMR system and have pre-populate patient information, such as:
  - Patient name
  - Medical record number
  - Date of birth
  - Room number
  - Date of admission
  - Primary diagnosis
  - Attending physician of record.
Residents should review every patient during the transition of care.
• Verbally identify each patient
• List the major medical issues and the to-do list the covering practitioner needs to complete.
• Avoid nonstandard abbreviations.
• State all of the anticipated problems that may arise.
• The receiver should be an active listener, take notes, and should verify all of the items on the to-do list to ensure that they understood everything
• Verify that they know the contact information of the attending physician of record

Identify sick patients upfront.
• If the patient is sick or the team is particularly concerned, the giver should say that at the beginning of the patient's transition of care
• This helps to ensure that the physician receiving the information understands the seriousness of the situation and asks the appropriate questions.
• If appropriate the team should see these patients together at the conclusion of the sign out discussions.

Explain the rationale.
• Residents handing off patients to another physician should explain their rationale for each management plan.
• Use if-then scenarios during transitions of care.
• Focus the discussion on contingencies (e.g., if patient reacts this way, do X; if patient reacts that way, do Y)
• Give the receiving physicians a clear understanding of what they should consider doing during their shift.
• Empower givers and receivers.
• Both parties should feel comfortable enough to ask the other practitioner to slow down or elaborate

The site directors, service chiefs, and program director will periodically monitor these transitions to ensure compliance with the above.
### Scope of Practice for the Neurological Surgery Training Program

| CHANGE SORT ORDER | Procedure               | Direct Supervision - Attending is physically present with resident or intern | Indirect Supervision A - Attending is immediately available in person | Indirect Supervision B - Attending is immediately available by phone or other electronic device | Oversight - Supervising attending is available to provide review with feedback after care is delivered | Procedure Notes
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<td>Apply medical knowledge: spine anatomy, histology, biomechanics, physiology and pathophysiology</td>
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<td>Appreciate the forensic aspects of civil commitment</td>
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<td>Appreciate the forensic aspects of out-patient treatment</td>
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<td>Assess effectiveness of diagnostic and treatment methods</td>
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<td>Assess for medical co-morbidities resulting in altered mental states</td>
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The NYU Department of Neurosurgery Residency Program evaluates all faculty and trainees using an objective assessment of competence in the 6 ACGME competencies of patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice (see in depth definitions below). Our evaluations are performed using the New Innovations system. Written feedback is provided for the residents during the semi-annual review with the program Director, though E*Value provides instantaneous feedback to residents whenever an evaluation is completed. Faculty receives feedback on an annualized basis during faculty review meetings conducted with the Chair of the Department.

The residents are evaluated based on their competent achievement of the goals defined for their current rotation. These criteria are set forth in the Program Rotational Goals and Responsibilities document found in the resident hand book and online at ALEX https://alex.med.nyu.edu/portal/. Both the residents and faculty are aware of the evaluation criteria at the start of the rotation and these criteria are made available to the evaluators when they commence the evaluation process. Timely evaluations are assured through the New Innovations system which automatically sends reminders to evaluators until the evaluations are completed. The program coordinator gets compliance reports and can send out individual reminders via email to anyone that has not completed an evaluation in a timely manor.

The residents are evaluated by the faculty at the completion of their rotations or during as is appropriate. On an annualized basis peers and other professional staff evaluate them in a 360˚ fashion. The evaluations of resident performance must be accessible for review by the resident, in accordance with institutional policy (copies of the competency based evaluations are included as an appendix). In particular:

**Formative Resident Evaluation**
The faculty will evaluate resident performance in a timely manner during each rotation or and document this evaluation at completion of the rotation assignment.

These evaluations:
- Provide objective assessments
- Use multiple evaluators (e.g., faculty, peers and other professional staff)
- Document progressive resident performance improvement appropriate to educational level provide each resident with documented semiannual evaluation of performance with feedback.

**Summative Evaluation**
The program director must provide a summative evaluation for each resident upon completion of the program that become part of the resident's permanent record maintained by the institution, and must be accessible for review by the resident in accordance with institutional policy.

This evaluation:
- Document the resident's performance during the final period of education
- Verify that the resident has demonstrated sufficient competence to enter practice without direct supervision
Faculty Evaluation
At least annually, the program and residents must evaluate faculty performance as it relates to the educational program. This evaluation must include at least annual written fully confidential evaluations by the residents.

These evaluations include a review of the faculty’s
- Clinical teaching abilities
- Commitment to the educational program
- Clinical knowledge
- Professionalism
- Scholarly activities

Program Curriculum and Improvement Evaluation
The program must document a formal, systematic evaluation of the curriculum at least annually. Residents and faculty must have the opportunity to evaluate the program confidentially and in writing at least annually, and the program must use the results of residents' assessments of the program together with other program evaluation results to improve the program.

The program must monitor and track each of the following areas:
- Resident performance
- Faculty development
- Graduate performance, including performance of program graduates on the certification examination
- Program quality

These final two evaluations as with all of our evaluations are performed using E*VALUE. The results are presented to the Program Director and Chair in a de-identified aggregate form. The Program Coordinator can produce a compliance report but cannot identify the individual evaluators in any way. If deficiencies are found, the program should prepare a written plan of action to document initiatives to improve performance in the areas listed in section. The action plan should be reviewed and approved by the teaching faculty and documented in meeting minutes.

ACGME Competencies
The residency program must require its residents to obtain competence in the six areas listed below to the level expected of a new practitioner. Programs must define the specific knowledge, skills, behaviors, and attitudes required, and provide educational experiences as needed in order for their residents to demonstrate the following:
1. Patient care that is compassionate, appropriate, and effective for the treatment of health programs and the promotion of health;
2. Medical Knowledge about established and evolving biomedical, clinical, and cognate sciences, as well as the application of this knowledge to patient care;
3. Practice-based learning and improvement that involves the investigation and evaluation of care for their patients, the appraisal and assimilation of scientific evidence, and improvements in patient care;
4. Interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and other health professionals;
5. Professionalism, as manifested through a commitment to carrying out professional
responsibilities, adherence to ethical principles, and sensitivity to patients of diverse backgrounds;

6. **Systems-based practice**, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. (see [http://www.med.nyu.edu/housestaff/sbp/index.html](http://www.med.nyu.edu/housestaff/sbp/index.html) for more information).

TAKEN FROM [http://WWW.ACGME.ORG](http://WWW.ACGME.ORG]. For more information, see the Evaluation, Corrective Action, and Disciplinary Policy for Residents, or visit [http://www.acgme.org](http://www.acgme.org).
5. Appendix B – Evaluation and Duty Hours Templates
   i. New Innovations Evaluation Guide
   ii. Evaluation of Resident (Template)
   iii. Evaluation of Attending- By Resident (Template)
   iv. Program Evaluation-Resident/Faculty (Template)
   v. Semi – Annual Evaluation (Template)
   vi. NYUMC / Bellevue–Resident Duty Hour New Innovations Guide
How to Complete an Evaluation

Complete an Evaluation Using Auto-Login Link in the Email from New Innovations

1. Click on the ‘Auto Login’ link... “Click the link below to bypass the login screen and access just evaluation(s) that need to be completed”
2. You may have to copy and paste the link into the web address bar if your email is set to Plain Text instead of HTML.

Note: The first time you use this link you will have to login the normal way.

Conventional Login

2. Click on Client Log
3. Enter the required login information. If you are unsure of the login information, please contact your program coordinator.

4. Click **Login**

5. In the Notifications panel, click the link 'You have ‘X’ evaluations to complete. Click here to complete them.'

6. Click the **Evaluate** link beside the evaluation to complete

7. Complete the questions on the form

8. If a signature is required, check the box to certify that you are the evaluator

9. Click **Submit Final**
Evaluation of Attending

Exercises sound clinical judgement  (Question 1 of 19  - Mandatory)

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Clinical teaching skills  (Question 2 of 19  - Mandatory)

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Participation in conference  (Question 3 of 19  - Mandatory)

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Provides feedback to residents about their performance  (Question 4 of 19  - Mandatory)

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Ethical/moral conduct  (Question 5 of 19  - Mandatory)

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Relationship to nurses and peers  (Question 6 of 19  - Mandatory)

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Professionalism  (Question 7 of 19  - Mandatory)

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Role model  (Question 8 of 19  - Mandatory)

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Fund of knowledge  (Question 9 of 19  - Mandatory)

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Interest in teaching - ward  (Question 10 of 19  - Mandatory)

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Interest in teaching - OR (Question 11 of 19 - Mandatory)

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Ability to teach (Question 12 of 19 - Mandatory)

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Availability (Question 13 of 19 - Mandatory)

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Interpersonal Communication (Question 14 of 19 - Mandatory)

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Integrity (Question 15 of 19 - Mandatory)

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Overall Evaluation (Question 16 of 19 - Mandatory)

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What were the strengths of this faculty member’s teaching ability? (Question 17 of 19)

What were the weaknesses of this faculty member’s teaching ability? (Question 18 of 19)

What suggestions would you give this faculty member to improve his/her teaching ability? (Question 19 of 19)
## Evaluation of Residents

### PATIENT CARE

#### Clinical Judgment and Decisions

Gathers and understands essential patient information in a timely manner  
(Question 1 of 60 - Mandatory)

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Generates an appropriate differential diagnosis  
(Question 2 of 60 - Mandatory)

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Implements an effective plan of management  
(Question 3 of 60 - Mandatory)

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Prioritizes and stabilizes multiple patients simultaneously  
(Question 4 of 60 - Mandatory)

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Analyzes outcome  
(Question 5 of 60 - Mandatory)

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Counsels and educates patients and families  
(Question 6 of 60 - Mandatory)

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Provides health care services aimed at preventing health problems and maintain health  
(Question 7 of 60 - Mandatory)

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Works with health care professionals to provide patient-focused care  
(Question 8 of 60 - Mandatory)

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### Competency in Neurosurgical Procedures (Surgical Judgment)

#### Surgical planning  
(Question 9 of 60 - Mandatory)

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Patient positioning (Question 10 of 60 - Mandatory)

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Respect for tissue (Question 11 of 60 - Mandatory)

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Speed and efficiency (Question 12 of 60 - Mandatory)

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Use of instruments (Question 13 of 60 - Mandatory)

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Knowledge of instruments (Question 14 of 60 - Mandatory)

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Flow of operation (Question 15 of 60 - Mandatory)

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Use of assistants (Question 16 of 60 - Mandatory)

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Knowledge of specific procedures (Question 17 of 60 - Mandatory)

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Patient Care - Score (Question 18 of 60)

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Identifies neurosurgical emergencies (Question 19 of 60 - Mandatory)

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**Understands how to treat neurosurgical conditions** *(Question 21 of 60 - Mandatory)*

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**Incorporates evidence-based principles** *(Question 22 of 60 - Mandatory)*

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**Neurosurgical didactic conference performance** *(Question 23 of 60 - Mandatory)*

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**Medical Knowledge - Score** *(Question 24 of 60)*

**PRACTICE-BASED LEARNING AND IMPROVEMENT**

**Analyzes and assesses practice experience and performs practice-based improvement** *(Question 25 of 60 - Mandatory)*

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**Academic growth and development** *(Question 26 of 60 - Mandatory)*

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**Locates, appraises and utilizes scientific evidence related to patients’ health problems** *(Question 27 of 60 - Mandatory)*

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**Utilizes information technology to enhance education and improve patient care** *(Question 28 of 60 - Mandatory)*

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**Applies knowledge of study, design, and statistical methods to critically appraise the medical literature** *(Question 29 of 60 - Mandatory)*

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Facilitates the learning of students and other health care professionals  
(Question 30 of 60 - Mandatory)

Practice-Based Learning and Improvement - Score  
(Question 31 of 60)

INTERPERSONAL AND COMMUNICATION SKILLS
Develops an effective therapeutic relationship with patients and their families with respect for diversity and cultural, ethnic, spiritual, emotional, and age-specific differences  
(Question 32 of 60 - Mandatory)

Demonstrates effective participation in, and leadership of the health care team  
(Question 33 of 60 - Mandatory)

Develops effective written communication skills  
(Question 34 of 60 - Mandatory)

Maintains relevant and legible medical records  
(Question 35 of 60 - Mandatory)

Effectively communicates with out-of-hospital personnel as well as non-medical personnel  
(Question 36 of 60 - Mandatory)

Involves patients in medical decisions  
(Question 37 of 60 - Mandatory)

Exercises good listening and is sensitive to non-verbal communication  
(Question 38 of 60 - Mandatory)

Interpersonal and Communication Skills - Score  
(Question 39 of 60)

PROFESSIONALISM
Treats patient, family, staff, paraprofessional personnel with respect  
(Question 40 of 60 - Mandatory)
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**Demonstrates sensitivity to patient's pain, emotional state, and gender/ethnicity issues  (Question 41 of 60 - Mandatory)**

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**Discusses death honestly, sensitively, patiently, and compassionately  (Question 42 of 60 - Mandatory)**

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**Exemplifies integrity  (Question 43 of 60 - Mandatory)**

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**Accepts responsibility/accountability  (Question 44 of 60 - Mandatory)**

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**Demonstrates reliability  (Question 45 of 60 - Mandatory)**

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**Maintains a calm, even temperament  (Question 46 of 60 - Mandatory)**

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**Exhibits self-awareness and knowledge of limits  (Question 47 of 60 - Mandatory)**

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**Responds to comments of other team members, patients, families and peers openly and responsibly  (Question 48 of 60 - Mandatory)**

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**Identifies and solves ethical dilemmas  (Question 49 of 60 - Mandatory)**

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**Professionalism - Score  (Question 50 of 60)**

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**SYSTEMS-BASED PRACTICE**

Understands, accesses, appropriately utilizes and evaluates the effectiveness of the resources, providers, and systems necessary to provide optimal neurosurgical care  (Question 51 of 60 - Mandatory)

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Understands different medical practice models and delivery systems and how to best utilize them to care for the individual patient  *(Question 52 of 60 - Mandatory)*

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Practices cost-effective health care and resources allocation that does not compromise quality of care  *(Question 53 of 60 - Mandatory)*

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Advocates, coordinates and facilitates patient care  *(Question 54 of 60 - Mandatory)*

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Understands principles of, and advance practices for patient safety at the institutional and individual level  *(Question 55 of 60 - Mandatory)*

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**Systems-Based Practice - Score** *(Question 56 of 60)*

**Quarterly Performance - Score** *(Question 57 of 60)*

**GOAL (Next 3 Months)** *(Question 58 of 60 - Mandatory)*

**COMMENTS:** *(Question 59 of 60 - Mandatory)*

**Quarterly Review - Score** *(Question 60 of 60)*
Program Evaluation

Quality of Inpatient Teaching - Tisch (Question 1 of 56 - Mandatory)

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Quality of Inpatient Teaching - Tisch (Question 2 of 56)

Comments

Quality of Inpatient Teaching - Bellevue (Question 3 of 56 - Mandatory)

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Quality of Inpatient Teaching - Bellevue (Question 4 of 56)

Comments

Quality of Inpatient Teaching - VA (Question 5 of 56 - Mandatory)

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Quality of Inpatient Teaching - VA (Question 6 of 56)

Comments
### Quality of Outpatient Clinic Teaching - Bellevue (Question 7 of 56 - Mandatory)

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**Comments**

### Quality of Outpatient Clinic Teaching - Bellevue (Question 8 of 56)

**Comments**

### Quality of Outpatient Clinic Teaching - VA (Question 9 of 56 - Mandatory)

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**Comments**

### Resident Teaching Conference (Question 11 of 56 - Mandatory)

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**Neurosurgery M&M Conference** (Question 12 of 56 - Mandatory)

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**Cerebrovascular Conference** (Question 13 of 56 - Mandatory)

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**Spine Conference** (Question 14 of 56 - Mandatory)

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| Neurosurgery Rotation: VA - Case Mix (Question 26 of 56 - Mandatory) |
|---|---|---|---|---|---|---|---|---|
| N/A | Poor | 1 | 2 | 3 | 4 | 5 | 6 | Outstanding |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Neurosurgery Rotation: VA - Case Load (Question 27 of 56 - Mandatory) |
|---|---|---|---|---|---|---|---|---|
| N/A | Poor | 1 | 2 | 3 | 4 | 5 | 6 | Outstanding |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Neurosurgery Rotation: VA - Hands-on Surgical Experience (Question 28 of 56 - Mandatory) |
|---|---|---|---|---|---|---|---|---|
| N/A | Poor | 1 | 2 | 3 | 4 | 5 | 6 | Outstanding |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Neurosurgery Rotation: VA - Duty Hours (Question 29 of 56 - Mandatory) |
|---|---|---|---|---|---|---|---|---|
| N/A | Poor | 1 | 2 | 3 | 4 | 5 | 6 | Outstanding |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Neurosurgery Rotation: VA - Self-study Time (Question 30 of 56 - Mandatory) |
|---|---|---|---|---|---|---|---|---|
| N/A | Poor | 1 | 2 | 3 | 4 | 5 | 6 | Outstanding |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Neurology (Question 31 of 56 - Mandatory) |
|---|---|---|---|---|---|---|---|---|
| N/A | Poor | 1 | 2 | 3 | 4 | 5 | 6 | Outstanding |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Neuropathology (Question 32 of 56 - Mandatory) |
|---|---|---|---|---|---|---|---|---|
| N/A | Poor | 1 | 2 | 3 | 4 | 5 | 6 | Outstanding |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Neurointerventional (Question 33 of 56 - Mandatory) |
|---|---|---|---|---|---|---|---|---|
| N/A | Poor | 1 | 2 | 3 | 4 | 5 | 6 | Outstanding |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

<p>| Tisch - Wards (Question 34 of 56 - Mandatory) |
|---|---|---|---|---|---|---|---|---|
| N/A | Poor | 1 | 2 | 3 | 4 | 5 | 6 | Outstanding |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |</p>
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SEMI-ANNUAL SUMMARY OF RESIDENT PERFORMANCE
NYU RESIDENCY PROGRAM IN NEUROLOGICAL SURGERY

Resident Name:  
PGY LEVEL:  
Evaluation Period:  
Rotations this Period:  
Rating:  
8-9 – Outstanding (performance consistently superior to other residents at this level in this program)  
6-7 – Excellent (performance consistently above other residents at this level in this program)  
4-5 – Satisfactory (performance good/average compared with other residents at this level in this program)  
1-3 – Unsatisfactory (performance clearly below other residents at this level in this program)  
0 – Failing (performance unacceptable for resident at this level in this program)  

PATIENT CARE:

Patient management skills: Collection of data, synthesis of data, clinical judgment
Service______

MEDICAL KNOWLEDGE: Fund of fundamental surgical basic science and clinical knowledge; application of knowledge to solution of clinical problems
________

CONFERENCE ATTENDANCE (%)
Spine Conference______
Grand Rounds______
Vascular Conference______
Morbidity and Mortality______

PRACTICE-BASED LEARNING AND IMPROVEMENT (PBLI): Notes, summaries and operative reports are complete, concise and completed on time; Presentations at Morbidity and Mortality Conference demonstrate mechanism of complication and ways to prevent complications in the future.
________

INTERPERSONAL AND COMMUNICATION SKILLS: Establishes rapport with patients and families; Communicates effectively with nurses, colleagues, consultants and other members of care team; Oral presentations are organized and succinct; Effectively teaches students and junior residents
________

PROFESSIONALISM: Demonstrates initiative in caring for patients; Accepts appropriate level of responsibility; Is honest and reliable; Demonstrates empathy and compassion; Works as a member of a team; Has acceptable professional appearance
________

SYSTEMS-BASED PRACTICE: Demonstrates familiarity with the medical care delivery system in which the resident practices; Appropriate and effective use of clinical pathway; Practices cost-effective care without compromising quality
________
Surgical Operative Log is current and accurate – report run on __________.

_____ YES     _____ NO

# of cases in the evaluation period_____

Operative Performance Rating Score: Technical skills: Manual dexterity, mastery of fundamental technical skills, conduct of operation, bedside procedures

_______

STRENGTHS:

WEAKNESSES:

GLOBAL ASSESSMENT OF OVERALL COMPETENCE IN SURGERY_______

This resident has successfully completed the rotations of this evaluation period.

_____ YES     _____ NO

My signature below acknowledges that I received a performance evaluation on: _________________. This signature does not constitute agreement with the evaluation. I have been informed of the process by which to challenge this evaluation.

________________________________________, M.D.

Resident, Department of Neurosurgery

________________________________________, MD

Anthony K. Frempong-Boadu, M.D.
Director, Residency Program in Neurological Surgery
NYU Medical Center
HOW TO LOG DUTY HOURS

Purpose: Enter duty hour logs, edit logs, add justifications, log vacation time online and using an iPhone or a Droid

Access:

- Residents and fellows must have level 2 privileges in Duty Hours to log hours
- Administrators need level 5 or 6 privileges in Duty Hours
- For administrators to log hours for the resident, the module must be configured to allow level 5 users to add or edit hours on behalf of others.

Enter Duty Hour Logs Online

1. Go to Select Main > Duty Hours > My Duty Hours
2. Click the Duty Type or Assignment Definition from the list on the right side of the page
3. Optional: Choose Training Location
4. Log Hours:
   a. Click and drag the cursor over the cells that represent the time worked (Figure 1)
   b. Right + Click the cells on a day you want to log hours for and Set the Exact Date and Time (Figure 2)
5. Click Save

Figure 1: Click and Drag
Copy a Log to Multiple Days

1. **Right Click** the log you want to copy
2. Select **Copy Log**
3. Click the days you want to copy the log to
4. Click **Save**
Copy a Week of Duty Hour Logs to Other Weeks

1. Log a week of duty hours
2. Click Save & Copy
3. Select the number of weeks forward you want to copy this week to
4. Click Copy Logs

Edit Duty Hour Logs a Week at a Time

1. Select date range by using the scroll arrows or clicking the year. Click on a date and then Update.
2. Click **Edit in Bulk**
3. Make your changes
4. Click **Save**

---

**Log Vacation Hours**

1. Go to **Main > Duty Hours**
2. Click **Log Vacation/Leave**

---

3. Select the **first day** of the vacation from the calendar on the left
4. Select the **last day** of the vacation from the calendar on the right.
5. Select a start date on the calendar on the left only for single day vacation
6. Click **Save**

**Violations – Justifications**

The ACGME requires that residents document why they stayed over or came back on duty early and Program Directors must review every occurrence (Common Program Requirements, VI.G.4.b)(3)). If you have to enter a justification, you will see this at the top of your Duty Hours page:

![Screenshot of Violations to Review](image)

1. Clicking on this notice will take you to this popup:

![Violations to Review](image)

2. Click **Justify** to enter an explanation (Defer to skip entering a justification)
3. Enter a reason for staying late or returning early in the comment box
4. Click **Submit Justification**

The following people receive email notifications once a justification has been entered:

- Your Program Director
- Your Associate Program Directors
- Duty Hours Administrators

**Violations – Causes**

If you have a violation that does not have to be justified, you may still enter a reason for the violation. Go to the Violations tab and click on the rule listed in the violation. Choose the cause that best describes what happened.
Wyatt Alden logged Rotation on Monday 4/30/2012 at 6:00 AM to Monday 4/30/2012 at 8:00 PM

ACGME 80 Hour violated in JAS Surgery
during the 4/1/2012 12:00:00 AM to 4/30/2012 12:00:00 AM check period

**384 Hours Logged. Hours Allowed: 343**

What caused this violation?

