Resident Roles and Responsibilities

Office of Graduate Medical Education
UC Davis Medical Center

Department of Neurological Surgery Resident Clinical Roles and Responsibilities

PURPOSE

To provide a general overview of the resident roles, responsibilities and function while on rotation in the UCD Davis Medical Center Department of Neurological Surgery. This is meant to address issues relating to degrees of independent clinical practice, interactions with and supervision by faculty, performance of procedures and interactions with or supervision of other house staff or medical students. It is expected that residents will demonstrate ongoing maturity during each training year and will progressively transition into the next level by the end of the prior academic year.

POLICY

In general, the roles, responsibilities and functions of a Department of Neurological Surgery resident, per training year, are as follows:

PGY-I

- Responsible for the evaluation, diagnostic studies, and therapeutic plan of the patients on their service under supervision of senior residents or attending staff.
- Emphasis is on quality of patient evaluation and care. Will have experience with basic surgical instruments.
- Allowed to suture the subcutaneous tissue after demonstrating adequate technical ability. All surgical procedures to the deep subcutaneous tissue require supervision by senior residents or attending staff.
- May start IV’s and draw arterial and venous blood gases independently. Placement of central lines, arterial catheters, and chest tubes are to be done under direct supervision until expertise has been demonstrated.
- Insertion of intracranial pressure monitors, placement of cranial tongues and Halo rings require supervision by senior residents or attending staff.
- No responsibility for supervision or direction of decisions of other residents or medical students.

PGY-II

- Continue with responsibility for the evaluation, diagnostic studies, and therapeutic plan of the patients on their service under supervision of senior residents or attending staff.
- Technical procedures are the same as for PG-1, with the addition of carrying out all aspects of cardiopulmonary resuscitation and trauma resuscitation insertion of Swan Ganz catheters and ventriculostomies and ICP monitors under supervision until proficiency has been demonstrated.
- Responsible for being familiar with patients and serve as a resource for day-by-day patient data.
- Emphasis on gaining experience with full spectrum of procedures, honing proficiency, and balancing quality of patient evaluation and care with improved overall efficiency.
- Decisions regarding invasive procedures, change in plans, discharge or problems are discussed in-depth with the attending or chief neurosurgery resident. Specialized diagnostic studies,
uncommon therapeutic interventions, and use of consultants, must be discussed with the attending or chief resident prior to initiation.

- All procedures must be done with complete attending supervision and approval. Typical procedures with real participation include insertion and revision of shunt systems, craniotomies and burr holes for trauma, and cranioplasty.
- Responsible for maintaining medical records.
- Evaluate patients in clinic, develop assessment and management plan and present findings to the attending.

*Common procedures for PGY-II level of training:*

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Description</th>
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<tr>
<td>Twist drill or burr hole for implantation of ICP devices, ventricular catheter or reservoir</td>
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<tr>
<td>Removal of (parts of) CSF shunt system or externalization</td>
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<tr>
<td>Burr holes for chronic subdural Hematoma</td>
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<tr>
<td>Removal of bone flap or prosthetic plate of skull</td>
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<tr>
<td>Elevation of depressed skull fracture, simple, extradural</td>
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In addition the resident will participate in lumbar discectomies, anterior and posterior cervical operations, usually in conjunction with a senior or chief resident.

**PGY-III & PGY-IV**

- Practice supervisory role with increased teaching, consulting and research activities.
- May carry out all diagnostic bedside procedures without direct supervision (as outlined in bedside procedure manual).
- In addition to the technical procedures for PG-2, will now also participate in surgeries for brain tumors, strokes, and peripheral nerve pathology.
- May initiate procedures with attending approval.
- May assist with initiation of procedures by more junior level residents, with attending approval (and if so certified by the residency training program, as appropriate.)
- Responsible for being familiar with patients and serve as the attending’s’ principal resource for day-by-day patient data.
- Responsible for maintaining medical records.

*Common procedures for PGY-III level of training:*

- Replacement or irrigation of ventricular catheter in CSF shunt system
- VP/LP Shunt placement
- Opening carpal tunnel
- Implantation of Baclofen pump
- Replacement of bone flap
Cranioplasty for skull defect
Elevation of depressed skull fracture, with/without repair of dura
Craniotomy for evacuation of epidural hematoma
Decompressive craniectomy
Simple lumbar laminectomy/micro discectomy
Posterior cervical approach for decompression
Neuronavigation guided brain/tumor biopsy

**Common procedures for PGY-IV level of training:**
- Ulnar nerve decompression
- Ventriculoatrial/pleural shunt placement
- Endoscopic ventriculostomy
- Anterior cervical approach for decompression/stabilization
- Craniotomy for Subdural and intracerebral (spontaneous or traumatic including GSW)
- Hematoma
- Implantation of spinal cord stimulator
- Stereotactic targeting using frameless and frame based systems
- DBS placement
- Subdural and intracerebral electrode placement for epilepsy
- Craniotomy for intracerebral lesions (tumor, abscess, chiari) with/without stereotactic computer guidance

**PGY-V**

- May carry out major nonlife-threatening surgical procedures with substantial level of surgical independence (i.e. requiring moderate to minimal supervision). Perform spinal cord and cerebral blood vessel operations with direct supervision.
- Responsible for supervising junior residents. Responsible for maintaining medical records. **Common procedures for level of training:**

**Common procedures for PGY-V level of training:**
- Reconstruction of complex craniofacial injury
- Complex TBI (repair of vascular injury/CSF fistula/posterior fossa hematoma)
- Correction of craniosynostosis
- All laminectomies including extradural exploration, removal of extradural tumor
- Laminectomy for spinal dysraphic and intradural non-vascular lesions
- Posterior cervical fusion sub axial spine
- Thoracic/lumbar decompression/ instrumented fusion
- Implantation Vagus Nerve stimulator
- Removal peripheral nerve tumor
PGY-VI & PGY-VII

- May carry out major neurosurgical procedures and all diagnostic procedures previously unlisted with minimal supervision but still at the discretion and as the responsibility of the attending neurosurgeon.
- Is responsible for the day-to-day management of the clinical service. Responsible for supervising junior residents.
- Responsible for maintaining medical records.

Common procedures for PGY-VI & VII level of training:

- Craniotomy for complex brain tumors (eloquent glioma, ventricular or PF tumor) and extra-axial lesions
- Skull base approach to intracranial lesion/tumor
- Craniotomy/ resection for epilepsy
- Endoscopic or microsurgical approach to sellar/parasellar tumors
- Craniotomy for microvascular decompression
- Craniotomy for vascular lesions (e.g. aneurysm/AVM)
- Vascular anastomosis (EC-IC bypass/pial synangiosis)
- Resection of spinal vascular and intra-axial lesions
- Craniocervical/thoracolumbar reconstruction (degenerative/tumor/infection)
- Posterior cervical fusion-craniocervical junction
- Brachial plexus repair/nerve graft/transfer