[Add Cause]
ENTER HOURS ON AN IPHONE

To download the applications:

From the internet
2. Click on the Downloads tab
3. Scroll to the App Store
4. Type **NI GME** in the search field
5. Continue to download the application

From the iTunes App Store
1. On the iPhone, tap the App Store icon
2. Tap Search, then type **NI GME** in the search field
3. Tap the appropriate app
4. Tap Install

Log in
1. Enter institution
2. Enter username
3. Enter password
4. Tap Go
5. Select application

Duty Hours
1. Tap > to expand
2. Complete each field
3. Tap Save when finished recording a log
Sync

1. Tap the sync button to upload your logs to New Innovations

Enter hours on a DROID

Download the application

6. Go to the apps “Market”
7. Type “NI GME” in the search box
8. Click “Install”

Log in

6. Enter institution
7. Enter username
8. Enter password
9. Enable Automatic Sync (Note: this will allow your entries to automatically transfer to New Innovations and automatically receive updates.)
10. Tap “OK”

Settings

1. Select settings for
   a. Username
   b. Staying logged in
   c. Automatic sync
d. Duty type duration default

Log Duty Hours

1. Tap the NI app
2. Choose Duty Type
3. Choose Location (if required)
4. Set Start and End Dates and Times
5. Tap Save

Sync

If you have not configured your Droid to automatically synchronize with New Innovations, you will need to “Sync” your entry to save your duty hour log.

1. Tap the menu button and select sync option
6. Appendix C – Selected NYU GME Policies
   i. Conditions of Employment
   ii. Leave of Absence Policy
   iii. Vendor/Industry Interactions Policy
   iv. Social Media Policy
   v. Evaluation, Corrective Action, And Disciplinary Policy For Residents
   vi. Universal text pagers
   vii. Resident Concerns or Complaints
   viii. Additional Information
I. Preamble

The first condition for appointment is successful completion of the credentialing and employment processes. Trainees must be able to furnish all required credential documents and be legally employable. All House Staff Officers are required to undergo and pass a drug toxicology screening, pre-employment background check, and fingerprint investigation prior to beginning work.

II. Definitions

A. GME – Office of Graduate Medical Education

B. CIR – Committee of Interns and Residents

C. LOA – Leave of Absence

D. NYULMC – New York University Langone Medical Center (including New York University School of Medicine, Tisch Hospital, Rusk Institute and Hospital for Joint Disease)

E. House Staff Officer – In this document, all references to House Staff Officers include trainees in specialty and subspecialty programs, whether or not ACGME-accredited.

III. Policy

A. Financial Support - The educational stipend for 2010-2011, based upon the level of postgraduate training, and subject to all applicable withholdings, is shown in the table below.

a. In addition, if a House Staff Officer has completed or trained in a non-ACGME training program, they will be placed at the Payroll level that equals the years
completed in an ACGME accredited training program plus one. Please note: This will include non-ACGME Research Programs and Extra Year Chiefs in Medicine and Pediatrics.

<table>
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<tr>
<th>LEVEL</th>
<th>NYU BASE RATE (effective 1/1/11)</th>
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<tr>
<td>Chief Resident Differential</td>
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<td>$3,981</td>
</tr>
</tbody>
</table>

** Effective July 1, 2011

B. **Licensure** - NYULMC policy on licensure is more restrictive than that of New York State. A full description of the Licensure Policy can be viewed at http://gme.med.nyu.edu/about-gme/gme-policies-and-forms/graduate-medical-education-policies-and-procedures.

a. House Staff Officers entering a NYU sponsored subspecialty fellowship; a New York State License must be obtained before training start date.
   i. House Staff Officers may obtain a NYS Limited Permit in lieu of a license only if they do not meet citizen requirements and / or is an American citizen who graduated from a foreign medical school but does not have three years of post-graduate training.

b. House Staff Officers currently in a NYU residency program and transferring into a subspecialty fellowship must obtain a license or limited permit prior to starting the fellowship.

c. House Staff Officers in a non-ACGME accredited training program must have a valid NYS License (or a Limited Permit as per above) and are required to maintain current registration for the entire training period.

d. A valid NYS Medical License (or limited permit if not eligible for license) is required for:
   i. All H1B Visa trainees PGY-2 and higher

C. **USMLE Step 3** - All House Staff Officers must take USMLE Step 3 (or COMPLEX-USA for DO’s) prior to beginning their final year of residency and provide acceptable documentation of such. This will include applicant House Staff that are entering their final year with a NYU sponsored Residency Training program. Foreign National Graduates are required to take and pass USMLE Step 3 to be eligible for an H1B Visa. A full description of the Licensure Policy can be viewed at http://gme.med.nyu.edu/about-gme/gme-policies-and-forms/graduate-medical-education-policies-and-procedures.
D. **Payroll/Union** - As noted above, there are two separate major payroll systems: NYULMC (Tisch, VA and Hospital for Joint Diseases) and Bellevue Hospital Center. House Staff Officers are initially placed on one of the two payrolls as determined by their program and, for the sake of parity, will rotate between the Bellevue and NYULMC payrolls throughout their training period. The payroll changes occur no more frequently than at yearly intervals. When a House Staff Officer rotates between hospital payrolls, their benefits change with the rotation, but coverage is always continuous. House Staff Officers health benefits are fully covered at all times during the payroll switch. While on Bellevue payroll, House Staff Officers are required to join the union, Committee of Interns and Residents (CIR). If you have any concerns regarding benefits coverage or any related pay issues, please feel free to discuss them during your interview or at anytime. For further information you may also contact the NYU Office of Graduate Medical Education at 212-263-5506.

E. **Vacation** – House Staff Officers are entitled to four (4) weeks paid vacation per annum. Such vacation shall be taken at a time in agreement with the provisions of the vacation policy of the Residency Training Program and the annual rotation schedule. Vacation time is not accruable and will not be paid out if not taken during a given academic year.

F. **Leave** – House Staff Officers are entitled to medical, family, personal and educational leaves. A full description of the Time-Off and Leave of Absence Policy can be viewed at [http://gme.med.nyu.edu/about-gme/gme-policies-and-forms/graduate-medical-education-policies-and-procedures](http://gme.med.nyu.edu/about-gme/gme-policies-and-forms/graduate-medical-education-policies-and-procedures). Credit toward completion of the Residency Training Program requirements, with respect to leave time, shall be determined by the program’s individual policy on the effect of taking a LOA on completion of the program.

G. **Professional Liability Insurance** - The House Staff Officer shall be provided with professional liability insurance coverage for the duration of training. Such coverage shall provide legal defense and protection against awards from claims reported or filed after the completion of the residency Training Program if the alleged acts or omissions are within the scope of the Residency Training Program. Such insurance coverage does not extend to outside employment.

H. **Medical and Disability Insurance** - Medical and disability insurance benefits will be made available to the House Staff Officers in accordance with the medical and disability insurance employee benefits of NYULMC or Bellevue Hospital Center depending on which institution has the House Staff Officers on its payroll at the time. The medical and disability insurance benefits are described in the new employee orientation materials of each hospital.


J. **Housing Information** – Applications and updated housing information will be provided in the packets mailed after the Match, to each new resident and clinical fellow. Applications and information can be downloaded from [http://redaf.med.nyu.edu/housing](http://redaf.med.nyu.edu/housing). Housing priority is given to PGY 1 and PGY 2 relocating from out-of-town. However, after a random pick, most will not receive a
housing offer due to limited availability. New residents not offered housing may re-apply and go on a waiting list.

All NYULMC students and staff may access the off-campus housing website http://redaf.med.nyu.edu/och. That site includes relocation information, including a link to CitiHabitats, a real estate agency which discounts its commissions for NYU affiliates. If current House Staff Officers log in with the Kerberos I.D. and password, they can also access information on a lease guaranty program.

K. **Meals and Laundry** – Both Bellevue and NYULMC include an annual meal allowance of $2,900 included in the annual salaries stated above. Lab coats and scrubs are supplied and laundered by the hospitals for program trainees.

L. **Copy of Contract** - A sample copy of the House Staff Training Program Contract and the House Staff Manual are available for review at: http://gme.med.nyu.edu/about-gme/gme-policies-and-forms/graduate-medical-education-policies-and-procedures

M. **Infection Control Requirement** - Those required to complete an infection control training course are:
   a. All House Staff Officers who are PGY-4 and higher
   b. House Staff Officers who train at affiliated institutions which require infection control training.

N. **Background Information** - Several conditions must be met before a House Staff Officer can begin training
   a. **Toxicology screening.** This is done no more than five weeks before the start date
   b. **Background investigation.** You must supply your social security number, driver’s license (when applicable), and previous addresses for the past seven years.
   c. **New York State’s Child Abuse Registry.** House Staff Officers who will have contact with the pediatric population must successfully clear this investigation.
   d. **Fingerprinting.** All House Staff Officers who rotate through the VA Hospital will be fingerprinted. House Staff Officers on the Bellevue Hospital payroll must be fingerprinted and a second background check is conducted by the New York City Health and Hospitals Corporation. The associated fee (currently $94.25) for fingerprinting at Bellevue Hospital will be taken out of the House Staff Officer’s first paycheck.
TIME-OFF AND LEAVE-OF-ABSENCE
POLICY FOR HOUSE STAFF

Revised/Effective: 1/15/2010
Reviewed:
Supersedes: 7/1/2008
Originally adopted: 07/04
Approved by: Graduate Medical Education Committee
Web address: http://gme.med.nyu.edu/house-staff/gme-policies-and-forms
Applies to: All NYU School of Medicine Residents and Fellows, and Foreign National Physicians in ACGME and non-ACGME-accredited specialty and subspecialty training programs

I. Preamble

The New York University Langone Medical Center is committed to meaningful and enriching educational experiences for its residents and clinical fellows. This includes accruing any time taken off voluntarily or otherwise, adhering to strict NYULMC regulations so as not to preclude the successful completion of post-graduate medical training.

Please note: If House Staff require a Leave that totals more than 90 days in an academic year, eligibility for return to the training program will be dependent upon financial and academic position availability.

II. Definitions

A. **ACGME** – Accreditation Council for Graduate Medical Education

B. Office of **GME** – Office of Graduate Medical Education

C. **HHC** – NYC Health and Hospitals Corporation

D. **NYULMC** – New York University Langone Medical Center (including New York University School of Medicine, Tisch Hospital and Hospital for Joint Disease)

E. **LOA** – Leave of Absence

F. **Medical Disability** – “serious health condition”: illness, injury or impairment that involves either: 1) inpatient care or 2) continuing treatment by a health care provider. “Continuing treatment” includes incapacity resulting in an absence of more than 3 days. It also includes permanent or long-term illness and their treatments; incapacity or treatment for a chronic serious health condition; and multiple treatments for restorative surgery or condition that would cause incapacity of more than three days.

G. **CPH** – Committee for Physician Health
III. Responsibilities

A. **Specialty Board** - Each specialty board maintains a policy specifying the maximum amount of time a Resident may be absent during each year of training; the Resident will not receive credit toward program completion for any leave period in excess of that maximum. The Resident will be required to make up excess time missed before he or she will be eligible for promotion within or completion of the program and before the specialty board will allow the Resident to take the board examination.

*Note:* This document does not address the certification requirements of each individual specialty board or the issue of remuneration when a Resident is required to extend the length of his or her training. This should be addressed by the Program specific policy.

B. **Director of Residency Training** - The Director is responsible for approving, monitoring, and reporting leaves of absence in compliance with the Medical Center policy and specialty board requirements, including maintaining a record of the leave time used by each Resident each year. In addition, it is the program director’s responsibility to provide the Residents with a written policy concerning the effect of leaves of absence on satisfying the criteria for completion of training. The Director must notify the Office of GME whenever a Resident is absent from training for more than three consecutive days. A copy of all LOA records must be forwarded to the Office of GME. The Office of GME will provide a template letter explaining the terms and conditions of the LOA and the conditions for return to the program and extension of training or promotion dates. The Director must complete and sign the letter and send it to the Resident, with copies to and Senior Director of the GME office.

The Program Director cannot access a Residents’ medical records or confer with the Residents’ Health Care Provider (HCP) to certify a medical condition. Certification of a medical condition can only be requested from the HCP by the department designated Leave Administrator (who must be someone other than the Program Director) the Office of GME or EHS.

The Director is discouraged from discussing details of a Residents Leave with the HCP. If the Director is contacted by the HCP, the HCP should be encouraged to contact the designated department Leave Administrator, EHS or the House Staff psychiatrist of the GME Wellness Team. The PD should maintain appropriate contact with the trainee and monitor all LOA end dates for purposes of scheduling the return to training. The PD must ensure appropriate return to work clearance documentation is submitted by the trainee or an extension is requested and documentation.

Office of GME may not ask HCPs for additional information beyond that required by the Physician Health Certification form. HCPs are allowed but not required to provide a diagnosis as part of the certification.

C. **Resident** - The Resident must request time away from his or her training program at the earliest date possible to allow time for the Director to arrange coverage in the Resident's absence. The
Resident must submit corroborating documentation as required or requested to receive approval for time off (whether paid or unpaid) and, where applicable, to receive authorization to return to his or her training program. The resident is responsible for keeping the training program informed of their return to work status.

IV. Family Medical Leave Act of 1993 (FMLA)

FMLA became effective on August 5, 1993 for most employers and entitles eligible employees to take up to 12 weeks of unpaid, job-protected leave in a 12-month period for specified family and medical reasons. Amendments in 2008 to the FMLA by the National Defense Authorization Act (NDAA) expanded the FMLA to allow eligible employees to take up to 12 weeks of job-protected leave in the applicable 12-month period for any “qualifying exigency” for covered service members. The NDAA also amended the FMLA to allow eligible employees to take up to 26 weeks of job-protected leave to care for a covered service member with a serious injury or illness.

A. Basic Leave Entitlement - A covered employer must grant an eligible employee up to a total of 12 work-weeks of unpaid leave during any 12-month period for one or more of the following reasons:

1. for the birth and care of a newborn child of the employee;
2. for placement with the employee of a son or daughter for adoption or foster care;
3. to care for a spouse, son, daughter or parent with a serious health condition;
4. to take medical leave when the employee is unable to work because of a serious health condition.

Additional Info - Spouses employed by the same employer are limited in the amount of family leave they may take for the birth and care of a newborn child, placement of a child for adoption or foster care, or to care for a parent who has a serious health condition to a combined total of 12 weeks. Leave for birth and care, or placement for adoption or foster care, must conclude within 12 months of the birth or placement.

B. Military Family Leave Entitlements - A covered employer must grant an eligible employee up to a total of 26 work-weeks of unpaid leave during a “single 12-month period” to care for a covered servicemember with a serious injury or illness.

1. Military Caregiver Leave - A covered employer must grant an eligible employee up to a total of 26 workweeks of unpaid leave during a “single 12-month period” to care for a covered servicemember with a serious injury or illness.

Section quoted from the U.S. Department of Labor Wage and Hour Division Fact Sheets #28 and #28a
A covered servicemember is a current member of the Armed Forces, including a member of the National Guard or Reserves, who is undergoing medical treatment, recuperation, or therapy, is otherwise in outpatient status, or is otherwise on the temporary disability retired list, for a serious injury or illness.

A serious injury or illness is one that was incurred by a servicemember in the line of duty on active duty that may render the servicemember medically unfit to perform the duties of his or her office, grade, rank, or rating.

The “single 12-month period” for Military Caregiver Leave begins on the first day the employee takes leave for this reason and ends 12 months later, regardless of the 12 month period established by the employer for other types of FMLA leaves.

2. **Qualifying Exigency Leave** - A covered employer must grant an eligible employee up to a total of 12 workweeks of unpaid leave (during the normal 12-month period established by the employer for FMLA leave) for qualifying exigencies for a servicemember that has been notified of an impending call or order to active duty, in support of a contingency operation.

A servicemember must be the employee’s spouse, son, daughter, or parent who is in the National Guard or Reserves. Under the terms of the statute, qualifying exigency leave does not extend to military members of the Regular Armed Forces.

Qualifying exigencies include:

a. Issues arising from a covered military member’s short notice deployment (i.e., deployment on seven or less days of notice) for a period of seven days from the date of notification;

b. Military events and related activities, such as official ceremonies, programs, or events sponsored by the military or family support or assistance programs and informational briefings sponsored or promoted by the military, military service organizations, or the American Red Cross that is related to the active duty or call to active duty status of a covered military member;

c. Certain childcare and related activities arising from the active duty or call to active duty status of a covered military member, such as arranging for alternative childcare, providing childcare on a non-routine, urgent, immediate need basis, enrolling or transferring a child in a new school or day care facility, and attending certain meetings at a school or a day care facility if they are necessary due to circumstances arising from the active duty or call to active duty of the covered military member;

d. Making or updating financial and legal arrangements to address a covered military member’s absence;

e. Attending counseling provided by someone other than a health care provider for oneself, the covered military member, or the child of the covered military member, the need for which arises from the active duty or call to active duty status of the covered military member;

f. Taking up to **five** days of leave to spend time with a covered military member who is on short-term temporary, rest and recuperation leave during deployment;

g. Attending to certain post-deployment activities, including attending arrival ceremonies, reintegration briefings and events, and other official ceremonies or programs sponsored by the military for a period of 90 days following the termination of the covered military member’s active duty status, and addressing issues arising from the death of a covered military member;
h. Any other event that the employee and employer agree is a qualifying exigency.

3. **Certification Requirements** - Employers may require that an employee’s request for military family leave be supported by an appropriate certification. An employer may require that:
   a. Leave for a qualifying exigency be supported by a copy of the covered military member’s active duty orders and certification providing the appropriate facts related to the particular qualifying exigency for which leave is sought, including contact information if the leave involves meeting with a third party;
   b. Leave to care for a covered servicemember with a serious injury or illness be supported by a certification completed by an authorized health care provider or by a copy of an Invitational Travel Order (ITO) or Invitational Travel Authorization (ITA) issued to any member of the covered servicemember’s family.

### V. Paid Time-Off Benefits

#### A. Adoption/Parental Leave

**Paid Time Off** - 1 day per event / non-accruable (Not when on Bellevue Payroll)

**Eligibility** - The Resident is eligible for this benefit immediately after employment begins, with approval from his or her Director.

**Additional Info** - The Resident will receive his or her regular pay for one working day to adopt a child or for the birth of his or her child (Paternity Leave). See also sections IV.C. (Disability), IV.H. (Vacation), V.A. (FMLA), and V.B. (Personal) for additional information applicable to pregnancy and new parenthood.

#### B. Bereavement

**Immediate Family:**

**Paid Time Off** - 3 days maximum per event / non-accruable

**Eligibility** - The Resident is eligible for this benefit immediately after employment begins, with approval from his or her Director.

**Additional Info** - The Resident will receive his or her regular pay for up to three working days in the event of the death of a parent, spouse, same gender domestic partner, child, brother, sister, mother/father-in-law (except while on Bellevue Payroll), or grandparent. The Resident must take bereavement days consecutively and within a reasonable time from the date of the death or funeral. Bereavement days may not be split or postponed.

**Other Relatives:**

**Paid Time Off** - 1 day maximum per event / non-accruable (except when on Bellevue Payroll)

**Eligibility** - The Resident is eligible for this benefit immediately after employment begins, with approval from his or her Director.
Additional Info - The Resident will receive his or her regular pay for up to one working day in the event of the death of a relative other than the relatives referenced above. The Resident must take the bereavement day within a reasonable time from the date of the relative’s death or funeral; it may not be postponed (except while on Bellevue Payroll.)

C. Disability

Paid Time Off –

**NYU Payroll** - 90 days maximum of sick bank time per academic year.

**Bellevue Payroll** - Medical leave is unlimited provided the resident or fellow remains enrolled in the training program and will be granted when satisfactory documentation is provided.

Eligibility - The Resident is eligible for this benefit immediately after employment begins. For the purpose of this document, a Resident is considered disabled when, due to his or her own illness, injury, pregnancy, or childbirth, the Resident’s treating physician has determined that he or she is unable to work. A Health Certification Form must document a qualified LOA. The form should complete the Physician Health Certification Form.

Additional Info – The Resident must provide medical documentation for absences in excess of three days to the Office of GME or the Director. Failure to provide medical documentation may result in denial of sick pay. Recertification from the HCP may be requested every 30 days or less. For continuous or open-ended conditions it may be requested every six months).

Residents on NYU payroll will receive his or her regular pay for up to 90 working days in the event that he or she is certified as disabled. Any time taken due to injury or illness in excess of the 90-day allowance will be paid in accordance with the Medical Center disability benefit plan. In order to access the sick leave bank, the Resident must inform their Program Coordinator of their medical absence.

The Program Coordinator will inform the Office of GME of the last day worked. The Office of GME will submit the Disability request forms to NYULMC Benefits Department, or provide the Program coordinator with a copy of the Bellevue FMLA application. The Resident must submit documentation of medical necessity as requested, to NYULMC Benefits Department or Bellevue Benefits Department.

NYU will replenish the Resident’s sick leave bank on July 1 of each year, or if off cycle upon completion of the Resident’s academic year, of which the Resident is in training at NYU.

1. **Maternity Leave**: A Resident who gives birth to a child is eligible for Maternity Leave. Maternity Leave is defined as a combination of:

   a. **Disability Leave** – Paid sick time/disability leave for the period of time the Resident is considered disabled;

      When possible and only if the Resident is still able to perform the essential functions of his/her program, the Department may make reasonable accommodations for a Resident’s disability. Such accommodation may include
modifying the Resident’s responsibilities or schedule. The Resident must submit to her Director documentation of medical necessity in order to be paid sick time during disability leave.

b. *Family Medical Leave Act of 1993 (FMLA)* – Runs concurrent with Disability Leave, beginning the first day out;

c. *Vacation Time* – The Resident cannot forfeit future vacation time in order to "make up" missed clinical time for board eligibility. House Staff can request to have up to two weeks remaining in their vacation bank after depletion of their sick time; however, approval is at the discretion of the Director.

d. *Personal Leave* – The period of time beyond the first 12 weeks of leave, beginning on the last day of work. Permission to grant leave beyond the first 12 weeks of absence from training will be at the discretion of the Director.

See also sections IV.A. (Adoption/Maternity/Paternity), IV.H. (Vacation), V.A. (FMLA), and V.B. (Personal) for additional information applicable to pregnancy and new parenthood.

2. Returning from a Disability Leave – In order to recommence training, the Resident must submit appropriate and acceptable medical clearance from the treating physician to the NYU Office of GME. If the Resident is receiving Disability pay, documentation of medical clearance should be provided to the NYULMC Benefits Department or Bellevue Benefits Department.

Residents returning from a Maternity Leave must submit to the NYU Office of GME documentation of clearance to return to work from the treating physician. The Director, the Physician Health Certification form is required, if the Resident experienced major complications during the Maternity Leave or required longer than the routine LOA.

Residents returning from a Disability Leave (other than a Maternity leave) must have their HCP complete a Physician Health Certification form, and if necessary receive clearance from the CPH. Documentation of fitness for return to duty is to be provided to the Office of GME and forwarded to Employee Health Service at least one work day prior to the planned date of return to work. The Resident will be required to provide this documentation as part of their clearance to return to work from a Disability Leave. CPH or an HCP will advise EHS and Office of GME, via the certification form, when the Resident has been deemed able to return to work with or without a reasonable accommodation. If accommodations are requested, the NYU Employee Relations office should be involved. If the certification form is incomplete or insufficient the Office of GME will notify the Resident in writing. The Resident will be allowed a maximum of seven days to respond with a completed form.

D. *Educational/Conference*

**Paid Time Off** - 3 days maximum per annum / non-accruable with Departmental permission.

**Eligibility** - The Resident is eligible for this benefit immediately after employment begins, at the discretion of the Resident’s Director.
Additional Info - Educational/conference leave is an optional benefit that is granted at the discretion of the Resident’s Director. The Director will approve or deny leave based on factors including, but not limited to, the appropriateness and value of the workshop, conference, or seminar to the Resident’s assignment and responsibilities as well as Medical Center staffing needs.

E. **Jury Duty**

**Paid Time Off** - 10 days maximum per event / non-accruable. When on Bellevue payroll, the Resident will receive $40 for the first 3 days of jury duty service instead of their regular salary. After which time, if on Bellevue payroll, regular salary will be paid.

**Eligibility** - The Resident is eligible for this benefit immediately after employment begins, with approval from his or her Director.

Additional Info - If on NYU payroll the Resident will receive his or her regular pay for up to ten days when summoned for jury duty. The Resident must submit the appropriate documentation to his or her Director in order to continue to receive regular pay while serving as a juror.

F. **Marriage**

**Paid Time Off** – 3 days maximum per event / non-accruable - Not available when on Bellevue payroll.

**Eligibility** – The Resident is eligible for this benefit immediately after employment begins, with approval from his or her Director.

Additional Info – The Resident will receive his or her regular pay for up to three days for his or her marriage. The Resident must take marriage days consecutively and in association with the date of the event.

G. **Military**

**Paid Time Off** – When on Bellevue payroll 2 weeks maximum per event / non-accruable. See HHC Operating Procedure 20-15 and Extended Military Leave Policy.

**Paid Time Off** – When on NYU payroll the Resident will receive his or her regular pay for up to two weeks if he or she is called for military duty. The Resident must submit to his or her Director written documentation of notice to serve in order to be paid during this time. In cases where the Resident’s orders require him or her to be absent from training for more than two weeks, the Resident should refer to the NYU Revised Interim Policy for Military Service, effective March 15, 2002, available from the Human Resources Department, 212-404-3857.

**Eligibility** – The Resident is eligible for this benefit immediately after employment begins, with approval from his or her Director.

H. **Vacation**

**Paid Time Off** – 4 weeks per academic year / non-accruable
Eligibility – The Resident is eligible for this benefit immediately after employment begins, with approval from his or her Director.

Additional Info – Subject to limitations established by the Resident’s specialty board, Residency Review Committee, and/or training program, the Resident is eligible for four weeks of vacation time per academic year. The Medical Center will replenish the Resident’s vacation bank on July 1 of each year, or if ‘off cycle’ upon the completion of the Resident academic year, of which the Resident is in training at NYU. Vacation time cannot be carried over to the following academic year; residents will not be paid in lieu of taking vacation; and any unused vacation time will not be payable upon termination, provided the resident has been permitted to take vacation time. The Resident cannot forfeit future vacation time in order to “make up” missed clinical time for board eligibility.

VI. Unpaid Time-Off Benefits

A. Personal Leave of Absence

Unpaid Time – A Personal Leave of Absence may be granted at the discretion of the Director.

Eligibility – The Resident is eligible for an unpaid personal leave of absence after employment begins, with prior approval from the Director.

Additional Info – House Staff will be required to use Vacation time during a Personal leave and subsequently take unpaid time. House Staff can request to have up to two weeks remaining in their vacation bank; however, approval is at the discretion of the Director. In the event that the Resident exhausted his or her paid time off, this leave will be without pay. See also section III.A. (Specialty Board) for additional relevant information.

Returning from a Personal Leave – At the time a Personal Leave is granted, a written agreement must be established regarding the length of the Leave and circumstances for re-entry to the program. Re-entry into the program may include the Resident being re-credentialed by the Office of GME.
I. Preamble

This policy establishes guidelines for the interaction of New York University School of Medicine (NYUSOM) medical students and housestaff (“housestaff” or “trainee” in this document refers to all residents and fellows in both ACGME accredited or non-accredited programs at NYUSOM). The policy includes but is not limited to interactions at all NYUSOM facilities and affiliates, including Tisch Hospital, Rusk Institute of Rehabilitative Medicine, Hospital for Joint Diseases, Clinical Cancer Center, the School of Medicine, Bellevue Hospital, the Manhattan VA Hospital, other offsite Article 28 facilities and other sites under the auspices of NYUSOM.

It is the goal and policy of the School of Medicine (SOM) that its students and housestaff be trained in the highest standards of intellectual objectivity and clinical ethics. To promote these ends and to minimize commercial bias, the SOM establishes a policy to separate medical students and housestaff from solicitation, marketing, promotion or any other influential tactic by industry – pharmaceutical, device manufacturer, medical information technology developer or distributor, or other similar organization.

Appropriate interactions of physicians and industry can result in the exchange of information which promotes medical research and patient care. However, substantial recent evidence indicates that aspects of this relationship can alter the judgment and decision-making of physicians in ways that do not serve the best interests of our patients. Conflicts of interest arising from financial ties between physicians, their staff and industry also have the potential to influence a physician’s attitudes and practice.

The purpose of this policy is to provide a guide for medical students, housestaff, and their teachers and supervisors in their interactions with industry in order to provide an ethical environment that is consistent with sound clinical decision-making, patient safety, and patient privacy.
II. POLICY

Interactions with pharmaceuticals and related biomedical industries should be conducted so as to avoid conflicts of interest or the appearance of a conflict. The scope of this policy includes, but is not limited to the following interactions with industry:

1. Interactions with medical students and housestaff
2. Gifts, meals and compensation, including off-site interactions
3. CME activities
4. Provision of educational funds and scholarships to housestaff and medical students.
5. Pharmaceutical samples
6. Disclosure of relationships with industry, including regarding scholarly publications.
7. Curriculum for undergraduate medical student education and the training of housestaff regarding potential conflicts of interest in industry interactions.
8. Marketing of new pharmaceutical products, medical devices, and research equipment and supplies
9. Development of new medical devices and training for newly purchased devices

1. **Interactions with medical students and housestaff:**

Pharmaceutical and related biomedical industry representatives are prohibited from interacting directly with medical students or housestaff at any time on the grounds of the SOM or in any of its teaching hospitals. Furthermore, the SOM should not be used in any way as a vehicle for contacting medical students and house staff or marketing to them.

No element of the medical school curriculum or housestaff training program shall serve as a forum for distribution of gifts, or other promotional or educational items, or for encounters with pharmaceutical or biomedical industry representatives.

Medical students and housestaff shall not be invited to industry-sponsored events by those involved in supervising, teaching, and/or evaluating them. This prohibition is not intended to preclude student or housestaff attendance at national meetings of professional societies or NYU Continuing Medical Education (CME) programs that may be funded with unrestricted educational grants from industry.

2. **Gifts, Meals and Compensation to Medical Students and Housestaff, including off-site interactions:**

All gifts or monetary compensation (zero dollar limit), free meals on or off-campus, alcoholic beverages, books, travel, tickets to sporting events, payment for time for travel to or time at meetings (except as indicated below), payment for participation in online CME from pharmaceutical, medical device companies, other biomedical industries and their sales representatives are prohibited. Medical students and housestaff shall not be asked to accept gifts or compensation by those involved in supervising, teaching, and/or evaluating them. All faculty and medical center staff will follow the guidelines enumerated in the existing medical center policy on gifts or benefits from vendors, patients and others. ([http://www.med.nyu.edu/compliance/assets/GiftPolicy.pdf](http://www.med.nyu.edu/compliance/assets/GiftPolicy.pdf))

3. **CME Activities**
Industry-sponsored events, including CME, shall not be required, nor substitute for, any portion of the formal undergraduate curriculum.

All CME activities at NYU Langone Medical Center adhere to ACCME Essential Areas and Policies, including the Standards of Commercial Support regarding industry support for continuing medical education. The specific policies are delineated at https://www.med.nyu.edu/cme/courses/assets/cme/commercial_support_policy.doc

4. **Provision of Educational Funds and Scholarships to Medical Students and Housestaff:**

Support of students and trainees by industry in the form of scholarships for training, reimbursement of travel expenses for educational meetings, and/or other non-research funding in support of scholarship or training must be free of actual or perceived conflict of interest and be in the form of an “unrestricted educational grant”. The following standards apply:

A. For scholarships in training, the trainee must be selected by the NYUSOM program designated to receive the scholarship grant. There must be no quid pro quo for either the selected trainee or the program.
B. Funds must be directed to the department/program/program designee and not to the individual trainee or student.
C. For educational meetings or programs, the Dean, Program Director, or designee must agree to the educational merit of the program and specifically approve the financial support. The trainee/student must not be under a quid pro quo obligation to the industry.
D. Industry-sponsored merit awards will be evaluated individually by the Associate Dean for Graduate Medical Education or Designee.

5. **Pharmaceutical Samples**

The provision of pharmaceutical samples to or by medical students or housestaff is prohibited.

6. **Disclosure of Relationships with Industry, including regarding scholarly publications**

A. Medical students and housestaff are prohibited from publishing articles under their own names that are written in whole or material part by industry employees.
B. In scholarly publications, medical students and housestaff must disclose their related financial interests in accordance with the International Committee of Medical Journal Editors (http://www.icmje.org/).
C. Faculty with supervisory responsibilities for students or housestaff should ensure that the faculty’s conflict or potential conflict of interest does not affect or appear to affect his or her supervision of the student, resident, trainee, or staff member. All faculty must report potential conflicts of interest annually as part of the existing medical center policy on conflict of interest (http://www.med.nyu.edu/compliance/assets/COI_Policy_and_Disclosure_June_2007.pdf). All faculty should disclose any conflicts of interest to medical students or housestaff as they relate to the curriculum or to patient care and management decisions.
7. Training of Students, Trainees, Staff, and Faculty Regarding Potential Conflicts of Interest in Industry Interactions:

The Undergraduate Curriculum shall contain a formal program aimed at providing medical students, at a minimum, these four elements:

A. Recognition of the individual medical student and the individual medical practitioner’s responsibility to avoid promotional activities of the Pharmaceutical Industry because of their distorting effect.
B. Understanding of concepts and techniques for distinguishing between what is valid medical evidence and what is, in reality, product promotion.
C. Instruction in how to identify and access the most reliable sources of medical and pharmaceutical information.
D. Recognition that there is ample evidence that pharmaceutical industry promotional activities distort prescribing practices, resulting in problematic repercussions from the level of the individual physician-patient relationship to the health care system as a whole.

III. Procedure

The GME Curriculum Committee will assist all training programs in developing specific curricula to insure that all housestaff receive adequate training regarding interactions with industry.

1. A mechanism for student or housestaff reporting of any inappropriate contact with, or exposure to, pharmaceutical industry representatives or their materials shall be instituted. There shall be formal written assurances entered into the NYU SOM Student Handbook and relevant GME policies that there will be no negative repercussions for a student or housestaff reporting an inappropriate contact or event.
   a. Students may make this report to the Dean for Undergraduate Medical Education (or other appropriate officer of the School of Medicine), and a mechanism shall be established for such reporting, with formal procedures made explicit for the investigation of each report and correction of any infractions discovered.
   b. Housestaff should report violations of the policy or concerns about the policy to the Associate Dean for Graduate Medical Education, or designee.
2. Both this policy and the “NYU SOM/Medical Center/Hospitals Center Policy on Gifts” will be included in the NYU SOM Student handbook and explicitly explained during First Year and Clerkship Orientations.
3. This policy will be included as part of all GMEC policies which are distributed to house staff and training programs and will be updated as necessary on the GMEC Policy webpage.
4. Upon formal approval by the Undergraduate Medical Education Curriculum Committee, the Graduate Medical Education Committee, and the Dean of NYU SOM this Policy will go into effect. The specific mechanisms for reporting and dissemination described above shall be defined and put into effect at the earliest opportunity and at such time this policy should be amended to reflect these specifics. All vendors will be notified about the specifics of this policy by the administration of the School of Medicine and the NYU Langone Medical Center.
Policy: 4.14 – Social Media and Social Networking (Personal)

Responsible HR Department: Employee Relations - 212-404-3857

Summary of Policy

NYU Langone Medical Center recognizes that social media web sites can be useful communication tools and that they provide an inexpensive, informal and timely way to participate in an exchange of ideas and information. However information posted on a website is available to the public. Whenever, a faculty or staff member posts to a social media site, it is imperative that the content does not violate this policy. Unless specifically authorized, and in compliance with the separate Social Media Policy: Institutional Participation Guidelines, maintained by the Office of Communications & Public Affairs, no faculty or staff is authorized to make a posting to a website on behalf of NYU Langone Medical Center and it shall not be liable for same.

Definitions: As used in this policy, “social media” includes, but is not limited to, postings in online forums, blogs, micro blogs, wikis, and social networking sites, such as Twitter, Facebook, LinkedIn, YouTube, and MySpace.

As used in this policy, “faculty and staff” includes all individuals having a faculty appointment, compensated or uncompensated, and all employees of the Medical Center.

Purpose

The purpose of this policy is to outline the appropriate use of personal/individual activity related to social media and personal internet sites when the individual is identified with NYU Langone Medical Center. For guidelines related to participation in social media on behalf of the organization please refer to the Social Media Policy: Institutional Participation Guidelines, maintained by the Office of Communications and Public Affairs. In addition, a similar policy exists that is applicable to Medical and M.D./Ph.D students which can be found in the Student Handbook.

Violations of this policy may result in disciplinary action up to and including termination.
Policy

1. Faculty and Staff may maintain personal websites or blogs on their own time using their own facilities. **Faculty and Staff are expressly prohibited from using the Medical Center logo or trademarks and revealing any information confidential or proprietary to the Medical Center including, but not limited to, employee, student (and their parents), information, strategic plans, and project interest.** Faculty and Staff are prohibited from posting any patient information which may include, but is not limited to, name, photograph, social security number, address, diagnosis or prognosis, treatment, date of admission or discharge, or any other identifying information which may be protected by HIPAA, the Family Education Rights and Privacy Act (FERPA) and another federal, state or local regulation.

2. Faculty and Staff are prohibited from making any misrepresentation (subject to their supervisor’s interpretation or designated official of the institution) of their employment-related information as it relates to their employment at the Medical Center on such sites. For any such websites that contain employment related information such information may include: NYU Langone Medical Center as employer, job title, job function, length of employment and education information.

3. With respect to any personal profiles or postings, if an employee makes any reference to their employment at NYULMC or discusses matters related to the Medical Center on a social media site, the employee must make a disclaimer that, **“the views contained in these web pages are my personal views and do not represent the views of NYU Langone Medical Center.”** This disclaimer must be in prominent position and repeated for each posting expressing an opinion related to the Medical Center. Faculty and Staff must keep in mind that if they post information on a social media site that is in violation of the Medical Center’s policies and/or federal, state, or local, law, the disclaimer will not shield them from disciplinary action or legal liability.

4. While Faculty and Staff are permitted to engage in protected concerted activity under the law, they may not post statements that are discriminatory, retaliatory, threatening or harassing to other Faculty or Staff. Because an employee is responsible for his or her postings, the employee may be subject to liability if his or her posts include the above or are in violation of any other applicable law.
5. Faculty and Staff who are contacted by a member of the news media or a blog site about an Internet posting that concerns the operations of NYU Langone Medical Center are not permitted to speak on behalf of the Medical Center and are required to refer that person to the Office of Communications & Public Affairs.

E-mail and internet access is provided to support NYU Langone Medical Center business purposes. While users who are given access to these tools may make incidental personal use of them, they may not make extensive personal use of them either during work or non-work time. Each employee’s supervisor or official of the institution has the right and responsibility to determine what “extensive use” is, counsel their staff and revoke privileges for abuse of the system, if warranted.

NYU Langone Medical Center reserves the right to monitor employee use of Medical Center computers and the internet, including employee blogging and social networking activity, and cease use of Medical Center computers and systems related to such activity.

Individuals who have concerns regarding alleged violations of this policy should contact the Employee Relations Department, Office of Compliance at 404-4078 or the Compliance Helpline at 866-NYU-1212.
I. Preamble
The Accreditation Council for Graduate Medical Education (ACGME) requires a written set of policies and procedures for resident and fellow evaluation and for implementing corrective and/or disciplinary action when a resident's/fellow's performance fails to meet required standards. This includes the criteria for any adverse action, such as placing a resident/fellow on probation or terminating a resident/fellow whose performance is unsatisfactory. The procedures are designed to be fair to residents/fellows, patients under care, and the training program and are applicable to all residents/fellows in training at New York University School of Medicine/NYU Langone Medical Center ("NYU").

All further references in this document, to residents shall include fellows.

Definitions

A. Director – Director of Residency or Fellowship training

B. ACGME – Accreditation Council for Graduate Medical Education

C. NYU – NYU Langone Medical Center

D. OPMC – NYS Office of Professional Medical Conduct

E. GME – Office of Graduate Medical Education

F. CPH – Committee on Physicians’ Health of the Medical Society of the State of New York

II. Evaluation
A. **Responsible Official** – The Director of Residency Training ("Director") is responsible for the evaluation and discipline of each resident in his/her program. A resident whose performance is deemed less than satisfactory should be notified of that conclusion, both verbally and in writing, as soon as it is determined, in accordance with the provisions of Section IV.B., *Written Warning with Remediation*.

B. **Frequency** - Each resident shall be formally evaluated in writing at least semi-annually and shall meet with the Director or his/her designee at that time to discuss the resident’s performance. The Director may conduct any supplemental assessments s/he deems necessary; moreover, there may be program-specific requirements for more frequent evaluations. In addition to preparing at least semi-annual evaluations, the Director must prepare a final summative written evaluation at the time of the resident’s completion of or termination from the program.

C. **Maintenance of the Records** - The Director shall maintain an evaluation file for each resident in his/her department ("Director’s file"). A copy of each formal written evaluation and the resident’s final, summative evaluation shall be kept on record in that file. Copies of the final evaluation shall be forwarded to the NYU GME and to all relevant Hospital Medical Directors.

D. **Residents’ Rights** - The ACGME *Common Program Requirements* stipulate that evaluations maintained in the resident’s department file must be accessible to the resident. If a resident disagrees with or elects to comment on statements included in a written evaluation in his/her file, the resident has the right to submit a written response, which shall become part of the resident’s department file.

E. **Basis for Evaluations** - Each resident shall be evaluated based on written and oral feedback from clinical supervisors, administrative supervisors, and course instructors at NYU and all affiliated sites. Evaluations shall be based on the written goals and objectives of the residency program and on the assessment of a resident's specific knowledge, skills, and attitudes in each of the following areas:

1. Professional competence, clinical performance, and judgment including, but not limited to:
   a. *Patient care* that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health;
   b. *Medical knowledge* about established and evolving biomedical, clinical, and cognate (e.g., epidemiological and social-behavioral) sciences and the application of this knowledge to patient care;
   c. *Practice-based learning and improvement* that involves investigation and evaluation of the resident’s patient care, appraisal and assimilation of scientific evidence, and improvements in patient care;
   d. *Interpersonal and communication skills* that result in effective information exchange and teaming with patients, their families, and other health professionals;
e. **Professionalism**, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population; and

f. **System-based practice**, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system for health care, and the ability to effectively call on system resources to provide care that is of optimal value.

2. Compliance with established practices, rules, regulations, procedures, and policies of NYU.

3. Completion and verification of educational and training requirements.

4. Compliance with standards of professional conduct as set forth in New York State law and/or applicable codes of professional ethics.

5. In addition, the resident should:

   a. Develop a personal program of learning to foster continued professional growth with guidance from the teaching staff;

   b. Participate fully in the educational and scholarly activities of their program and, as required, assume responsibility for teaching and supervising other residents and students;

   c. Participate in appropriate institutional committees and councils whose actions affect their education and/or patient care;

   d. Submit to the program director or to a designated institutional official at least annually, confidential written evaluations of the faculty and of the educational experiences.

   e. Each resident also must participate actively in scholarly activity. Scholarship is defined as one of the following:

      i. The scholarship of discovery, as evidenced by peer-reviewed funding or publication of original research in peer-reviewed journals.

      ii. The scholarship of dissemination, as evidenced by review articles or chapters in textbooks.

      iii. The scholarship of application, as evidenced by the publication or local, presentation at regional, or national professional and scientific society meetings (e.g. cases, reports or clinical series).

      iv. Active participation in clinical discussions, rounds, journal clubs, and research conferences in a manner that promotes a spirit of inquiry and scholarship; the offering of guidance and technical support (e.g., research design, statistical analysis) for residents involved in research; and the provision of support for resident participation, as appropriate, in scholarly activities.
III. Physician Impairment

If, at any time, the Director has reasonable cause to suspect that a resident’s behavior is altered because of a physical or mental impairment or the use of drugs, narcotics, or alcohol, the resident shall, at the Director’s request, submit to a physical and/or mental examination by a nurse practitioner and/or physician(s) acceptable to the NYU Hospitals Center Employee Health Service. The Director shall, prior to making such request, consult with the NYU GME. The purpose of the examination(s) shall be to determine if the resident is free from health impairments which pose potential risk to patients or personnel or which may interfere with the performance of the resident’s clinical duties. The examination shall include, but not be limited to, a breathalyzer, urinalysis, blood, and/or other similar tests to determine if drugs, narcotics, and/or alcohol are in the resident’s system.

Reasonable cause shall include, but not be limited to: unsatisfactory, excessive, or deteriorating attendance record; declining productivity or other unsatisfactory performance or other behavior which may be reasonably attributable to the use of drugs, narcotics, or alcohol; involvement in an on-the-job accident; accosting, striking, or assaulting an employee, patient, or visitor other than in self-defense; returning to work following participation in a drug or alcohol rehabilitation program or leave of absence; or behaving in a manner which suggests that the employee may be unfit for work and/or under the influence of drugs, narcotics, or alcohol, such as: unkempt appearance, poor hygiene; trembling, slurred speech; bloodshot or bleary eyes; complaints by patients and nurses; arguments, bizarre behavior; irritability, depression, mood swings; irresponsibility, poor memory, poor concentration; unexplained accidents or injuries to self; neglect of family, isolation from friends; DWI arrest or DUI violations; financial and/or legal problems; difficult to contact; won’t answer phone or return calls; dwindling medical practice; missed appointments, unexplained absences; rounds at irregular times; loss of interest in professional activities, social or community affairs; neglect of patients, incomplete charting, or neglect of other medical staff duties; inappropriate treatment or dangerous orders; excessive prescription writing; unusually high doses or wastage noted in drug logs; noticeable dependency on alcohol or drugs to relieve stress; intoxication at social events or odor of alcohol on breath while on duty.

Failure to undergo such examination when requested shall be grounds for immediate suspension and/or dismissal from the training program in accordance with the provisions of Section IV.A., Summary Suspension, and Section IV.E., Dismissal.

A. Pending and following medical evaluation, the resident may be placed on a medical leave of absence, administratively referred for further evaluation and recommended treatment, and/or subject to disciplinary action up to and including termination of the residency in accordance with Section IV. The Director shall consult with the NYU GME prior to any decisions regarding medical leave of absence, treatment referral or disciplinary action.

B. Hospitals are required to report to the New York State Office of Professional Medical Conduct (OPMC) whenever any of the following actions are taken for reasons related in any way to alleged mental or physical impairment: denial, suspension, restriction, termination, or curtailment of, or voluntary or involuntary resignation or withdrawal from,
training, employment, association, or professional privileges, or the denial of certification of completion of training. See Section VI, Reporting.

C. Physicians suspected of having problems with alcohol, drugs, or mental illness, but whose ability to practice is not impaired, may be reported to the Committee on Physicians’ Health of the Medical Society of the State of New York (CPH). All calls are confidential. CPH identifies, refers to treatment, and monitors impaired physicians. The program is voluntary and participation is confidential. The names of physicians participating in the program are not shared with OPMC without a participant’s approval unless there is a failure to comply with treatment recommendations. A physician whose medical performance may be impaired; however, also must be reported to OPMC. The law does not exempt physicians from their duty to report colleagues practicing with a suspected impairment to OPMC because they have reported to CPH.

D. All licensed health professionals, including physicians, are required by state law to report colleagues whom they suspect may be practicing while impaired. Failure to report is, in itself, professional misconduct. For attending physicians, the report can be made to the hospital’s chief medical officer, who must then inform OPMC; in the case of residents and fellows, the report should be made to the Program Director or the Senior Administrative Director for NYU GME, who must then inform OPMC.

IV. Performance Deficiencies

Upon receipt of satisfactory evaluations and compliance with all other terms of the House Staff Policies and Procedures, each resident should expect to continue to the next level of training to program completion. If, however, a resident’s performance is unsatisfactory, the Director shall notify the resident of that conclusion, both verbally and in writing, as soon as it is determined and initiate appropriate corrective and/or disciplinary action, as provided in Section V.B., Written Warning with Remediation. In the ordinary course, corrective and/or disciplinary action should be imposed progressively, beginning with a written warning with plan for remediation and proceeding to probation and dismissal from the program if performance does not improve. In extraordinary cases, summary suspension may be appropriate. Prior to initiating any corrective and/or disciplinary action, the Director must consult with the Associate Dean for Graduate Medical Education and the Senior Administrative Director for NYU GME. In addition, the Director must inform all relevant Hospital Medical Directors of any disciplinary action initiated against the resident under this Section IV.

A. **Summary Suspension** - A resident may be summarily suspended from participation in the residency training program by the Director, the Department Chair, a Hospital Medical Director, or the Dean of the School of Medicine or his/her designee a) if the resident’s actions or his/her continued participation in the program may constitute a threat to the welfare or safety of patients, employees, or other staff members or to the integrity of the program; or b) if his/her license or permit is suspended or revoked.

1. When a resident is summarily suspended from the program, the following procedures shall be followed:
a. The Director, in conjunction with the NYU GME, shall provide the resident with written confirmation of his/her suspension. The notice shall specify the deficiencies that gave rise to the suspension, the term of the suspension, and any conditions that might be imposed for resuming participation in the residency program after the period of suspension. Copies of this notice shall be maintained in the Director’s and the NYU GME’ files. Copies also shall be forwarded to all relevant Hospital Medical Directors. Credit for residency training shall not be given to a resident during a period of suspension.

b. The resident shall be advised in writing of the right to appeal the suspension as provided in Section V, Appeals.

c. At the end of the suspension period, the Director, in conjunction with the NYU GME, shall notify the resident in writing as to what further action, if any, is to be taken. Copies of this notice shall be maintained in the Director’s and the NYU GME’ files. Copies also shall be forwarded to all relevant Hospital Medical Directors. One of the following may occur:

i. Termination of suspension, with a statement provided to the resident stating that such suspension occurred and there is no present need for additional disciplinary action;

ii. Termination of summary suspension and placement of the resident on probation as specified under Subsection C, Probation, of this section; or

iii. Termination of the resident's participation in the residency program, in accordance with Section IV.A., Summary Suspension, and Section IV.E., Dismissal.

iv. A decision to suspend requires reporting to the appropriate State agency, as discussed in Section VI, Reporting.

B. Written Warning with Remediation: In the event that a resident’s performance is unsatisfactory and summary suspension is not appropriate, the Director, after consultation with the NYU GME, shall issue a written warning to the resident, which must include a detailed plan for remediation. Copies of the written warning with remediation and all subsequent administrative documentation relating to this disciplinary action shall be maintained in the Director’s and the NYU GME’ files. The written warning may include documentary evidence, such as letters of complaint, attendance logs, reports from the licensure board, and other relevant documents and materials. The plan for remediation must include directives for additional supervision and specific instructions with clear educational goals and performance expectations. In determining the appropriate plan of remediation, the Director shall decide which action to take based on numerous factors, such as the nature and severity of the deficiency giving rise to the need for discipline, the potential impact on patient health or safety, the impact of the resident’s conduct on the program or the facility, the likelihood that the deficiency can or shall be successfully remediated, and the degree of notice and opportunity to cure that the resident has previously received.

1. At the end of the remediation period, the following may occur:
a. Termination of remediation, with a statement provided to the resident stating that the conditions of remediation were satisfactorily resolved and there is no present need for further corrective action. Copies of such statement shall be maintained in the Director’s and the NYU GME’ files;

b. Continuation of remediation, provided the resident has performed satisfactorily on a significant portion of his/her plan of remediation and the Director agrees to the assignment of an additional term of remediation. Continued remediation shall be approved for a specified period of time, with a redefinition of the problems and procedures to be followed in order to satisfy this additional term of remediation in accordance with this Section IV, B.1.; or

c. Imposition of a term of probation as specified under Subsection C, Probation, of this section.

d. Other appropriate action, including termination.

C. Probation - Following a summary suspension or the unsuccessful completion of a plan of remediation, the Director or his/her designee shall place the resident on probation, provided the resident’s continuation in the program does not constitute a serious threat to the welfare or safety of patients, employees, or other staff members or to the integrity of the program, as follows:

1. The Director or his/her designee shall meet with the resident and present a written notice, drafted in conjunction with the NYU GME, stating:
   a. the term of probation (ordinarily not to exceed 6 months);
   
   b. the reasons for probation (i.e., the resident's specific actions or deficiencies that led to the recommendation for probation); and
   
   c. the conditions of probation (i.e., what the resident shall be expected to do differently and the specific measures the department will take to provide the resident the opportunity to achieve these goals). Copies of the written notice and all subsequent administrative documentation relating to this disciplinary action shall be maintained in the Senior Administrative Director’s and the NYU GME’ files. Copies of the written instance also shall be forwarded to all relevant Hospital Medical Directors. The written notice shall advise the resident of the right to appeal the decision of probation as provided in Section V, Appeals.

2. At the end of the probationary period, the following may occur:

   a. Termination of probation, with a statement provided to the resident stating that the conditions of probation were satisfactorily resolved and there is no present need for further probation. Copies of such statement shall be maintained in the Director’s and the NYU GME’ files and forwarded to all relevant Hospital Medical Directors;

   b. Continuation of probation for an additional specified period of time with a written redefinition of the problems and procedures to be followed in order to satisfy this additional term of probation in accordance with this Section IV, C.1.; or
c. Termination of the resident's participation in the residency program in accordance with Section IV.E., Dismissal.

3. A decision to place a resident on probation may require reporting to the appropriate State agency, as discussed in Section VI, Reporting.

D. Consequences of Failure to Remediate:

1. Denial of Academic Credit. If a resident fails to make up work missed during a summary suspension; does not satisfactorily complete remedial work during a probationary period; misses a significant component of the academic program during leave from the program; or has otherwise failed to make sufficient academic progress, the Director may require the resident repeat all or part of the academic year's work.

2. Dismissal. Termination of the resident's participation in the residency program in accordance with Section IV.E., Dismissal.

E. Dismissal:

1. The Director shall recommend the resident's dismissal from the program to the Department Chair or Dean or his/her designee, if the resident has:
   a. Misrepresented credentials upon which s/he had been accepted into the program;
   b. Engaged in conduct that threatens the welfare or safety of patients, employees, or other staff members or the integrity of the residency training program, or if his/her license or limited permit is revoked or suspended;
   c. Failed to meet standards for academic, clinical, or professional conduct/performance, as set forth in Section II.E., Basis for Evaluations, after having received written warning with opportunity to remediate.

2. The process of dismissal shall be initiated by recommendation of the Director after consultation with the NYU GME and notification to all relevant Hospital Medical Directors. The Department Chair shall make the final decision to dismiss in consultation with the Director and/or the Dean or his/her designee and shall record the recommendation and the reasons there of in writing.

3. The resident shall receive a copy of the recommendation for dismissal and the reasons there of. S/he also shall receive notice of his/her right to appeal, as provided in Section V, Appeals. Notice of the recommendation for dismissal and all subsequent administrative documentation relating to this disciplinary action shall be maintained in the Director's and the NYU GME' files. Copies of these notices shall also be forwarded to all relevant Hospital Medical Directors.

4. If the resident does not request a hearing, the recommendation for dismissal shall be final and effective as of the date of receipt by the resident, and the decision to dismiss shall not be subject to further review, in accordance with Section V, Appeals.
5. If a resident is dismissed before the completion of his/her academic year, the Director shall determine the number of months’ credit to be given the resident for that academic year.

6. A decision to dismiss requires reporting to the appropriate State agency, as discussed in Section VI, Reporting.

V. Appeals

A. Neither the decision to place a resident on a plan of remediation nor the plan of remediation itself is appealable.

B. The decision to summarily suspend, place on probation, not advance, deny academic credit or dismiss a resident is appealable, as follows:

1. The resident must submit a written request for a hearing to his/her Department Chair within seven (7) calendar days after his/her receipt of written notice of an appealable adverse decision or recommendation. If no request is submitted within such seven-day period, the Director's decision shall become final and not subject to further review.

2. The Dean or his/her designee in consultation with the Department Chair, shall appoint an ad hoc Appeals Committee. The Appeals Committee shall consist of two attending physicians, each of whom hold faculty appointments in the New York University School of Medicine, and two residents, none of whom have had prior direct involvement in the proceedings with respect to the resident.

3. The Appeals Committee shall be charged to review and make a recommendation to the Dean or his/her designee on the following issues:

   a. Was the decision of the department or division made substantially in compliance with the procedures set forth in the Evaluation, Corrective Action and Disciplinary Policy for Residents?

   b. Was the decision of the department or division made arbitrarily and capriciously or in bad faith or in violation of anti-discrimination or other laws or regulations?

   c. It is not the role of the Appeals Committee to substitute its academic judgment for the academic judgment of the department or division. If the Appeals Committee determines the answer to a) is yes and the answer to b) is no, the Appeals Committee should uphold the decision of the department or division. If the Appeals Committee determines that the department has failed to substantially comply with the procedures of the Evaluation, Corrective Action and Disciplinary Policy for Residents or that the decision of the department was made arbitrarily and capriciously or in bad faith or in violation of anti-discrimination or other laws or regulations, the Appeals Committee shall make an appropriate recommendation for remedy or reversal.
4. The Appeals Committee shall hold a hearing in a timely fashion. The resident shall receive at least three (3) calendar days’ prior notice of the hearing. Such notice shall include a statement of reasons(s) for the department or division’s decision to summarily suspend, place on probation, not advance, deny academic credit or dismiss the resident. The Director, the NYU GME, and all relevant Hospital Medical Directors shall receive copies of the notice.

5. The Appeals Committee shall make rules it deems necessary to assure prompt, fair, and expeditious handling of the appeal. The Committee shall be permitted to have legal counsel present during the hearing. The rules of law relating to the examination of witnesses or presentation of evidence shall not apply. Any relevant matter upon which responsible persons may rely on the conduct of serious affairs may be considered.

6. The Appeals Committee shall conduct interviews and review documents, including medical records, as the Appeals Committee deems necessary or helpful in its conduct of the investigation. A recording of all interviews shall be made. The Appeals Committee may require a physical and/or mental evaluation of the resident in any case where the Appeals Committee has reason to consider the physical or mental competency of the resident. Appropriate consultants shall carry out such evaluation, and a report of the evaluation shall be forwarded to the resident as well as to the Appeals Committee.

7. The Appeals Committee shall be authorized to recommend that the charges or proposed disciplinary action raised against the resident be modified.

8. The physical presence of the resident for whom the hearing has been scheduled shall be required. Failure to appear without good cause shall be deemed a waiver of the resident’s right to the hearing provided in this section, shall be considered an acceptance of an adverse decision, and is final.

9. At the hearing the resident may elect to be accompanied or represented by an attorney or other persons of his or her choice. The role of this representative shall be limited to:
   a. providing advice and counsel to the resident; and
   b. addressing the members of the Appeals Committee. The role of the representative shall not include the questioning of witnesses. The Appeals Committee may, in its discretion, further define, expand, or limit the role of any such representative.

10. The resident (or his/her representative) shall have the right to present the resident’s position to the Appeals Committee, together with such other documentation as the resident may wish. The resident may suggest witnesses who have information relevant to the issue under appeal. It shall be within the sole discretion of the Appeals Committee to determine if the witnesses will be interviewed.

11. Following the hearing, the Appeals Committee shall submit to the Dean or his/her designee a written report and recommendation, which may include a recommendation that the proposed charges or disciplinary action be modified. The resident and the
Director, the NYU GME, and all relevant Hospital Medical Directors shall receive copies of the report for their files.

12. The Dean or his/her designee shall issue a final written decision within seven (7) calendar days after receipt of the Appeals Committee’s report. The resident and the Director, the NYU GME, and all relevant Hospital Medical Directors shall receive copies of the decision for their files.

13. The Appeals Committee shall forward the record of its proceedings and interviews to the Dean. The proceedings and records of the Appeals Committee and the Dean's decision shall be, so far as possible, confidential, but shall be retained as an institutional record.

14. The decision of the Dean or his/her designee is final and, therefore, not subject to further appeal.

VI. Reporting

A. Whenever the Director takes any action under Section IV, Performance Deficiencies, s/he shall notify the Assistant Dean for Graduate Medical Education, the Senior Administrative Director for NYU GME, and all relevant Hospital Medical Directors of the action taken and the circumstances surrounding it, as well as the ultimate disposition of the matter.

B. Hospitals are required, under § 405.3 (e), Codes, Rules and Regulations of New York State, to report to the OPMC any denial, suspension, restriction, termination, or curtailment of training, employment, association, or professional privileges or the denial of certification of completion of training of any physician licensed or registered by the New York State Department of Education for reasons related in any way to any of the following:

1. Alleged mental or physical impairment, incompetence, malpractice, misconduct, or endangerment of patient safety or welfare;

2. Voluntary or involuntary resignation or withdrawal of association or of privileges with the Hospital to avoid the imposition of disciplinary measures; and

3. The receipt of information concerning a conviction of a misdemeanor or felony. The report must be made in writing to OPMC, with a copy to the appropriate area administrator of the New York State Office of Health Systems Management, within 30 days after the taking of such action, and must include:

   a. The name and address of the individual;

   b. The profession and license number;

   c. The date of the Hospital's action;
d. A description of the action taken; and

e. The reason for the Hospital's action or the nature of the action or conduct which led to the resignation or withdrawal and the date thereof.

C. In cases involving unlicensed physicians practicing under a limited permit or serving in a clinical fellowship or residency, the Hospital must report to the New York State Education Department Office of Professional Discipline.

D. All licensed health professionals, including physicians, are required by state law to report colleagues whom they suspect may be guilty of misconduct as defined in New York State law. Failure to report suspected instances of misconduct is, in itself, misconduct. For physicians and residents affiliated with a hospital, the report can be made to the hospital’s professional practices committee, which must then inform OPMC; in the case of a resident, the report shall be made to the resident’s Director, the Senior Administrative Director for NYU GME, and all relevant Hospital Medical Directors. If the colleague is not affiliated with a hospital, a report can be made to the county medical society, which will be responsible for reporting to OPMC. If a health professional is uncertain whether specific actions or behaviors constitute misconduct, s/he may request advice from OPMC without revealing the name of the practitioner. Once advice is provided, the health professional who requested the advice is required to follow it.

E. Practitioners suspected of having problems with alcohol, drugs, or mental illness, but whose ability to practice is not impaired, may be reported to the Committee on Physicians’ Health of the Medical Society of the State of New York (CPH). All calls are confidential. CPH identifies, refers to treatment and monitors impaired physicians. The program is voluntary and participation is confidential. The names of physicians participating in the program are not shared with OPMC without a participant’s approval unless there is a failure to comply with treatment recommendations. A physician whose medical performance may be impaired, however, also must be reported to OPMC. The law does not exempt physicians from their duty to report colleagues practicing with a suspected impairment to OPMC because they have reported to CPH.

F. Nothing in this policy relieves the institution of its obligations to report incidents of possible professional misconduct under applicable laws and regulations. The results of drug or alcohol testing and matters related thereto shall be kept confidential except to the extent necessary to implement this policy.
UNIVERSAL TEXT PAGERS FOR HOUSE STAFF OFFICERS AND FELLOWS

Revised/Effective: Jan-21-2011
Reviewed: 
Supersedes: None
Originally adopted: 
Approved by: Graduate Medical Education Committee
Web address: http://gme.med.nyu.edu/about-gme/gme-policies-and-forms/graduate-medical-education-policies-and-procedures
Applies to: All New York University School of Medicine Training Programs and House-Staff Officer

I. Preamble

Committee members at the Combined Position Control Board & GME Task Force

Meeting discussed the issue of each Residency Training Programs instituting their own forms of communication for house staff to use on a daily basis. The main issue and concern for the committee members is the inability to reach each house staff officer either individually or through a more broad form of communication. The choice of communication for Individual Programs is to left to their discretion, however, each house staff officer must have in his/her possession at all times the universal text pager.

II. Definitions

A. House Staff Officer – Resident or Fellow in a ACGME and non-ACGME Accredited specialty and subspecialty programs

B. GME – Graduate Medical Education

C. ACGME – Accreditation Council of Graduate Medical Education

D. GMEC-Graduate Medical Education Committee
III. POLICY (GMEC APPROVAL)

Therefore, the committee has recommended a standard form of communication be implemented. All house staff officers must begin using the text pager system. The policy will cover the following:

1. Universal text pager system assigned to each house staff officer
2. Communication with telecommunications regarding the phone list for each months call schedule
3. Full compliance from each training program

Remediation for house staff officers who are non-compliant

The Policy was presented and approved by the GMEC on January 21, 2011.
RESIDENT CONCERNS OR COMPLAINTS

I. PREAMBLE

The NYU School of Medicine is committed to maintaining an environment that is supportive and conducive to learning. As such, open communication with our House Staff is of utmost importance. In the event that an individual would like to discuss or report a concern or complaint, there are numerous opportunities for residents to do so, either directly or anonymously.

II. DEFINITIONS

A. GME – Office of Graduate Medical Education
B. GMEC – Graduate Medical Education Committee
C. CIR – Committee of Interns and Residents- Bellevue Hospital
D. DIO – Designated Institutional Official
E. Program Director – Medical director of residency specialty or sub-specialty program
F. House Staff Council (HSC)

III. POLICY

With the establishment of the House Staff Council in the fall of 2000, a new tradition has evolved at NYU for the regular involvement of House Staff in all issues pertaining to GME. Since its inception, the Council has been instrumental in providing a forum for an open discussion of resident concerns. With active participation of House Staff Council members at the GMEC and on all GMEC subcommittees, residents have routine access to the administration for the airing of grievances and problems. House Staff Council leadership is in regular contact with the DIO, and through her, Vice Dean and Dean/CEO. The House Staff Council meets the first Wednesday of each month, at 6PM.
IV. PROCEDURE

A. **Internal Review** – The Internal Review process also provides time for House Staff officers to report in confidence any issues or concerns they may have with the training program and/or faculty to the members of Internal Review subcommittee, including the Associate Dean for GME and the Senior Director of the Office of Graduate Medical Education. This forum has been especially conducive to opening lines of communication and surfacing issues that, through active engagement of the House Staff involved and the House Staff Council leadership, have resulted in immediate and direct action, including changes in faculty and program leadership.

B. **Compliance Hotline (NYUHC/Tisch Hospital)** – A Compliance Hotline (1-866-NYU-1212) is also available to all members of the institution to allow for the confidential, anonymous reporting of activities that are contrary to hospital and School of Medicine regulations and policies such as violations of resident duty hours, and form of harassment, HIPAA violations, etc. Residents are reminded of and encouraged to use this Hotline on a regular basis.

C. **Compliance Hotline (Bellevue Hospital Center)** – A Medical Resident Hotline is also available through Bellevue Hospital Center intranet ([http://intranet.bellevue.org/](http://intranet.bellevue.org/)) Click directly on Resident Hotline Online Issues Form. The submission form will be forwarded to pertinent department Administrators, Chief’s of Service, Medical Director and others in an effort to facilitate the resolution of the issues.

D. **Residents on Bellevue Payroll** – When residents rotate onto the Bellevue Hospital pay line, they are also represented by a union, the CIR that has additional avenues for the redress of grievances within its policies developed through collective bargaining.

E. **Program Director and/or DIO** – Residents may also contact their Program Director and/or the DIO/Associate Dean for Graduate Medical Education to discuss any issues of concern.
Additional Residency Info

Lab coats and scrubs:

Lab coats - ordered via an outside vendor. Please contact Allison George-Lucas ext. 3-6416 in Bellevue office for sizing and for placing an order.

Scrubs – Bellevue provides scrubs for all residents. The Scrub room is located on level C room W16. You can contact India Johnson for application for scrub cards at 212-562-4079

Pagers and Cell phones:

Cell phones- The primary means of communication is cell phone. You will be asked to provide this upon beginning of the program. The institution does offer discounts if phones are purchased via the NYU computer store.

Pagers – Long-range pagers are provided by the institution upon becoming an intern. Distributed the first week of residency. They are property of the Telecommunications office. Any issues related to the pagers should be directed to telecom or MCIT.

Email:
Only NYUMC email will be allowed for official hospital and residency business. The MCIT department upon arrival provides email addresses. Your Kerberos ID is your login for most all NYUMC applications. Any issues with email or Kerberos ID should be directed to MCIT support desk ext 3-6868 or by placing a request online at http://servicecatalog.nyumc.org/sc/login.asp

Call Rooms:
Resident calls rooms at all three institutions are available for all night calls. Residents are responsible for maintaining rooms in an orderly fashion. All residents will be provided with a code and/or key for all call rooms.
7. Appendix D
   i. ACGME Neurosurgery Common Program Requirements
   ii. ACGME Neurosurgery Program Requirements
   iii. HHC Patient Safety Handbook
Common Program Requirements
Effective: July 1, 2011

Note: The term “resident” in this document refers to both specialty residents and subspecialty fellows. Once the Common Program Requirements are inserted into each set of specialty and subspecialty requirements, the terms “resident” and “fellow” will be used respectively.

Introduction

Residency is an essential dimension of the transformation of the medical student to the independent practitioner along the continuum of medical education. It is physically, emotionally, and intellectually demanding, and requires longitudinally-concentrated effort on the part of the resident.

The specialty education of physicians to practice independently is experiential, and necessarily occurs within the context of the health care delivery system. Developing the skills, knowledge, and attitudes leading to proficiency in all the domains of clinical competency requires the resident physician to assume personal responsibility for the care of individual patients. For the resident, the essential learning activity is interaction with patients under the guidance and supervision of faculty members who give value, context, and meaning to those interactions. As residents gain experience and demonstrate growth in their ability to care for patients, they assume roles that permit them to exercise those skills with greater independence. This concept—graded and progressive responsibility—is one of the core tenets of American graduate medical education. Supervision in the setting of graduate medical education has the goals of assuring the provision of safe and effective care to the individual patient; assuring each resident’s development of the skills, knowledge, and attitudes required to enter the unsupervised practice of medicine; and establishing a foundation for continued professional growth.

I. Institutions

I.A. Sponsoring Institution

One sponsoring institution must assume ultimate responsibility for the program, as described in the Institutional Requirements, and this responsibility extends to resident assignments at all participating sites.

The sponsoring institution and the program must ensure that the program director has sufficient protected time and financial support for his or her educational and administrative responsibilities to the program.

I.B. Participating Sites

I.B.1. There must be a program letter of agreement (PLA) between the program and each participating site providing a required assignment. The PLA must be renewed at least every five years.
The PLA should:

I.B.1.a) identify the faculty who will assume both educational and supervisory responsibilities for residents;

I.B.1.b) specify their responsibilities for teaching, supervision, and formal evaluation of residents, as specified later in this document;

I.B.1.c) specify the duration and content of the educational experience; and,

I.B.1.d) state the policies and procedures that will govern resident education during the assignment.

I.B.2. The program director must submit any additions or deletions of participating sites routinely providing an educational experience, required for all residents, of one month full time equivalent (FTE) or more through the Accreditation Council for Graduate Medical Education (ACGME) Accreditation Data System (ADS).

[As further specified by the Review Committee]

II. Program Personnel and Resources

II.A. Program Director

II.A.1. There must be a single program director with authority and accountability for the operation of the program. The sponsoring institution’s GMEC must approve a change in program director. After approval, the program director must submit this change to the ACGME via the ADS.

[As further specified by the Review Committee]

II.A.2. The program director should continue in his or her position for a length of time adequate to maintain continuity of leadership and program stability.

II.A.3. Qualifications of the program director must include:

II.A.3.a) requisite specialty expertise and documented educational and administrative experience acceptable to the Review Committee;

II.A.3.b) current certification in the specialty by the American Board of ________, or specialty qualifications that are acceptable to the Review Committee; and,

II.A.3.c) current medical licensure and appropriate medical staff appointment.

[As further specified by the Review Committee]
II.A.4. The program director must administer and maintain an educational environment conducive to educating the residents in each of the ACGME competency areas. The program director must:

II.A.4.a) oversee and ensure the quality of didactic and clinical education in all sites that participate in the program;

II.A.4.b) approve a local director at each participating site who is accountable for resident education;

II.A.4.c) approve the selection of program faculty as appropriate;

II.A.4.d) evaluate program faculty and approve the continued participation of program faculty based on evaluation;

II.A.4.e) monitor resident supervision at all participating sites;

II.A.4.f) prepare and submit all information required and requested by the ACGME, including but not limited to the program information forms and annual program resident updates to the ADS, and ensure that the information submitted is accurate and complete;

II.A.4.g) provide each resident with documented semiannual evaluation of performance with feedback;

II.A.4.h) ensure compliance with grievance and due process procedures as set forth in the Institutional Requirements and implemented by the sponsoring institution;

II.A.4.i) provide verification of residency education for all residents, including those who leave the program prior to completion;

II.A.4.j) implement policies and procedures consistent with the institutional and program requirements for resident duty hours and the working environment, including moonlighting, and, to that end, must:

II.A.4.j).(1) distribute these policies and procedures to the residents and faculty;

II.A.4.j).(2) monitor resident duty hours, according to sponsoring institutional policies, with a frequency sufficient to ensure compliance with ACGME requirements;

II.A.4.j).(3) adjust schedules as necessary to mitigate excessive service demands and/or fatigue; and,

II.A.4.j).(4) if applicable, monitor the demands of at-home call and adjust schedules as necessary to mitigate excessive service demands and/or fatigue.
II.A.4.k) monitor the need for and ensure the provision of back up support systems when patient care responsibilities are unusually difficult or prolonged;

II.A.4.l) comply with the sponsoring institution’s written policies and procedures, including those specified in the Institutional Requirements, for selection, evaluation and promotion of residents, disciplinary action, and supervision of residents;

II.A.4.m) be familiar with and comply with ACGME and Review Committee policies and procedures as outlined in the ACGME Manual of Policies and Procedures;

II.A.4.n) obtain review and approval of the sponsoring institution’s GMEC/DIO before submitting to the ACGME information or requests for the following:

II.A.4.n).(1) all applications for ACGME accreditation of new programs;

II.A.4.n).(2) changes in resident complement;

II.A.4.n).(3) major changes in program structure or length of training;

II.A.4.n).(4) progress reports requested by the Review Committee;

II.A.4.n).(5) responses to all proposed adverse actions;

II.A.4.n).(6) requests for increases or any change to resident duty hours;

II.A.4.n).(7) voluntary withdrawals of ACGME-accredited programs;

II.A.4.n).(8) requests for appeal of an adverse action;

II.A.4.n).(9) appeal presentations to a Board of Appeal or the ACGME; and,

II.A.4.n).(10) proposals to ACGME for approval of innovative educational approaches.

II.A.4.o) obtain DIO review and co-signature on all program information forms, as well as any correspondence or document submitted to the ACGME that addresses:

II.A.4.o).(1) program citations, and/or

II.A.4.o).(2) request for changes in the program that would have significant impact, including financial, on the program or institution.

[As further specified by the Review Committee].
II.B. Faculty

II.B.1. At each participating site, there must be a sufficient number of faculty with documented qualifications to instruct and supervise all residents at that location.

The faculty must:

II.B.1.a) devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities; and to demonstrate a strong interest in the education of residents, and

II.B.1.b) administer and maintain an educational environment conducive to educating residents in each of the ACGME competency areas.

II.B.2. The physician faculty must have current certification in the specialty by the American Board of __________, or possess qualifications acceptable to the Review Committee.

[As further specified by the Review Committee]

II.B.3. The physician faculty must possess current medical licensure and appropriate medical staff appointment.

II.B.4. The nonphysician faculty must have appropriate qualifications in their field and hold appropriate institutional appointments.

II.B.5. The faculty must establish and maintain an environment of inquiry and scholarship with an active research component.

II.B.5.a) The faculty must regularly participate in organized clinical discussions, rounds, journal clubs, and conferences.

II.B.5.b) Some members of the faculty should also demonstrate scholarship by one or more of the following:

II.B.5.b).(1) peer-reviewed funding;

II.B.5.b).(2) publication of original research or review articles in peer-reviewed journals, or chapters in textbooks;

II.B.5.b).(3) publication or presentation of case reports or clinical series at local, regional, or national professional and scientific society meetings; or,

II.B.5.b).(4) participation in national committees or educational organizations.

II.B.5.c) Faculty should encourage and support residents in scholarly activities.
II.C. Other Program Personnel

The institution and the program must jointly ensure the availability of all necessary professional, technical, and clerical personnel for the effective administration of the program.

II.D. Resources

The institution and the program must jointly ensure the availability of adequate resources for resident education, as defined in the specialty program requirements.

II.E. Medical Information Access

Residents must have ready access to specialty-specific and other appropriate reference material in print or electronic format. Electronic medical literature databases with search capabilities should be available.

III. Resident Appointments

III.A. Eligibility Criteria

The program director must comply with the criteria for resident eligibility as specified in the Institutional Requirements.

III.B. Number of Residents

The program director may not appoint more residents than approved by the Review Committee, unless otherwise stated in the specialty-specific requirements. The program’s educational resources must be adequate to support the number of residents appointed to the program.

III.C. Resident Transfers

III.C.1. Before accepting a resident who is transferring from another program, the program director must obtain written or electronic verification of previous educational experiences and a summative competency-based performance evaluation of the transferring resident.
III.C.2. A program director must provide timely verification of residency education and summative performance evaluations for residents who leave the program prior to completion.

III.D. Appointment of Fellows and Other Learners

The presence of other learners (including, but not limited to, residents from other specialties, subspecialty fellows, PhD students, and nurse practitioners) in the program must not interfere with the appointed residents’ education. The program director must report the presence of other learners to the DIO and GMEC in accordance with sponsoring institution guidelines.

[As further specified by the Review Committee]

IV. Educational Program

IV.A. The curriculum must contain the following educational components:

IV.A.1. Overall educational goals for the program, which the program must distribute to residents and faculty annually;

IV.A.2. Competency-based goals and objectives for each assignment at each educational level, which the program must distribute to residents and faculty annually, in either written or electronic form. These should be reviewed by the resident at the start of each rotation;

IV.A.3. Regularly scheduled didactic sessions;

IV.A.4. Delineation of resident responsibilities for patient care, progressive responsibility for patient management, and supervision of residents over the continuum of the program; and,

IV.A.5. ACGME Competencies

The program must integrate the following ACGME competencies into the curriculum:

IV.A.5.a) Patient Care

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents:

[As further specified by the Review Committee]

IV.A.5.b) Medical Knowledge

Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care. Residents:
IV.A.5.c) Practice-based Learning and Improvement

Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning. Residents are expected to develop skills and habits to be able to meet the following goals:

IV.A.5.c).(1) identify strengths, deficiencies, and limits in one’s knowledge and expertise;

IV.A.5.c).(2) set learning and improvement goals;

IV.A.5.c).(3) identify and perform appropriate learning activities;

IV.A.5.c).(4) systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement;

IV.A.5.c).(5) incorporate formative evaluation feedback into daily practice;

IV.A.5.c).(6) locate, appraise, and assimilate evidence from scientific studies related to their patients’ health problems;

IV.A.5.c).(7) use information technology to optimize learning; and,

IV.A.5.c).(8) participate in the education of patients, families, students, residents and other health professionals.

[As further specified by the Review Committee]

IV.A.5.d) Interpersonal and Communication Skills

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. Residents are expected to:

IV.A.5.d).(1) communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds;

IV.A.5.d).(2) communicate effectively with physicians, other health professionals, and health related agencies;
IV.A.5.d).(3) work effectively as a member or leader of a health care team or other professional group;

IV.A.5.d).(4) act in a consultative role to other physicians and health professionals; and,

IV.A.5.d).(5) maintain comprehensive, timely, and legible medical records, if applicable.

[As further specified by the Review Committee]

IV.A.5.e) Professionalism

Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Residents are expected to demonstrate:

IV.A.5.e).(1) compassion, integrity, and respect for others;

IV.A.5.e).(2) responsiveness to patient needs that supersedes self-interest;

IV.A.5.e).(3) respect for patient privacy and autonomy;

IV.A.5.e).(4) accountability to patients, society and the profession; and,

IV.A.5.e).(5) sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.

[As further specified by the Review Committee]

IV.A.5.f) Systems-based Practice

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents are expected to:

IV.A.5.f).(1) work effectively in various health care delivery settings and systems relevant to their clinical specialty;

IV.A.5.f).(2) coordinate patient care within the health care system relevant to their clinical specialty;

IV.A.5.f).(3) incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate;
IV.A.5.f).(4) advocate for quality patient care and optimal patient care systems;

IV.A.5.f).(5) work in interprofessional teams to enhance patient safety and improve patient care quality; and,

IV.A.5.f).(6) participate in identifying system errors and implementing potential systems solutions.

[As further specified by the Review Committee]

IV.B. Residents’ Scholarly Activities

IV.B.1. The curriculum must advance residents’ knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care.

IV.B.2. Residents should participate in scholarly activity.

[As further specified by the Review Committee]

IV.B.3. The sponsoring institution and program should allocate adequate educational resources to facilitate resident involvement in scholarly activities.

[As further specified by the Review Committee]

V. Evaluation

V.A. Resident Evaluation

V.A.1. Formative Evaluation

V.A.1.a) The faculty must evaluate resident performance in a timely manner during each rotation or similar educational assignment, and document this evaluation at completion of the assignment.

V.A.1.b) The program must:

V.A.1.b).(1) provide objective assessments of competence in patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice;

V.A.1.b).(2) use multiple evaluators (e.g., faculty, peers, patients, self, and other professional staff);

V.A.1.b).(3) document progressive resident performance improvement appropriate to educational level; and,
V.A.1.b).(4) provide each resident with documented semiannual evaluation of performance with feedback.

V.A.1.c) The evaluations of resident performance must be accessible for review by the resident, in accordance with institutional policy.

V.A.2. Summative Evaluation

The program director must provide a summative evaluation for each resident upon completion of the program. This evaluation must become part of the resident’s permanent record maintained by the institution, and must be accessible for review by the resident in accordance with institutional policy. This evaluation must:

V.A.2.a) document the resident’s performance during the final period of education, and

V.A.2.b) verify that the resident has demonstrated sufficient competence to enter practice without direct supervision.

V.B. Faculty Evaluation

V.B.1. At least annually, the program must evaluate faculty performance as it relates to the educational program.

V.B.2. These evaluations should include a review of the faculty’s clinical teaching abilities, commitment to the educational program, clinical knowledge, professionalism, and scholarly activities.

V.B.3. This evaluation must include at least annual written confidential evaluations by the residents.

V.C. Program Evaluation and Improvement

V.C.1. The program must document formal, systematic evaluation of the curriculum at least annually. The program must monitor and track each of the following areas:

V.C.1.a) resident performance;

V.C.1.b) faculty development;

V.C.1.c) graduate performance, including performance of program graduates on the certification examination; and,

V.C.1.d) program quality. Specifically:

V.C.1.d).(1) Residents and faculty must have the opportunity to evaluate the program confidentially and in writing at least annually, and
V.C.1.d).(2) The program must use the results of residents’ assessments of the program together with other program evaluation results to improve the program.

V.C.2. If deficiencies are found, the program should prepare a written plan of action to document initiatives to improve performance in the areas listed in section V.C.1. The action plan should be reviewed and approved by the teaching faculty and documented in meeting minutes.

VI. Resident Duty Hours in the Learning and Working Environment

VI.A. Professionalism, Personal Responsibility, and Patient Safety

VI.A.1. Programs and sponsoring institutions must educate residents and faculty members concerning the professional responsibilities of physicians to appear for duty appropriately rested and fit to provide the services required by their patients.

VI.A.2. The program must be committed to and responsible for promoting patient safety and resident well-being in a supportive educational environment.

VI.A.3. The program director must ensure that residents are integrated and actively participate in interdisciplinary clinical quality improvement and patient safety programs.

VI.A.4. The learning objectives of the program must:

VI.A.4.a) be accomplished through an appropriate blend of supervised patient care responsibilities, clinical teaching, and didactic educational events; and,

VI.A.4.b) not be compromised by excessive reliance on residents to fulfill non-physician service obligations.

VI.A.5. The program director and institution must ensure a culture of professionalism that supports patient safety and personal responsibility. Residents and faculty members must demonstrate an understanding and acceptance of their personal role in the following:

VI.A.5.a) assurance of the safety and welfare of patients entrusted to their care;

VI.A.5.b) provision of patient- and family-centered care;

VI.A.5.c) assurance of their fitness for duty;

VI.A.5.d) management of their time before, during, and after clinical assignments;

VI.A.5.e) recognition of impairment, including illness and fatigue, in themselves and in their peers;
VI.A.5.f) attention to lifelong learning;

VI.A.5.g) the monitoring of their patient care performance improvement indicators; and,

VI.A.5.h) honest and accurate reporting of duty hours, patient outcomes, and clinical experience data.

VI.A.6. All residents and faculty members must demonstrate responsiveness to patient needs that supersedes self-interest. Physicians must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient's care to another qualified and rested provider.

VI.B. Transitions of Care

VI.B.1. Programs must design clinical assignments to minimize the number of transitions in patient care.

VI.B.2. Sponsoring institutions and programs must ensure and monitor effective, structured hand-over processes to facilitate both continuity of care and patient safety.

VI.B.3. Programs must ensure that residents are competent in communicating with team members in the hand-over process.

VI.B.4. The sponsoring institution must ensure the availability of schedules that inform all members of the health care team of attending physicians and residents currently responsible for each patient’s care.

VI.C. Alertness Management/Fatigue Mitigation

VI.C.1. The program must:

VI.C.1.a) educate all faculty members and residents to recognize the signs of fatigue and sleep deprivation;

VI.C.1.b) educate all faculty members and residents in alertness management and fatigue mitigation processes; and,

VI.C.1.c) adopt fatigue mitigation processes to manage the potential negative effects of fatigue on patient care and learning, such as naps or back-up call schedules.

VI.C.2. Each program must have a process to ensure continuity of patient care in the event that a resident may be unable to perform his/her patient care duties.

VI.C.3. The sponsoring institution must provide adequate sleep facilities and/or safe transportation options for residents who may be too fatigued to
safely return home.

VI.D. Supervision of Residents

VI.D.1. In the clinical learning environment, each patient must have an identifiable, appropriately-credentialed and privileged attending physician (or licensed independent practitioner as approved by each Review Committee) who is ultimately responsible for that patient’s care.

VI.D.1.a) This information should be available to residents, faculty members, and patients.

VI.D.1.b) Residents and faculty members should inform patients of their respective roles in each patient’s care.

VI.D.2. The program must demonstrate that the appropriate level of supervision is in place for all residents who care for patients.

Supervision may be exercised through a variety of methods. Some activities require the physical presence of the supervising faculty member. For many aspects of patient care, the supervising physician may be a more advanced resident or fellow. Other portions of care provided by the resident can be adequately supervised by the immediate availability of the supervising faculty member or resident physician, either in the institution, or by means of telephonic and/or electronic modalities. In some circumstances, supervision may include post-hoc review of resident-delivered care with feedback as to the appropriateness of that care.

VI.D.3. Levels of Supervision

To ensure oversight of resident supervision and graded authority and responsibility, the program must use the following classification of supervision:

VI.D.3.a) Direct Supervision – the supervising physician is physically present with the resident and patient.

VI.D.3.b) Indirect Supervision:

VI.D.3.b).(1) with direct supervision immediately available – the supervising physician is physically within the hospital or other site of patient care, and is immediately available to provide Direct Supervision.

VI.D.3.b).(2) with direct supervision available – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision.
VI.D.3.c) Oversight – the supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered.

VI.D.4. The privilege of progressive authority and responsibility, conditional independence, and a supervisory role in patient care delegated to each resident must be assigned by the program director and faculty members.

VI.D.4.a) The program director must evaluate each resident's abilities based on specific criteria. When available, evaluation should be guided by specific national standards-based criteria.

VI.D.4.b) Faculty members functioning as supervising physicians should delegate portions of care to residents, based on the needs of the patient and the skills of the residents.

VI.D.4.c) Senior residents or fellows should serve in a supervisory role of junior residents in recognition of their progress toward independence, based on the needs of each patient and the skills of the individual resident or fellow.

VI.D.5. Programs must set guidelines for circumstances and events in which residents must communicate with appropriate supervising faculty members, such as the transfer of a patient to an intensive care unit, or end-of-life decisions.

VI.D.5.a) Each resident must know the limits of his/her scope of authority, and the circumstances under which he/she is permitted to act with conditional independence.

VI.D.5.a).(1) In particular, PGY-1 residents should be supervised either directly or indirectly with direct supervision immediately available. [Each Review Committee will describe the achieved competencies under which PGY-1 residents progress to be supervised indirectly, with direct supervision available.]

VI.D.6. Faculty supervision assignments should be of sufficient duration to assess the knowledge and skills of each resident and delegate to him/her the appropriate level of patient care authority and responsibility.

VI.E. Clinical Responsibilities

The clinical responsibilities for each resident must be based on PGY-level, patient safety, resident education, severity and complexity of patient illness/condition and available support services.

[Optimal clinical workload will be further specified by each Review Committee.]
VI.F. Teamwork

Residents must care for patients in an environment that maximizes effective communication. This must include the opportunity to work as a member of effective interprofessional teams that are appropriate to the delivery of care in the specialty.

[Each Review Committee will define the elements that must be present in each specialty.]

VI.G. Resident Duty Hours

VI.G.1. Maximum Hours of Work per Week

Duty hours must be limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities and all moonlighting.

VI.G.1.a) Duty Hour Exceptions

A Review Committee may grant exceptions for up to 10% or a maximum of 88 hours to individual programs based on a sound educational rationale.

VI.G.1.a).(1) In preparing a request for an exception the program director must follow the duty hour exception policy from the ACGME Manual on Policies and Procedures.

VI.G.1.a).(2) Prior to submitting the request to the Review Committee, the program director must obtain approval of the institution’s GMEC and DIO.

VI.G.2. Moonlighting

VI.G.2.a) Moonlighting must not interfere with the ability of the resident to achieve the goals and objectives of the educational program.

VI.G.2.b) Time spent by residents in Internal and External Moonlighting (as defined in the ACGME Glossary of Terms) must be counted towards the 80-hour Maximum Weekly Hour Limit.

VI.G.2.c) PGY-1 residents are not permitted to moonlight.

VI.G.3. Mandatory Time Free of Duty

Residents must be scheduled for a minimum of one day free of duty every week (when averaged over four weeks). At-home call cannot be assigned on these free days.
VI.G.4. Maximum Duty Period Length

VI.G.4.a) Duty periods of PGY-1 residents must not exceed 16 hours in duration.

VI.G.4.b) Duty periods of PGY-2 residents and above may be scheduled to a maximum of 24 hours of continuous duty in the hospital. Programs must encourage residents to use alertness management strategies in the context of patient care responsibilities. Strategic napping, especially after 16 hours of continuous duty and between the hours of 10:00 p.m. and 8:00 a.m., is strongly suggested.

VI.G.4.b).(1) It is essential for patient safety and resident education that effective transitions in care occur. Residents may be allowed to remain on-site in order to accomplish these tasks; however, this period of time must be no longer than an additional four hours.

VI.G.4.b).(2) Residents must not be assigned additional clinical responsibilities after 24 hours of continuous in-house duty.

VI.G.4.b).(3) In unusual circumstances, residents, on their own initiative, may remain beyond their scheduled period of duty to continue to provide care to a single patient. Justifications for such extensions of duty are limited to reasons of required continuity for a severely ill or unstable patient, academic importance of the events transpiring, or humanistic attention to the needs of a patient or family.

VI.G.4.b).(3).(a) Under those circumstances, the resident must:

VI.G.4.b).(3).(a).(i) appropriately hand over the care of all other patients to the team responsible for their continuing care; and,

VI.G.4.b).(3).(a).(ii) document the reasons for remaining to care for the patient in question and submit that documentation in every circumstance to the program director.

VI.G.4.b).(3).(b) The program director must review each submission of additional service, and track both individual resident and program-wide episodes of additional duty.

VI.G.5. Minimum Time Off between Scheduled Duty Periods

VI.G.5.a) PGY-1 residents should have 10 hours, and must have eight hours, free of duty between scheduled duty periods.
VI.G.5.b) Intermediate-level residents [as defined by the Review Committee] should have 10 hours free of duty, and must have eight hours between scheduled duty periods. They must have at least 14 hours free of duty after 24 hours of in-house duty.

VI.G.5.c) Residents in the final years of education [as defined by the Review Committee] must be prepared to enter the unsupervised practice of medicine and care for patients over irregular or extended periods.

VI.G.5.c).(1) This preparation must occur within the context of the 80-hour, maximum duty period length, and one-day-off-in-seven standards. While it is desirable that residents in their final years of education have eight hours free of duty between scheduled duty periods, there may be circumstances [as defined by the Review Committee] when these residents must stay on duty to care for their patients or return to the hospital with fewer than eight hours free of duty.

VI.G.5.c).(1).(a) Circumstances of return-to-hospital activities with fewer than eight hours away from the hospital by residents in their final years of education must be monitored by the program director.

VI.G.6. Maximum Frequency of In-House Night Float

Residents must not be scheduled for more than six consecutive nights of night float.

[The maximum number of consecutive weeks of night float, and maximum number of months of night float per year may be further specified by the Review Committee.]

VI.G.7. Maximum In-House On-Call Frequency

PGY-2 residents and above must be scheduled for in-house call no more frequently than every-third-night (when averaged over a four-week period).

VI.G.8. At-Home Call

VI.G.8.a) Time spent in the hospital by residents on at-home call must count towards the 80-hour maximum weekly hour limit. The frequency of at-home call is not subject to the every-third-night limitation, but must satisfy the requirement for one-day-in-seven free of duty, when averaged over four weeks.

VI.G.8.a).(1) At-home call must not be so frequent or taxing as to preclude rest or reasonable personal time for each resident.
VI.G.8.b) Residents are permitted to return to the hospital while on at-home call to care for new or established patients. Each episode of this type of care, while it must be included in the 80-hour weekly maximum, will not initiate a new “off-duty period”.

VII. Innovative Projects

Requests for innovative projects that may deviate from the institutional, common and/or specialty specific program requirements must be approved in advance by the Review Committee. In preparing requests, the program director must follow Procedures for Approving Proposals for Innovative Projects located in the ACGME Manual on Policies and Procedures. Once a Review Committee approves a project, the sponsoring institution and program are jointly responsible for the quality of education offered to residents for the duration of such a project.

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ACGME-approved: September 26, 2010   Effective: July 1, 2011
ACGME Program Requirements for Graduate Medical Education
in Neurological Surgery

Common Program Requirements are in BOLD

Effective: July 1, 2009

Introduction

Int.A. Residency is an essential dimension of the transformation of the medical student to the independent practitioner along the continuum of medical education. It is physically, emotionally, and intellectually demanding, and requires longitudinally-concentrated effort on the part of the resident.

The specialty education of physicians to practice independently is experiential, and necessarily occurs within the context of the health care delivery system. Developing the skills, knowledge, and attitudes leading to proficiency in all the domains of clinical competency requires the resident physician to assume personal responsibility for the care of individual patients. For the resident, the essential learning activity is interaction with patients under the guidance and supervision of faculty members who give value, context, and meaning to those interactions. As residents gain experience and demonstrate growth in their ability to care for patients, they assume roles that permit them to exercise those skills with greater independence. This concept—graded and progressive responsibility—is one of the core tenets of American graduate medical education. Supervision in the setting of graduate medical education has the goals of assuring the provision of safe and effective care to the individual patient; assuring each resident’s development of the skills, knowledge, and attitudes required to enter the unsupervised practice of medicine; and establishing a foundation for continued professional growth.

Int.B. Definition of Discipline

Neurological surgery is a discipline of medicine and the specialty of surgery that provides operative and nonoperative management (i.e., prevention, diagnosis, evaluation, interpretation of imaging, treatment, critical care, and rehabilitation) of disorders of the central, peripheral, and autonomic nervous systems, including their supporting structures and vascular supply; the evaluation and treatment of pathological processes that modify the function or activity of the nervous system, including the hypophysis; and the operative and non-operative management of pain. As such, Neurological surgery encompasses:

Int.B.1. the surgical, nonsurgical and stereotactic radiosurgical treatment of adult and pediatric patients with disorders of the nervous system;

Int.B.2. disorders of the brain, meninges, skull, including skull base, and their blood supply, including the surgical and endovascular treatment of disorders of the intracranial and extracranial vasculature supplying the brain and spinal cord;
Int.B.3. disorders of the pituitary gland;

Int.B.4. disorders of the spinal cord, meninges, and vertebral column, including those that may require treatment by fusion, instrumentation, or endovascular techniques; and,

Int.B.5. disorders of the cranial, peripheral, and spinal nerves throughout their distribution.

Int.C. Duration and Scope of Education

Int.C.1. The required length of a neurological surgery residency is 72 months in a curriculum under the control of the neurological surgery program director. The Review Committee recognizes two educational formats: PGY 1-6 and PGY 1-7. Programs can be approved for up to 84 months of neurological surgery training, 72 months of which are for clinical and didactic education and 12 months of research or advanced training. The resident must complete all years of education for which the program is accredited.

Int.C.2. The year of fundamental skills (PGY1) must be organized so that residents participate in clinical and didactic activities to:

Int.C.2.a) develop the knowledge, attitudes and skills needed to formulate principles and assess, plan, and initiate treatment of patients with surgical and medical problems;

Int.C.2.b) be involved in the care of patients with surgical and medical emergencies, multiple organ system trauma, and nervous system injuries and diseases;

Int.C.2.c) gain experience in the care of critically ill surgical and medical patients;

Int.C.2.d) participate in the pre-, intra-, and post-operative care of surgical patients; and,

Int.C.2.e) develop basic surgical skills and an understanding of surgical anesthesia, including anesthetic risks and the management of intra-operative anesthetic complications.

Int.C.3. Programs that extend the residency beyond 72 months must present a clear educational rationale consonant with the program requirements and the objectives of the residency. The program director must obtain the approval of the sponsoring institution and the Review Committee prior to implementation and at each subsequent accreditation review of the program.

Int.C.4. Before entry into the program, each resident must be notified in writing of the required length of the program. This period may not be changed for a particular resident during his or her program unless there is a significant break in his or her education, or the resident needs remedial education.
Int.C.5. Residents must have a minimum of three months of structured education in general patient care to include rotations in surgery, critical care, trauma, and other related rotations as determined by the program director.

Int.C.5.a) Residents should have a maximum of six months of neurological surgery.

Int.C.6. During the first 36 months of education residents must have a minimum of three months of structured education in an ACGME-accredited neurology program.

Int.C.7. The program must provide 42 months of clinical neurological surgery at the sponsoring institution or one of its approved participating sites. A minimum of 21 months of neurological surgery education must occur at the sponsoring institution.

Int.C.8. The remaining time not devoted to clinical neurology and neurological surgery should be spent in the study of the basic sciences, neuroradiology, neuropathology, or other appropriate subject matter related to the neurosciences. These topics should be agreed upon by individual residents and the program director. The program director should consult the American Board of Neurological Surgery for certification requirements concerning any training conducted outside the approved sites of the program.

Int.C.9. The program must provide residents with experience in direct and progressively responsible patient management experience as they advance through training.

Int.C.10. Residents must spend a 12-month period of time as chief resident on the neurological surgery clinical service in the sponsoring institution or its approved participating sites.

Int.C.10.a) The chief resident must have major or primary responsibility for patient management with faculty supervision.

Int.C.10.b) The chief resident should also have administrative responsibility as designated by the program director.

Int.C.10.c) The specific portion of the clinical training that constitutes the 12 months of chief residency must be specifically designated as the chief residency experience and must be identified at the time of program review.

I. Institutions

I.A. Sponsoring Institution

One sponsoring institution must assume ultimate responsibility for the
program, as described in the Institutional Requirements, and this responsibility extends to resident assignments at all participating sites.

The sponsoring institution and the program must ensure that the program director has sufficient protected time and financial support for his or her educational and administrative responsibilities to the program.

I.A.1. The sponsoring institution for a neurological surgery program must be in a single geographic location. Appropriate institutions include medical schools and hospitals. The institution must demonstrate commitment to the program in terms of financial and academic support, including timely appointment of a permanent department or division chairperson of neurological surgery.

I.B. Participating Sites

I.B.1. There must be a program letter of agreement (PLA) between the program and each participating site providing a required assignment. The PLA must be renewed at least every five years. The PLA should:

I.B.1.a) identify the faculty who will assume both educational and supervisory responsibilities for residents;

I.B.1.b) specify their responsibilities for teaching, supervision, and formal evaluation of residents, as specified later in this document;

I.B.1.c) specify the duration and content of the educational experience; and,

I.B.1.d) state the policies and procedures that will govern resident education during the assignment.

I.B.2. The program director must submit any additions or deletions of participating sites routinely providing an educational experience, required for all residents, of one month full time equivalent (FTE) or more through the Accreditation Council for Graduate Medical Education (ACGME) Accreditation Data System (ADS).

I.B.3. An integrated site must function as a single neurological surgery service with the sponsoring institution. The program director must demonstrate to the Review Committee that the clinical service operates as a single unit in the assignment of residents and their faculty supervisors, the formulation of call schedules, and the convening of teaching conferences and related educational activities.

I.B.4. A participating site functions as a separate neurological surgical service with a local training director under the direction of the program director and should be sufficiently close to the sponsoring institution to ensure
peer interaction and regular attendance at joint conferences and other activities. Appropriate exceptions may be considered for special resource hospitals (e.g. pediatrics, trauma).

II. Program Personnel and Resources

II.A. Program Director

II.A.1. There must be a single program director with authority and accountability for the operation of the program. The sponsoring institution's GMEC must approve a change in program director. After approval, the program director must submit this change to the ACGME via the ADS.

II.A.2. The program director should continue in his or her position for a length of time adequate to maintain continuity of leadership and program stability.

II.A.3. Qualifications of the program director must include:

II.A.3.a) requisite specialty expertise and documented educational and administrative experience acceptable to the Review Committee;

II.A.3.b) current certification in the specialty by the American Board of Neurological Surgery, or specialty qualifications that are acceptable to the Review Committee; and,

II.A.3.c) current medical licensure and appropriate medical staff appointment.

II.A.4. The program director must administer and maintain an educational environment conducive to educating the residents in each of the ACGME competency areas. The program director must:

II.A.4.a) oversee and ensure the quality of didactic and clinical education in all sites that participate in the program;

II.A.4.b) approve a local director at each participating site who is accountable for resident education;

II.A.4.c) approve the selection of program faculty as appropriate;

II.A.4.d) evaluate program faculty and approve the continued participation of program faculty based on evaluation;

II.A.4.e) monitor resident supervision at all participating sites;

II.A.4.f) prepare and submit all information required and requested by the ACGME, including but not limited to the program information forms and annual program resident updates to
the ADS, and ensure that the information submitted is accurate and complete;

II.A.4.g) provide each resident with documented semiannual evaluation of performance with feedback;

II.A.4.h) ensure compliance with grievance and due process procedures as set forth in the Institutional Requirements and implemented by the sponsoring institution;

II.A.4.i) provide verification of residency education for all residents, including those who leave the program prior to completion;

II.A.4.j) implement policies and procedures consistent with the institutional and program requirements for resident duty hours and the working environment, including moonlighting, and, to that end, must:

II.A.4.j).(1) distribute these policies and procedures to the residents and faculty;

II.A.4.j).(2) monitor resident duty hours, according to sponsoring institutional policies, with a frequency sufficient to ensure compliance with ACGME requirements;

II.A.4.j).(3) adjust schedules as necessary to mitigate excessive service demands and/or fatigue; and,

II.A.4.j).(4) if applicable, monitor the demands of at-home call and adjust schedules as necessary to mitigate excessive service demands and/or fatigue.

II.A.4.k) monitor the need for and ensure the provision of back up support systems when patient care responsibilities are unusually difficult or prolonged;

II.A.4.l) comply with the sponsoring institution’s written policies and procedures, including those specified in the Institutional Requirements, for selection, evaluation and promotion of residents, disciplinary action, and supervision of residents;

II.A.4.m) be familiar with and comply with ACGME and Review Committee policies and procedures as outlined in the ACGME Manual of Policies and Procedures;

II.A.4.n) obtain review and approval of the sponsoring institution’s GMEC/DIO before submitting to the ACGME information or requests for the following:

II.A.4.n).(1) all applications for ACGME accreditation of new programs;
II.A.4.n).(2) changes in resident complement;
II.A.4.n).(3) major changes in program structure or length of training;
II.A.4.n).(4) progress reports requested by the Review Committee;
II.A.4.n).(5) responses to all proposed adverse actions;
II.A.4.n).(6) requests for increases or any change to resident duty hours;
II.A.4.n).(7) voluntary withdrawals of ACGME-accredited programs;
II.A.4.n).(8) requests for appeal of an adverse action;
II.A.4.n).(9) appeal presentations to a Board of Appeal or the ACGME; and,
II.A.4.n).(10) proposals to ACGME for approval of innovative educational approaches.

II.A.4.o) obtain DIO review and co-signature on all program information forms, as well as any correspondence or document submitted to the ACGME that addresses:
II.A.4.o).(1) program citations, and/or
II.A.4.o).(2) request for changes in the program that would have significant impact, including financial, on the program or institution.

II.A.4.p) obtain Review Committee approval for the addition or deletion of any participating site rotation;
II.A.4.q) be responsible for the annual collection, compilation, and retention of the number and types of neurological surgery operative procedures performed in all sites and facilities utilized in the clinical education of residents. This information must be provided in the format specified by the Review Committee;
II.A.4.r) ensure the annual compilation of a comprehensive and accurate record of the number and type of operative procedures performed by each resident completing the program. This record must include all procedures in which the neurological surgery resident was either resident surgeon or assistant and must be signed by both the resident and the program director as a statement of its accuracy. This information must be provided in the format specified by the Review Committee;
II.A.4.s) ensure that the profile of clinical experience reported to the Review Committee be limited to that utilized in the resident's educational program. It also is understood that the educational requirements of the resident must be considered at all times, and assignment to a clinical service that limits or precludes educational opportunities will be adversely considered in evaluation of the program;

II.A.4.t) ensure that a current, well-organized, written plan for rotation of residents among the various services and sites involved is maintained and is available to the residents and faculty;

II.A.4.u) ensure that there is a well-coordinated schedule of teaching conferences, rounds, and other educational activities in which both the neurological surgery faculty and residents participate. Conferences must be coordinated among training program sites to allow attendance by a majority of staff and residents. A conference attendance record for both residents and faculty must be maintained;

II.A.4.v) maintain explicit written descriptions of supervisory lines of responsibility for the care of patients. Such guidelines must be communicated to all members of the program staff; and,

II.A.4.w) ensure that attending physicians or supervising residents with appropriate experience for the severity and complexity of the patients’ condition are available at all times on site. The responsibility or independence given to residents in patient care should depend on their knowledge, their technical skill, their experience, the complexity of the patients’ illness, and the risk of the operative procedures.

II.B. Faculty

II.B.1. At each participating site, there must be a sufficient number of faculty with documented qualifications to instruct and supervise all residents at that location.

The faculty must:

II.B.1.a) devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities; and to demonstrate a strong interest in the education of residents, and

II.B.1.b) administer and maintain an educational environment conducive to educating residents in each of the ACGME competency areas.

II.B.2. The physician faculty must have current certification in the specialty
II.B.2.a) Neurological surgery faculty participation in undergraduate medical education is desirable.

II.B.2.b) There should be a minimum faculty of three neurological surgeons at the primary teaching site.

II.B.2.c) Training directors at participating sites

II.B.2.c).(1) The training director shall be a qualified neurological surgeon appointed by and responsible to the program director in each geographically separate site. This individual must be responsible for the education of the residents and also will supervise the educational activities of other neurological surgeons relating to resident education at that site. Appropriate exceptions may be considered for special resource hospitals.

II.B.2.c).(2) These appointments will generally be for a one-year period and can be renewable to ensure continuity of leadership.

II.B.2.c).(3) The training director in neurological surgery at each participating site must have major clinical responsibilities at that site.

II.B.2.d) The physician faculty must have an in-depth understanding of basic mechanisms of normal and abnormal states and the application of current knowledge to practice.

II.B.2.e) When a change in chairmanship occurs within an accredited neurological surgery training program, the program must be site-visited within two years.

II.B.3. The physician faculty must possess current medical licensure and appropriate medical staff appointment.

II.B.4. The nonphysician faculty must have appropriate qualifications in their field and hold appropriate institutional appointments.

II.B.5. The faculty must establish and maintain an environment of inquiry and scholarship with an active research component.

II.B.5.a) The faculty must regularly participate in organized clinical discussions, rounds, journal clubs, and conferences.

II.B.5.b) Some members of the faculty should also demonstrate scholarship by one or more of the following:

II.B.5.b).(1) peer-reviewed funding;
II.B.5.b).(2) publication of original research or review articles in peer-reviewed journals, or chapters in textbooks;

II.B.5.b).(3) publication or presentation of case reports or clinical series at local, regional, or national professional and scientific society meetings; or,

II.B.5.b).(4) participation in national committees or educational organizations.

II.B.5.c) Faculty should encourage and support residents in scholarly activities.

II.C. Other Program Personnel

The institution and the program must jointly ensure the availability of all necessary professional, technical, and clerical personnel for the effective administration of the program.

II.D. Resources

The institution and the program must jointly ensure the availability of adequate resources for resident education, as defined in the specialty program requirements.

II.D.1. Inpatient facilities

II.D.1.a) Inpatient facilities available for training programs in neurological surgery should have an adequate number of beds, support personnel, and proper equipment to ensure quality education and excellence in patient care.

II.D.1.b) The presence of a neurological surgery operating room with microsurgical capabilities and an intensive care unit specifically for the care of neurological surgery patients is desirable to a training program, as are other units for specialized neurological surgery care.

II.D.1.c) Similarly, neurological surgery beds should be on a unit designated for the care of neurological surgery patients.

II.D.2. Outpatient Facilities

Residents must have available appropriate outpatient facilities, clinic, and office space for training purposes in the regular preoperative evaluation and postoperative follow-up for cases for which the resident has responsibility.

II.D.3. Research Facilities
II.D.3.a) There should be space and support personnel for research identified in the neurological surgery division or department, and some activity should be ongoing in this area.

II.D.3.b) Clinical and/or basic research opportunities should be available to the neurological surgery resident with appropriate faculty supervision.

II.D.4. Recognizing the nature of the specialty of neurological surgery, it is unlikely that a program can mount an adequate educational experience for neurological surgery residents without approved training programs in related fields. Clinically oriented training programs in the sponsoring institution of the neurological surgery program should include accredited training programs in neurology, general surgery, internal medicine, pediatrics, and radiology.

II.D.5. There should be clinical resources for the education of neurological surgery residents in anesthesiology, critical care, emergency medicine, endocrinology, ophthalmology, orthopedics, otolaryngology, pathology, and psychiatry.

II.D.6. There shall be sufficient patients admitted each year to ensure that the resident participates in the care of patients suffering from the full spectrum of neurosurgical diseases.

II.D.7. A program must demonstrate to the satisfaction of the Review Committee that it has both the volume of patients under neurological care and the breadth and depth of academic support to ensure that it may provide excellent neurological surgery training to residents.

II.D.8. The volume of patients must be substantiated in part by a compilation of annual institutional operative data and resident operative data (including that from residents rotating on the service from other programs) provided in a fashion prescribed by the Review Committee.

II.D.9. Within the total clinical facilities available to the training program, there should be a minimum of 500 major neurological surgery procedures per year per finishing resident. However, meeting this minimum number does not ensure accreditation of a training program.

II.D.10. The presence within a given training program of this neurological surgery workload and the distribution of the surgical experience are equally important. For instance, the cases should be appropriately distributed among cranial, extracranial, spinal, and peripheral nerve surgical procedures and should represent a well-balanced spectrum of neurological surgery in both adults and children. This spectrum should include craniotomies for trauma, neoplasms, aneurysms, and vascular malformations; extracranial carotid artery surgery; transsphenoidal and stereotaxic surgery (including radiosurgery); pain management; and spinal procedures of a sufficient number and variety using modern techniques.
II.D.11. All affiliated hospitals in the training program should have at least 100 major neurological surgery procedures per year distributed appropriately among the spectrum of cases as described in section II.D.10, above. An exception may be made if a hospital offers special clinical resources, e.g., stereotaxic surgery, trauma, or pediatric neurological surgery, which significantly augment the resources of the training program.

II.D.12. During duty hours residents must be provided with adequate sleeping, lounge, and food facilities. Support services must be such that the resident does not spend an inordinate amount of time in noneducational activities that can be discharged properly by other personnel.

II.E. Medical Information Access

Residents must have ready access to specialty-specific and other appropriate reference material in print or electronic format. Electronic medical literature databases with search capabilities should be available.

III. Resident Appointments

III.A. Eligibility Criteria

The program director must comply with the criteria for resident eligibility as specified in the Institutional Requirements.

III.B. Number of Residents

The program director may not appoint more residents than approved by the Review Committee, unless otherwise stated in the specialty-specific requirements. The program’s educational resources must be adequate to support the number of residents appointed to the program.

III.B.1. The Review Committee will review the selection process of residents and seek evidence that the program evaluates the progression of the residents during training.

III.B.2. Where there is demonstrated excellence in providing educational experience for the residents, as determined by the Review Committee, a program may be authorized to enroll more than one resident per year. The ability to do so does not depend on any multiplication of the minimum requirements as established by the Program Requirements for Graduate Medical Education in Neurological Surgery. In determining the size of a resident complement, the Review Committee will consider the following:

III.B.2.a) presence of a faculty of national stature in neurological surgery;

III.B.2.b) quality of the educational program;

III.B.2.c) quality of clinical care;
III.B.2.d) total number and distribution of cases;

III.B.2.e) quality of clinical and basic research;

III.B.2.f) quality of residents trained by the program, including numbers of residents starting and finishing the program, number of graduates who take written and oral examinations of the American Board of Neurological Surgery, and the number of graduates passing these written and oral examinations; and,

III.B.2.g) facilities.

III.B.3. The number of residents at each year of training in a given program shall not exceed the number approved by the most recent accreditation review of that program. A new resident may be appointed to fill a vacancy provided that there is no adverse impact on the existing resident staff. The program must provide the Review Committee with an explanation for the excess complement and its plan for resolution to normal complement.

III.C. Resident Transfers

III.C.1. Before accepting a resident who is transferring from another program, the program director must obtain written or electronic verification of previous educational experiences and a summative competency-based performance evaluation of the transferring resident.

III.C.2. A program director must provide timely verification of residency education and summative performance evaluations for residents who leave the program prior to completion.

III.D. Appointment of Fellows and Other Learners

The presence of other learners (including, but not limited to, residents from other specialties, subspecialty fellows, PhD students, and nurse practitioners) in the program must not interfere with the appointed residents’ education. The program director must report the presence of other learners to the DIO and GMEC in accordance with sponsoring institution guidelines.

III.D.1. Programs must notify the Review Committee when they sponsor or participate in any clinical fellowship taking place within sites participating in the program. This notification must occur before the commencement of such training and at each subsequent review of the program. Documentation must be provided describing the fellowship’s relationship to and impact on the residency.

III.D.2. If fellows so appointed will, in the judgment of the Review Committee, detract from the education of the regularly appointed residents, the accreditation status of the program may be adversely affected.
IV. Educational Program

IV.A. The curriculum must contain the following educational components:

IV.A.1. Overall educational goals for the program, which the program must distribute to residents and faculty annually;

IV.A.2. Competency-based goals and objectives for each assignment at each educational level, which the program must distribute to residents and faculty annually, in either written or electronic form. These should be reviewed by the resident at the start of each rotation;

IV.A.3. Regularly scheduled didactic sessions;

IV.A.4. Delineation of resident responsibilities for patient care, progressive responsibility for patient management, and supervision of residents over the continuum of the program; and,

IV.A.5. ACGME Competencies

The program must integrate the following ACGME competencies into the curriculum:

IV.A.5.a) Patient Care

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents:

IV.A.5.a).(1) are expected to gather and understand essential patient information in a timely manner;

IV.A.5.a).(2) are expected to generate an appropriate differential diagnosis;

IV.A.5.a).(3) are expected to implement an effective plan of management;

IV.A.5.a).(4) are expected to prioritize and stabilize multiple patients simultaneously;

IV.A.5.a).(5) are expected to competently perform neurosurgical operative procedures;

IV.A.5.a).(6) are expected to manage complications;

IV.A.5.a).(7) are expected to analyze outcomes;

IV.A.5.a).(8) are expected to counsel and educate patients and families;
IV.A.5.a).(9) are expected to provide health care services aimed at preventing health problems and maintaining health;

IV.A.5.a).(10) are expected to work with health care professionals to provide patient-focused care;

IV.A.5.a).(11) must participate in the management (including critical care) and surgical care of adult and pediatric patients and experience should include the full spectrum of neurosurgical disorders; and,

IV.A.5.a).(12) must have opportunities to evaluate patients referred for elective surgery in an outpatient environment. Under appropriate supervision, this experience should include obtaining a complete history, conducting an examination, ordering (if necessary) and interpreting diagnostic studies, and arriving independently at a diagnosis and plan of management. Consonant with their skills and level of experience, residents should be actively involved in preoperative decision making and subsequent operative procedures under the supervision of the attending physician who has ultimate responsibility for the patient. Residents should similarly be actively involved in postsurgical care and follow-up evaluation of their patients to develop skills in assessing postoperative recovery, recognizing and treating complications, communicating with referring physicians, and developing the physician-patient relationship. Preoperative interview and examination of patients already scheduled for a surgical procedure will not satisfy these requirements.

IV.A.5.a).(12).(a) Resident participation in and responsibility for operative procedures embracing the entire neurosurgical spectrum should increase progressively throughout the training period.

IV.A.5.b) Medical Knowledge

Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care. Residents:

IV.A.5.b).(1) are expected to generate a differential diagnosis and properly sequence critical actions for patient care, including management complications, morbidity and mortality;

IV.A.5.b).(2) are expected to synthesize and properly utilize acquired patient data;
IV.A.5.b).(3) are expected to identify neurosurgical emergencies;

IV.A.5.b).(4) are expected to know how to access current medical information;

IV.A.5.b).(5) are expected to understand how to treat neurosurgical conditions;

IV.A.5.b).(6) are expected to incorporate evidence-based principles;

IV.A.5.b).(7) must have educational experience in neuroradiology, including endovascular surgical neuroradiology, and neuropathology designed specifically for neurological surgery residents. Such experience should be under the direction of qualified neuroradiologists and preferably endovascular neurosurgeons, and neuropathologists; and,

IV.A.5.b).(8) must have experience and instruction in the basic neurosciences.

IV.A.5.c) Practice-based Learning and Improvement

Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning. Residents are expected to develop skills and habits to be able to meet the following goals:

IV.A.5.c).(1) identify strengths, deficiencies, and limits in one’s knowledge and expertise;

IV.A.5.c).(2) set learning and improvement goals;

IV.A.5.c).(3) identify and perform appropriate learning activities;

IV.A.5.c).(4) systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement;

IV.A.5.c).(5) incorporate formative evaluation feedback into daily practice;

IV.A.5.c).(6) locate, appraise, and assimilate evidence from scientific studies related to their patients’ health problems;

IV.A.5.c).(7) use information technology to optimize learning; and,

IV.A.5.c).(8) participate in the education of patients, families, students, residents and other health professionals.
apply knowledge of study design and statistical methods to critically appraise the medical literature;

Facilitate the learning of students and other health care professionals

Resident participation in undergraduate medical education is desirable.

Interpersonal and Communication Skills

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. Residents are expected to:

- communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds;
- communicate effectively with physicians, other health professionals, and health related agencies;
- work effectively as a member or leader of a health care team or other professional group;
- act in a consultative role to other physicians and health professionals; and,
- maintain comprehensive, timely, and legible medical records, if applicable.
- develop an effective therapeutic relationship with patients and their families, with respect for diversity and cultural, ethnic, spiritual, emotional, and age-specific differences;
- develop effective written communication skills;
- involve patients in medical decisions; and,
- strengthen listening and non-verbal communication skills.

Professionalism

Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Residents are expected to demonstrate:

- compassion, integrity, and respect for others;
IV.A.5.f).(2) responsiveness to patient needs that supersedes self-interest;

IV.A.5.f).(3) respect for patient privacy and autonomy;

IV.A.5.f).(4) accountability to patients, society and the profession; and,

IV.A.5.f).(5) sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.

IV.A.5.f).(6) treat patients/family/staff/ paraprofessional personnel with respect;

IV.A.5.f).(7) demonstrate sensitivity to patient’s pain, emotional state, and gender/ethnicity issues;

IV.A.5.f).(8) discuss death honestly, sensitively, patiently, and compassionately;

IV.A.5.f).(9) exemplify integrity;

IV.A.5.f).(10) accept responsibility/accountability;

IV.A.5.f).(11) demonstrate reliability;

IV.A.5.f).(12) maintain calm, even temperament;

IV.A.5.f).(13) exhibit self-awareness and knowledge of limits;

IV.A.5.f).(14) respond to the comments of other team members, patients, families, and peers openly and responsibly; and,

IV.A.5.f).(14).(a) Graduate training in neurological surgery requires a commitment to continuity of patient care, as practiced by qualified neurological surgeons. This continuity of care must take precedence-without regard to the time of day, day of the week, number of hours already worked, or on-call schedules. At the same time, patients have a right to expect a healthy, alert, responsible, and responsive physician dedicated to delivering effective and appropriate care.

IV.A.5.g) Systems-based Practice

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other
resources in the system to provide optimal health care. Residents are expected to:

IV.A.5.g).(1) work effectively in various health care delivery settings and systems relevant to their clinical specialty;

IV.A.5.g).(2) coordinate patient care within the health care system relevant to their clinical specialty;

IV.A.5.g).(3) incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate;

IV.A.5.g).(4) advocate for quality patient care and optimal patient care systems;

IV.A.5.g).(5) work in interprofessional teams to enhance patient safety and improve patient care quality; and,

IV.A.5.g).(6) participate in identifying system errors and implementing potential systems solutions.

IV.A.5.g).(7) understand, access, appropriately utilize, and evaluate the effectiveness of the resources, providers, and systems necessary to provide optimal neurosurgical care;

IV.A.5.g).(8) understand different medical practice models and delivery systems and how to best utilize them to care for the individual patient;

IV.A.5.g).(9) practice cost-effective health care and resource allocation that does not compromise quality of care;

IV.A.5.g).(10) advocate, coordinate, and facilitate patient care; and,

IV.A.5.g).(11) understand principles of and advance practices for patient safety at the institutional and individual level.

IV.B. Residents’ Scholarly Activities

IV.B.1. The curriculum must advance residents’ knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care.

IV.B.2. Residents should participate in scholarly activity.

IV.B.2.a) Graduate medical education must take place in an environment of inquiry and scholarship in which residents participate in the development of new knowledge, learn to evaluate research findings, and develop habits of inquiry as a continuing professional
responsibility.

IV.B.3. The sponsoring institution and program should allocate adequate educational resources to facilitate resident involvement in scholarly activities.

V. Evaluation

V.A. Resident Evaluation

V.A.1. Formative Evaluation

V.A.1.a) The faculty must evaluate resident performance in a timely manner during each rotation or similar educational assignment, and document this evaluation at completion of the assignment.

V.A.1.b) The program must:

V.A.1.b).(1) provide objective assessments of competence in patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice;

V.A.1.b).(2) use multiple evaluators (e.g., faculty, peers, patients, self, and other professional staff);

V.A.1.b).(3) document progressive resident performance improvement appropriate to educational level; and,

V.A.1.b).(4) provide each resident with documented semiannual evaluation of performance with feedback.

V.A.1.c) The evaluations of resident performance must be accessible for review by the resident, in accordance with institutional policy.

V.A.2. Summative Evaluation

The program director must provide a summative evaluation for each resident upon completion of the program. This evaluation must become part of the resident’s permanent record maintained by the institution, and must be accessible for review by the resident in accordance with institutional policy. This evaluation must:

V.A.2.a) document the resident’s performance during the final period of education, and

V.A.2.b) verify that the resident has demonstrated sufficient competence to enter practice without direct supervision.
V.B. Faculty Evaluation

V.B.1. At least annually, the program must evaluate faculty performance as it relates to the educational program.

V.B.2. These evaluations should include a review of the faculty’s clinical teaching abilities, commitment to the educational program, clinical knowledge, professionalism, and scholarly activities.

V.B.3. This evaluation must include at least annual written confidential evaluations by the residents.

V.C. Program Evaluation and Improvement

V.C.1. The program must document formal, systematic evaluation of the curriculum at least annually. The program must monitor and track each of the following areas:

V.C.1.a) resident performance;
V.C.1.b) faculty development;
V.C.1.c) graduate performance, including performance of program graduates on the certification examination; and,
V.C.1.d) program quality. Specifically:

V.C.1.d).(1) Residents and faculty must have the opportunity to evaluate the program confidentially and in writing at least annually, and
V.C.1.d).(2) The program must use the results of residents’ assessments of the program together with other program evaluation results to improve the program.

V.C.2. If deficiencies are found, the program should prepare a written plan of action to document initiatives to improve performance in the areas listed in section V.C.1. The action plan should be reviewed and approved by the teaching faculty and documented in meeting minutes.

V.C.3. The number of residents completing training and taking and passing the certification examinations will be part of the Review Committee’s evaluation of the program. All residents must pass the ABNS primary examination before completing the program.

VI. Resident Duty Hours in the Learning and Working Environment

VI.A. Professionalism, Personal Responsibility, and Patient Safety
VI.A.1. Programs and sponsoring institutions must educate residents and faculty members concerning the professional responsibilities of physicians to appear for duty appropriately rested and fit to provide the services required by their patients.

VI.A.2. The program must be committed to and responsible for promoting patient safety and resident well-being in a supportive educational environment.

VI.A.3. The program director must ensure that residents are integrated and actively participate in interdisciplinary clinical quality improvement and patient safety programs.

VI.A.4. The learning objectives of the program must:

VI.A.4.a) be accomplished through an appropriate blend of supervised patient care responsibilities, clinical teaching, and didactic educational events; and,

VI.A.4.b) not be compromised by excessive reliance on residents to fulfill non-physician service obligations.

VI.A.5. The program director and institution must ensure a culture of professionalism that supports patient safety and personal responsibility. Residents and faculty members must demonstrate an understanding and acceptance of their personal role in the following:

VI.A.5.a) assurance of the safety and welfare of patients entrusted to their care;

VI.A.5.b) provision of patient- and family-centered care;

VI.A.5.c) assurance of their fitness for duty;

VI.A.5.d) management of their time before, during, and after clinical assignments;

VI.A.5.e) recognition of impairment, including illness and fatigue, in themselves and in their peers;

VI.A.5.f) attention to lifelong learning;

VI.A.5.g) the monitoring of their patient care performance improvement indicators; and,

VI.A.5.h) honest and accurate reporting of duty hours, patient outcomes, and clinical experience data.

VI.A.6. All residents and faculty members must demonstrate responsiveness to patient needs that supersedes self-interest.
Physicians must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient’s care to another qualified and rested provider.

VI.B. Transitions of Care

VI.B.1. Programs must design clinical assignments to minimize the number of transitions in patient care.

VI.B.2. Sponsoring institutions and programs must ensure and monitor effective, structured hand-over processes to facilitate both continuity of care and patient safety.

VI.B.3. Programs must ensure that residents are competent in communicating with team members in the hand-over process.

VI.B.4. The sponsoring institution must ensure the availability of schedules that inform all members of the health care team of attending physicians and residents currently responsible for each patient’s care.

VI.C. Alertness Management/Fatigue Mitigation

VI.C.1. The program must:

VI.C.1.a) educate all faculty members and residents to recognize the signs of fatigue and sleep deprivation;

VI.C.1.b) educate all faculty members and residents in alertness management and fatigue mitigation processes; and,

VI.C.1.c) adopt fatigue mitigation processes to manage the potential negative effects of fatigue on patient care and learning, such as naps or back-up call schedules.

VI.C.2. Each program must have a process to ensure continuity of patient care in the event that a resident may be unable to perform his/her patient care duties.

VI.C.3. The sponsoring institution must provide adequate sleep facilities and/or safe transportation options for residents who may be too fatigued to safely return home.

VI.D. Supervision of Residents

VI.D.1. In the clinical learning environment, each patient must have an identifiable, appropriately-credentialed and privileged attending physician (or licensed independent practitioner as approved by each Review Committee) who is ultimately responsible for that patient’s care.
VI.D.1.a) This information should be available to residents, faculty members, and patients.

VI.D.1.b) Residents and faculty members should inform patients of their respective roles in each patient’s care.

VI.D.2. The program must demonstrate that the appropriate level of supervision is in place for all residents who care for patients.

Supervision may be exercised through a variety of methods. Some activities require the physical presence of the supervising faculty member. For many aspects of patient care, the supervising physician may be a more advanced resident or fellow. Other portions of care provided by the resident can be adequately supervised by the immediate availability of the supervising faculty member or resident physician, either in the institution, or by means of telephonic and/or electronic modalities. In some circumstances, supervision may include post-hoc review of resident-delivered care with feedback as to the appropriateness of that care.

VI.D.3. Levels of Supervision

To ensure oversight of resident supervision and graded authority and responsibility, the program must use the following classification of supervision:

VI.D.3.a) Direct Supervision – the supervising physician is physically present with the resident and patient.

VI.D.3.b) Indirect Supervision:

VI.D.3.b).(1) with direct supervision immediately available – the supervising physician is physically within the hospital or other site of patient care, and is immediately available to provide Direct Supervision.

VI.D.3.b).(2) with direct supervision available – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision.

VI.D.3.c) Oversight – the supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered.

VI.D.4. The privilege of progressive authority and responsibility, conditional independence, and a supervisory role in patient care delegated to each resident must be assigned by the program director and faculty members.
VI.D.4.a) The program director must evaluate each resident’s abilities based on specific criteria. When available, evaluation should be guided by specific national standards-based criteria.

VI.D.4.b) Faculty members functioning as supervising physicians should delegate portions of care to residents, based on the needs of the patient and the skills of the residents.

VI.D.4.c) Senior residents or fellows should serve in a supervisory role of junior residents in recognition of their progress toward independence, based on the needs of each patient and the skills of the individual resident or fellow.

VI.D.5. Programs must set guidelines for circumstances and events in which residents must communicate with appropriate supervising faculty members, such as the transfer of a patient to an intensive care unit, or end-of-life decisions.

VI.D.5.a) Each resident must know the limits of his/her scope of authority, and the circumstances under which he/she is permitted to act with conditional independence.

VI.D.5.a).(1) In particular, PGY-1 residents should be supervised either directly or indirectly with direct supervision immediately available.

VI.D.6. Faculty supervision assignments should be of sufficient duration to assess the knowledge and skills of each resident and delegate to him/her the appropriate level of patient care authority and responsibility.

VI.E. Clinical Responsibilities

The clinical responsibilities for each resident must be based on PGY-level, patient safety, resident education, severity and complexity of patient illness/condition and available support services.

VI.E.1. Neurological surgery residents practice across a diversity of care settings with varying degrees of primary patient responsibility. These situations vary from first call cross-coverage on the floors to possible interaction with a primary intensivist, pediatric, or hospitalist service.

VI.E.2. Peri-operative inpatient care must be further balanced with resident participation in the operating room. Program directors must consider the following when assigning patient loads:

VI.E.2.a) adequate coverage and provision of patient care;

VI.E.2.b) sufficient inpatient clinical responsibility to allow resident progression along clinical care milestones; and,
VI.E.2.c) meaningful insulation of operative experiences from inpatient care to allow technical progress and to facilitate resident development of organizational and triage skills.

VI.F. Teamwork

Residents must care for patients in an environment that maximizes effective communication. This must include the opportunity to work as a member of effective interprofessional teams that are appropriate to the delivery of care in the specialty.

VI.G. Resident Duty Hours

VI.G.1. Maximum Hours of Work per Week

Duty hours must be limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities and all moonlighting.

VI.G.1.a) Duty Hour Exceptions

A Review Committee may grant exceptions for up to 10% or a maximum of 88 hours to individual programs based on a sound educational rationale.

VI.G.1.a).(1) In preparing a request for an exception the program director must follow the duty hour exception policy from the ACGME Manual on Policies and Procedures.

VI.G.1.a).(2) Prior to submitting the request to the Review Committee, the program director must obtain approval of the institution’s GMEC and DIO.

VI.G.2. Moonlighting

VI.G.2.a) Moonlighting must not interfere with the ability of the resident to achieve the goals and objectives of the educational program.

VI.G.2.b) Time spent by residents in Internal and External Moonlighting (as defined in the ACGME Glossary of Terms) must be counted towards the 80-hour Maximum Weekly Hour Limit.

VI.G.2.c) PGY-1 residents are not permitted to moonlight.

VI.G.3. Mandatory Time Free of Duty

Residents must be scheduled for a minimum of one day free of duty every week (when averaged over four weeks). At-home call cannot be assigned on these free days.
VI.G.4. Maximum Duty Period Length

VI.G.4.a) Duty periods of PGY-1 residents must not exceed 16 hours in duration.

VI.G.4.b) Duty periods of PGY-2 residents and above may be scheduled to a maximum of 24 hours of continuous duty in the hospital. Programs must encourage residents to use alertness management strategies in the context of patient care responsibilities. Strategic napping, especially after 16 hours of continuous duty and between the hours of 10:00 p.m. and 8:00 a.m., is strongly suggested.

VI.G.4.b).(1) It is essential for patient safety and resident education that effective transitions in care occur. Residents may be allowed to remain on-site in order to accomplish these tasks; however, this period of time must be no longer than an additional four hours.

VI.G.4.b).(2) Residents must not be assigned additional clinical responsibilities after 24 hours of continuous in-house duty.

VI.G.4.b).(3) In unusual circumstances, residents, on their own initiative, may remain beyond their scheduled period of duty to continue to provide care to a single patient. Justifications for such extensions of duty are limited to reasons of required continuity for a severely ill or unstable patient, academic importance of the events transpiring, or humanistic attention to the needs of a patient or family.

VI.G.4.b).(3).(a) Under those circumstances, the resident must:

VI.G.4.b).(3).(a).(i) appropriately hand over the care of all other patients to the team responsible for their continuing care; and,

VI.G.4.b).(3).(a).(ii) document the reasons for remaining to care for the patient in question and submit that documentation in every circumstance to the program director.

VI.G.4.b).(3).(b) The program director must review each submission of additional service, and track both individual resident and program-wide episodes of additional duty.

VI.G.5. Minimum Time Off between Scheduled Duty Periods
VI.G.5.a) PGY-1 residents should have 10 hours, and must have eight hours, free of duty between scheduled duty periods.

VI.G.5.b) Intermediate-level residents should have 10 hours free of duty, and must have eight hours between scheduled duty periods. They must have at least 14 hours free of duty after 24 hours of in-house duty.

PGY-2 residents are considered to be at the intermediate level.

VI.G.5.c) Residents in the final years of education must be prepared to enter the unsupervised practice of medicine and care for patients over irregular or extended periods.

Residents at the PGY-3 level and beyond are considered to be in the final years of education.

VI.G.5.c).(1) This preparation must occur within the context of the 80-hour, maximum duty period length, and one-day-off-in-seven standards. While it is desirable that residents in their final years of education have eight hours free of duty between scheduled duty periods, there may be circumstances when these residents must stay on duty to care for their patients or return to the hospital with fewer than eight hours free of duty.

VI.G.5.c).(1).(a) Circumstances of return-to-hospital activities with fewer than eight hours away from the hospital by residents in their final years of education must be monitored by the program director.

VI.G.5.c).(1).(b) Residents at the PGY-3 level or beyond may stay on duty or return to the hospital with fewer than eight hours free of duty under specific circumstances.

VI.G.5.c).(1).(c) The Review Committee defines such circumstances as: required continuity of care for a severely ill or unstable patient, or a complex patient with whom the resident has been involved; events of exceptional educational value; or, humanistic attention to the needs of a patient or family.

VI.G.6. Maximum Frequency of In-House Night Float

Residents must not be scheduled for more than six consecutive nights of night float.

VI.G.6.a) Night float should be limited to four months per year, and must not exceed six months per year.
VI.G.7. Maximum In-House On-Call Frequency

PGY-2 residents and above must be scheduled for in-house call no more frequently than every-third-night (when averaged over a four-week period).

VI.G.8. At-Home Call

VI.G.8.a) Time spent in the hospital by residents on at-home call must count towards the 80-hour maximum weekly hour limit. The frequency of at-home call is not subject to the every-third-night limitation, but must satisfy the requirement for one-day-in-seven free of duty, when averaged over four weeks.

VI.G.8.a).(1) At-home call must not be so frequent or taxing as to preclude rest or reasonable personal time for each resident.

VI.G.8.b) Residents are permitted to return to the hospital while on at-home call to care for new or established patients. Each episode of this type of care, while it must be included in the 80-hour weekly maximum, will not initiate a new “off-duty period”.

VII. Innovative Projects

Requests for innovative projects that may deviate from the institutional, common and/or specialty specific program requirements must be approved in advance by the Review Committee. In preparing requests, the program director must follow Procedures for Approving Proposals for Innovative Projects located in the ACGME Manual on Policies and Procedures. Once a Review Committee approves a project, the sponsoring institution and program are jointly responsible for the quality of education offered to residents for the duration of such a project.

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Welcome to HHC!

The purpose of this guide is to provide you with some background information on HHC’s Patient Safety Program. These strategies will help you understand both your role in patient safety and how to make patient safety a core component of your medical residency program.

Designated Patient Safety Officers are in each HHC facility to answer any questions or concerns you may have.

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<th>Your Patient Safety Officer is:</th>
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<th>Your Patient Safety Coordinator is:</th>
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More information about patient safety can be obtained at the Corporate Patient Safety Gateway intranet site: http://patientsafety.nychhc.org/
**Important Phone Numbers at Your Facility**

ADMITTING:___________________________

BLOOD BANK:________________________

CRITICAL CARE UNIT:___________________

GUEST RELATIONS:____________________

HOSPITAL POLICE:____________________

LABORATORY:________________________

OPERATING ROOM (OR):________________

PASTORAL CARE:______________________

QUALITY MANAGEMENT:________________

RAPID RESPONSE TEAM (RRT):____________

RECOVERY ROOM (RR):________________

RISK MANAGEMENT:____________________

_____________________________________

_____________________________________

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**Introduction**

“Patient safety” is everything we do to keep patients free from any preventable injury or harm that results from the processes of healthcare.

**HHC Mission:**

The mission of the New York City Health and Hospitals Corporation (HHC) is to provide comprehensive services of the highest quality to New York City residents, regardless of ability to pay, in a humane and respectful manner.

In carrying out its mission, HHC promotes the fullest meaning of health: total physical, mental, and social well-being.

**Patient Safety Vision:**

Our patient safety vision is to sustain an organization-wide culture that is just, fair, and dedicated to increasing patient safety so that HHC is acknowledged as one of the safest healthcare systems in the nation.

**Problem List**

- The problem list is an important tool to help team members quickly understand the patient’s key medical problems.
- Use the correct diagnosis. For example, if you are testing a patient for diabetes but the diagnosis is not confirmed, choose a diagnosis of “hyperglycemia.” Only enter “diabetes” when the diagnosis is confirmed.
- Don’t use the problem list to record other information about the patient (e.g. health maintenance test results).
Finally, don’t underestimate the importance of regular training on CPOE systems. As functionality evolves, you’ll want to be current on how the system can best support your work.

**Inbox and Review Queue**

One of your most important responsibilities as a physician is to ensure abnormal test results are reviewed and appropriately acted upon. The computer facilitates this process by routing a copy of the ordered test results to your inbox.

Please remember to:

- Review your inbox regularly throughout the day.
- Arrange for a colleague to review your inbox using the coverage or sign out functions when you are away.
- Clearly document in the medical record the actions you have taken to address abnormal results.
- Remember, results may not come back for days, weeks, or longer after you placed the order. If you have not handed off the responsibility for follow-up to someone else, you will be responsible for following up on these orders/results.
- Keep problem lists current and accurate. Deactivate problems that are no longer active. Deactivated problems go to the bottom of the list, making the list more efficient.

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**Background and Overview**

In 1999, the Institute of Medicine report, “To Err is Human,” created public awareness about the prevalence of medical errors. The report stated that **one million preventable adverse events and 44,000 to 98,000 deaths occur each year due to medical errors.**

In 2001, the Agency for Healthcare Research and Quality reported that **770,000 people affected by preventable adverse events are injured or die each year due to medication errors alone.**

In 2002, the Commonwealth Fund indicated that **an estimated 22.8 million people have experienced a medical error of some kind** either personally, or through a family member.

In March 2002, The Joint Commission, the leading national healthcare accrediting agency, implemented its “National Patient Safety Goals” (NPSGs) initiative. These goals promote specific improvements in patient safety.
2011 National Patient Safety Goals

- Use at least two patient identifiers when providing care, treatment and services. (H and LTC)
- Eliminate transfusion errors related to patient misidentification. (H)
- Report critical results of tests and diagnostic procedures on a timely basis. (H)
- Label all medications, medication containers or other solutions on and off the sterile field in perioperative and other procedural settings. (H)
- Reduce the likelihood of patient harm associated with the use of anticoagulation therapy. (H and LTC)
- Maintain and communicate accurate patient medication information. (H and LTC)
- Comply with either the current Centers for Disease Control and Prevention (CDC) hand hygiene guidelines or the current World Health Organization (WHO) hand hygiene guidelines. (H and LTC)
- Implement evidence-based practices to prevent health care associated infections due to multidrug-resistant organisms in acute care hospitals. (H)
- Implement evidence-based practices to prevent central line-associated bloodstream infections. Note: This requirement covers short and long-term central venous catheters and peripherally inserted central catheter (PICC) lines. (H and LTC)
- Implement evidence-based practices for preventing surgical site infections. (H)
- Reduce the risk of falls. (LTC)
- Assess and periodically reassess each resident’s risk for developing a pressure ulcer and take action to address any identified risks. (LTC)
- The facility identifies patients at risk for suicide. (H)

Universal Protocol (Applies to Hospitals only)

- Conduct a pre-procedure verification process
- Mark the procedure site
- Perform a time-out immediately prior to starting procedure

Safe ways to use CPOE:

- Check the patient’s allergies every time you order a medication, even when you are familiar with the patient.
- Double check the medication that you selected. The computer may not be able to verify allergies or check medications improperly entered by someone else. Errors can easily occur by quickly clicking on the wrong medication from a pull down list or typing free text in the wrong field. This can endanger patients.
- Do not order a hold on medications. Write an order to discontinue the medication(s) then write a new order to re-start the medication(s).
- Please pay attention to alerts. Alerts are designed to warn clinicians of possible risks to the patient. Always use the alerts as guides. Question the alert if it doesn’t apply to your patient, before overriding the alert. If in doubt, ask your senior resident or attending.
- Take extra care when ordering non-formulary medications. These medications are not on the predefined list, therefore the computer may not check for errors.
- Always make sure STAT and other important orders have been verbally communicated, besides entering them into the system.
- Use a phone call or face-to-face communication and enter information into the computer when time-sensitive or complex information is involved.

(H): applies to Hospitals  (LTC): applies to Long Term Care  (H and LTC): applies to both
Safe Use of Computers

Computers are powerful tools that have become essential in the practice of safe, effective medicine. As the use of computers in clinical settings is evolving, it is important to take extra care to understand their features and limitations.

Computerized Provider Order Entry (CPOE)

Computerized Provider Order Entry (CPOE) has largely replaced handwritten orders for medications and other tests. CPOE reduces errors due to poor handwriting, ambiguous abbreviations, or incomplete orders.

The computer can alert physicians to possible problems with orders, such as drug-drug interactions or allergies to the medications you want to prescribe. However, CPOE does not catch all errors, and worse, can create errors when not used properly.

Computer programs generally cannot analyze free text. Therefore, you will be asked to select medications from a predefined list, allowing the computer to analyze the information and check:

- Doses and calculations
- Drug and allergy interactions
- Other pre-programmed checks

Never enter orders into comment fields or free text fields. Other members of the team may not be able to see orders placed in free text/comment fields and the computer may not analyze this data to alert you of the potential problems.

Awareness of Error

Despite efforts to provide safe health care, medical errors continue to occur and patients are sometimes harmed.

It is important that we recognize the potential for a medical error or mistake so that we may reduce the opportunity for harm.

You can begin by becoming more aware of potential risks in the patient care environment so that you can readily identify anything that can cause harm to patients.

Ways to increase awareness and actions to take:

- **Observe and Assess Your Surroundings**
  - Notify your Chief Resident, nursing leadership, and/or administrator immediately if you identify a potentially unsafe situation.

- **Follow-Up**
  - Don’t be afraid to follow-up with your Chief Resident, nursing leadership, and/or administrator, after you have reported an unsafe situation.

- **Ask Questions**
  - Inquire about why actions are taking place if you do not understand.

- **Trust Your Instincts**
  - If something does not feel right, speak up!
**BUILDING A CULTURE OF SAFETY**

A medical error, or mistake, is often the result of a flawed system rather than the fault of an individual. Improving patient safety requires changing the culture in health care from one of blame, to one where we examine our systems to reduce the opportunity for mistakes. It is the responsibility of all medical residents to report mistakes and medical errors.

**REMEMBER:**

It is not **WHO** caused the error, but **WHAT** caused it.

HHC is dedicated to being a learning organization that looks at every mistake and every error as an opportunity to improve patient safety. HHC strives to create a just culture, with appropriate accountabilities, in which staff feel comfortable reporting errors without fear of punishment.
PATIENT SAFETY ALERTS

The Corporate Office of Patient Safety, in collaboration with the departments of Risk Management and Legal Affairs/Claims have worked diligently to develop a quarterly Patient Safety Alert Newsletter which focuses on serious patient safety issues. It features closed cases that resulted in a legal settlement. The alerts include lessons learned, strategies and tools, and solutions on how to prevent future occurrences and improve patient safety.

Some Patient Safety Alert topics have included:
- Kernicterus
- Blood Transfusions
- Falls
- Communication and Hand-offs
- Medication Errors
- Alarm Fatigue
- Patient Assessment and Reassessment

WHAT IS YOUR ROLE IN PATIENT SAFETY?

Our expectation is that all members of the HHC community will:

- Communicate effectively
- Work as a team
- Involve patients and family members in their care, as appropriate
- Make safe choices to prevent harm
- Participate in corporate and facility-specific patient safety initiatives, as appropriate
- Learn from events and mistakes
COMMUNICATE EFFECTIVELY

70% of all Sentinel Events, or unexpected occurrences involving death or serious injury that are reported to The Joint Commission, stem from communication breakdowns. Of these, over half are reported as breakdowns occurring during hand-offs. Effective communication is the ability to share information with people in a way they understand.

One communication technique used at HHC is S-BAR, a method that members of the healthcare team can use to assure patient care quality and safety. The S-BAR acronym stands for:

S  Situation: Describe the current SITUATION or problem

B  Background: Deliver a concise BACKGROUND and/or history about the patient

A  Assessment: Use your best judgment to provide an ASSESSMENT of the patient's condition

R  Recommendation: Provide your RECOMMENDATION of what you need from the Physician, Nurse, Respiratory Therapist, or Pharmacist right now!

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Failure Mode and Effects Analysis (FMEA):

- A proactive approach to detect potential causes of error before it occurs.
- Identifies ways that a process can fail, why it might fail, and how it can be made safer.
- Useful in evaluating new processes prior to implementation.

To report a Near Miss, Event or an Occurrence
Call your Risk Management Department at:

Or
Your Chief Resident or Attending Physician at:

Reporting allows learning!

“HAND-OVER” (HAND-OFF) COMMUNICATION

“Hand-over” communication ensures the appropriate transfer of patient information during transitions in care, such as change of shifts, across the continuum. It includes the opportunity to ask questions, clarify, and confirm. Proper “hand-over” ensures continuity of care despite changes in caregivers and settings.

The following are some examples of situations where “hand-over” communication is required to facilitate patient care:

- Change of orders (i.e., medication, diet, stat orders, etc.)
- Changes in patient status (i.e., rule out diseases, change in level of care, etc.)
- Procedures scheduled or to be scheduled
- Lab tests and follow-up on lab results
- Changes to the patient’s plan of care (i.e., new discharge date, home health care required, LTC placement, etc.)
**Work As A Team**

Effective teamwork can reduce errors, improve patient outcomes, and increase worker and patient satisfaction. You can be a responsible team member by providing feedback to co-workers on both your observations and on anything that affects patient safety.

Team members may include staff outside the patient care area, such as the facility patient safety officer.

Please take the time to get to know the following patient care teammates during your residency:

- Attending Physicians
- Nurses
- Pharmacists
- Unit Clerks
- Social Workers
- Dieticians
- Administrators
- Risk Managers

Event reporting also allows learning through:

**Root Cause Analysis (RCA):**

- A *retrospective* process for identifying the root cause of an error *after* it occurs.
- Answers the questions: What happened? Why did it happen? How can it be prevented?
- The Joint Commission requires RCA analysis for all sentinel events.
- The New York State Department of Health requires an RCA for certain reportable events.

**What is NYPORTS?**

*New York Patient Occurrence Reporting and Tracking System*

- It is the New York State Department of Health patient reporting system for incidents or occurrences.

**What is NIMRS?**

*New York State Incident Management and Reporting System*

- It is the reporting system for the New York State Office of Mental Health.

**Goals of NYPORTS and NIMRS**

- To promote high-quality patient care in hospitals through identification, reporting, analysis, and corrective action of problems that occur in hospitals.
- To enable the NYS Department of Health to provide instructive feedback and recommend “best practices” and risk reduction strategies that will benefit all hospitals and patients.
How Do I Report an Event?

- Notify:
  - Chief Resident or Attending Physician
  - Risk Management Department

What Should I Document?

- Record event as it occurred by describing the facts objectively and concisely
- Only facts related to patient care should be documented

Don’t’s:

- Don’t write in the patient’s chart that an occurrence reporting form was completed
- Don’t document preventive measures on the occurrence reporting form
- Don’t make copies of the occurrence reporting form or medical record, unless authorized to do so
- Don’t document your personal opinions, feelings, or grievances/disputes with other members of the care team on the occurrence reporting form or medical record

Involving Patients and Family

Informing and involving patients and their families, where appropriate, about all aspects of their care is an important component of patient safety. When patients know what to expect from their caregivers, they are more likely to comply with their treatment(s).

The Institute for Healthcare Improvement (IHI) offers the following expectations for patients and family members:

- To be listened to, taken seriously, and respected as a care partner
  - To participate in decision making at the level that the patient/family chooses
- To always be told the truth
  - To have things explained to the patient fully and clearly
- To have information communicated to the entire care team
  - To have the patient’s care timely and impeccably implemented and documented
  - To have records made available to the patient if requested
- To have coordination among all members of the healthcare team across settings
- To be supported emotionally and physically
- To receive high quality, safe care
MAKE SAFE CHOICES TO PREVENT HARM

Assuring that our patients remain free from harm while under our care is a core responsibility of every member of the HHC community—including each medical resident. We challenge all members of the HHC community to make safe behavioral choices so that we may prevent patient harm. One example of a safe choice is practicing effective hand hygiene. We expect that you will clean your hands frequently, but always before and after providing care to each patient. You may use hand sanitizer, but wash with soap and water when your hands are visibly soiled or bodily fluids have been handled.

Proper hand washing techniques include the following steps:

- Wet Hands
- Soap Well
- Rub 15-20 Seconds
- Rinse Well
- Dry Hands
- Turn Off Faucet With Towel

What to Report?

- Near Miss, Close Call, or Good Catch
  Events that might have resulted in harm to patient but were discovered and corrected before they ever reached the patient. (The New York Chapter of The American College of Physicians)

- “An Occurrence” or “Incident”
  An occurrence is an unusual event or situation involving the safety and well-being of the patient, visitor or employee.

Examples of An Occurrence or Incident:
- Medication errors/issues
- Falls
- Treatment errors/issues
- Complications
- Equipment Failure

- “A Sentinel Event”
  An unexpected occurrence involving death or serious physical or psychological injury, or the risk thereof.

  Serious injury specifically includes loss of limb or function.
  -The Joint Commission

Examples of reviewable Sentinel Events (Applies only to recipients of care):
- Unanticipated patient death
- Major permanent loss of function
- Suicide in a 24 hour care setting
- Infant abduction or discharge to wrong family
- Rape
- Hemolytic transfusion reaction
- Surgery: wrong patient or wrong body part
NEAR MISSES, EVENTS AND/OR OCCURRENCES

HHC welcomes open and honest communication of all events and mistakes that result in harm, or have the potential to harm our patients or staff.

Event reporting allows HHC to:
- Learn from our mistakes
- Review processes and procedures
- Evaluate staff competencies
- Train staff and assess needs

Who Should Report an Event?
- Anyone can, and should report and event
- Responsibility of every employee
- Person who identifies an actual or potential safety issue or concern
- Person most closely, involved in, or aware of, the occurrence

CORPORATE AND FACILITY PATIENT SAFETY INITIATIVES

Understanding our Quality and Safety Performance:

- HHC has chosen to make our safety and quality performance transparent to patients, providers, policy makers, and the general public.
- We have committed to a system-wide collaboration of accountability to the public about the quality of care we deliver, by providing access to information about all of our facilities. At the individual facility and system level, patients are empowered to make informed choices about their care and our clinicians and administrators are able to improve care.
- NYCHHC safety and quality performance data can be viewed by the public at HHC in Focus, at www.nyc.gov/hhc.
TeamSTEPPS®: Team Strategies and Tools to Enhance Performance and Patient Safety

TeamSTEPPS® is an evidence-based teamwork system aimed at optimizing patient outcomes by improving communication and other teamwork skills among healthcare professionals.

TeamSTEPPS® was developed by the Department of Defense (DoD) Patient Safety Program, in collaboration with the Agency for Healthcare Research and Quality (AHRQ).

The goal of TeamSTEPPS® is to produce highly effective teams that optimize the use of information, people, and resources to achieve the best clinical outcomes for their patients. TeamSTEPPS® is scientifically–rooted in over 20 years of research and lessons learned from the application of teamwork principles in High-Reliability Organizations (HROs).

TeamSTEPPS® is comprised of four teachable-learnable skills:

- Leadership
- Situation Monitoring
- Mutual Support
- Communication (see page 12)

*Source: The Joint Commission
Note: Contact your facility Patient Safety Officer for the complete list of “Do not Use Abbreviations” at your facility
MEDICATION SAFETY

Check Meds Every Time: Name, Strength, Dose

Medication errors are preventable. However, it takes teamwork to make sure that all the safety steps are followed to prevent an error from occurring.

Here are ten things you can do to prevent medication errors:

1. Always verify the patient by using two (2) unique patient identifiers
2. Check the patient record and ask the patient for allergies before prescribing or administering medication
3. Reconcile all patient medications at admission, transfer and discharge.
4. Practice the “5 Rights” – Right Name (patient), Drug, Time, Dose, and Route
5. Check carefully when prescribing or administering “look-alike” and “sound-alike” medications
6. Be aware of High Alert Medications such as: Heparin, Insulin, Narcotics, Sedatives, and Potassium
7. Label all medications, containers or other solutions on or off a sterile field
8. Comply with the “DO NOT USE ABBREVIATIONS” (See Box on pg. 27)
9. Improve communication when receiving or giving critical information, such as laboratory values that may impact the medication order: Listen/Write/Read-Back/Inform/React
10. Contact Pharmacy if:
   - you need advice and/or information on a specific medication
   - the prescribed medication is contraindicated given the patient’s allergy
   - a medication is non-formulary and you need an alternative medication
   - you need to discuss medication therapy decision or plan, including drug, dosage, frequency, and route
   - you have any medication-related questions, whatsoever!

LEADERSHIP

Leadership is the ability to coordinate the activities of team members by ensuring team actions are understood, changes in information are shared, and that team members have the necessary resources.

- Planning
  - Brief - Short session prior to start to discuss team formation; assign essential roles; establish expectations and climate; anticipate outcomes and likely contingencies

- Problem Solving
  - Huddle - Ad hoc planning to reestablish situation awareness; reinforcing plans already in place; and assessing the need to adjust the plan

- Process Improvement
  - Debrief - informal information exchange session designed to improve team performance and effectiveness; after action review

SITUATION MONITORING

- Situation monitoring is the process of continually scanning and assessing what is going on around you to maintain situation awareness

- Situation awareness is “knowing what is going on around you”

- With a shared mental model, all team members are “on the same page”
MUTUAL SUPPORT

Mutual Support is the essence of Team Work:
Protects team members from work overload situations
that may reduce effectiveness and increase the risk of
error

Two-Challenge Rule:

When initial assertion is ig-
nored:

- It is your responsibility to
assertively voice your con-
cern at least TWO TIMES
to ensure it has been heard

- The team member being
challenged must
acknowledge

- If the outcome is still not acceptable:
  - Take a stronger course of action
  - Utilize supervisor or chain of command

CUS Freely, When appropriate!

I am C concerned!
I am U uncomfortable!
This is a S safety Issue!

“Stop the Line”

Disruptive Behavior

Disruptive behavior is unacceptable at HHC.

Disruptive behavior is any conduct or behavior, whether by word, sign, action or non-action, that interferes or has the potential to interfere, with patient, employee or visitor safety, as well as the safe de-

livery of quality healthcare services at HHC.

Examples of disruptive behavior include but are not lim-
ited to, the following:

- Actions or decisions involving a reckless disregard for
  the safety of patients, staff or visitors
- Profane and/or disrespectful language
- Slamming or throwing medical instruments, charts or
  other objects
- Deliberate failure to adequately address safety con-
  cerns or patient care needs expressed by another
caregiver
- Intimidating behavior
- Deliberate failure to adhere to organizational policies
- Refusing to work collaboratively or cooperatively with
  staff, colleagues, subordinates and/or supervisors
- Retaliation against any member of the healthcare
  team who has reported a violation of the code of con-
duct or participated in the investigation of a violation
- Refusal or reluctance to answer questions, return
  phone calls or pages

Medical staff concerns should be addressed through the
Medical Director’s Office. Non-medical staff concerns
should be addressed through standard Human Resource
processes.
**National Patient Safety Goal #1: Improve the accuracy of patient identification**

- **Always verify the patient’s identification by using two unique identifiers:**
  - Name
  - Date of birth or medical record number (MR#)

- **Importance of Accurate Patient Identification:**
  - Maintain identification to create a medical record
    - Tests ordered and completed
    - Treatments planned and given
  - Prevent harm to patients
    - Allergies
    - Blood group antibodies
    - Irradiated components
    - Wrong treatment/medication
  - Obtain reimbursement for services rendered

**The Just Culture**

“Just Culture” is a balanced approach to individual and organizational accountability. It uses an objective, reliable approach to determine when a mistake or error is due to a systems failure or when it is an individual responsibility.

A “Just” organizational culture recognizes that even competent people make mistakes. The goal is to prevent employees from “moving away from safe practices” (drifting) or, taking “short-cuts.” Such actions may cause harm to the patient.

**What is a Just Culture?**

A Just Culture embodies four important principles:

1. A culture of continuous learning that strives to produce the best possible patient outcomes.
2. An open and fair culture in which staff feels comfortable and compelled to come forward to report mistakes, errors, good catches (near misses) and risks to patient safety so that the organization may improve its performance.
3. Design of safe systems that help to prevent errors from occurring.
4. A commitment by all members of the organization to making safe behavioral choices to prevent harm to patients, colleagues, and visitors.

The Just Culture concept fosters an environment that encourages open reporting and learning. The behavioral choices that an individual makes, rather than the severity of the mistake, determine the action that should be taken. The behavioral choices are categorized into three (3) levels:

i. Human Error
ii. At-Risk Behavior
iii. Reckless Behavior
Human Error
Unintentional or non-deliberate action: slip, lapse, mistake. A product of our current system design.
Manage through changes in:
• Processes
• Procedures
• Training
• Design
• Environment

At-Risk Behavior
A behavioral choice: risk believed to be insignificant or justified
Manage through:
• Removing incentives for at-risk behaviors
• Creating incentives for healthy behaviors
• Increasing situational awareness

Reckless Behavior
Conscious disregard of unjustifiable risk
Manage through:
• Remedial action
• Disciplinary action

The Just Culture
THE THREE DUTIES

Every employee is expected to perform three duties when they come to work:

1– The duty to avoid causing unjustifiable or inexcusable risk or harm to our patients and colleagues

Did you put your patients or colleagues in harm’s way?

2– The duty to follow your facility’s policies and procedures

Did you skip a step (take a short cut) and not follow the policy and procedure established by your facility?

3– The duty to produce an outcome

Did you accomplish your duties in accordance with your job expectations?

Source: David Marx, JD, Outcome Engineering, LLC