

**University of California, San Francisco**  
**Department of Radiation Oncology**  
**Residency Training Program**  
**Resident Rotation Objective for PGY-4 Residents**  
**In NeuroOncology**  
**Jean L. Nakamura, M.D./Penny K. Sneed, M.D.**

**Patient Care**

- Manage and prescribe medications in a careful and thoughtful way to patients undergoing radiation therapy, with emphasis on appropriate use of steroids and the management of cerebral edema

**Medical Knowledge**

PGY-4 Resident Goals (in addition to achievement of Junior Resident Goals):

- Improve detailed knowledge of neuroanatomy
- Improve the neurological examination to detect subtle cognitive and sensory deficits
- Know details regarding the half-life, type of emission, energies of emissions, and shielding (Half Value Layers) of commonly used radioisotopes (Cobalt-60, Iodine-125)
- Become more proficient in specific radiotherapy techniques to be practiced: Gamma Knife radiosurgery, 3D conformal radiotherapy, and to a lesser extent, Cyberknife radiosurgery, intensity modulated radiotherapy, and CNS brachytherapy. The PGY-4 resident should possess a literature supported understanding of the relative indications of each of these modalities, and a practical knowledge of how each of these radiotherapy techniques are performed.
  - Specific Technical Goals: For all radiotherapy approaches, target definition, critical structure delineation and dose constraints (specific to various fractionation schedules and to low vs. high grade gliomas, benign tumors, and brain metastases), expected dose distributions and methods of correcting suboptimal dose distributions, prescription techniques.
  - The PGY-4 resident should be fluent in the reading of dose volume histograms (DVH) and be able to accurately use the DVH to assess risks to normal structures
  - Acute and late toxicities to normal structures, radionecrosis, and their management
- The PGY-4 resident should effectively integrate his/her clinical assessment of the patient, knowledge of radiotherapy techniques, and medical literature to develop and execute a treatment plan managing patients with neurooncologic issues.

**Practice-Based Learning and Improvement**

- Demonstrate the ability to use information technology to improve fund of knowledge and improve patient care

## **Interpersonal Skills and Communication**

- Communicate effectively with medical staff
- Demonstrate compassionate and clear communication with patients from different cultures
- Maintain comprehensive, timely, and legible medical records

## **Professionalism**

- Demonstrate sensitivity and responsiveness to patients' culture, age, gender and disabilities
- Demonstrate commitment to ethical principles regarding provision or withholding of medical care, patient confidentiality, and informed consent

## **Systems-Based Practice**

- Understand how their patient care affects other health professionals, the health care organization, and the larger society and how these elements of the system affect their own practice
- Know how to coordinate with health care managers and health care providers to improve care

## **Resident Time Allocation for Multi-Attending Services**

The resident assigned to the Sneed/Nakamura rotation will generally work full-time with Dr. Nakamura whenever she is in clinic (~1.5 days per week) and work with Dr. Sneed on the other 3.5 days per week. As much as possible, scheduling will take this into account to avoid competing clinical duties between Dr. Sneed's service and Dr. Nakamura's service, but in case of competing clinical duties, the choice of which duty the resident will perform will be based on which duty has more educational value for the resident. Residents will not be required to prepare H&P or follow-up notes for patients they won't be seeing along with an attending physician.

## **How the Service Will Ensure One-On-One Teaching**

Each attending physician is responsible for spending one hour of one-on-one teaching time with the resident every other week, on average. Dr. Nakamura will provide residents with papers to review in advance of the teaching session, and the teaching session will be scheduled on a week-by-week basis. Dr. Sneed and the resident will discuss on a week-by-week basis when to schedule the teaching session and what topic(s) to cover.

## **How the Service Will Ensure Contour and Plan Review**

Most contouring of target volumes and critical structures will be performed by the resident; resident contours will be reviewed by the resident and attending physician

before they are turned in for planning, and plans will generally be reviewed by the resident and attending physician together. If the resident is unavailable to contour and/or review plans with the attending physician because of competing clinical duties, absence, and/or time constraints, the resident will notify the attending physician when he or she is available, and the resident and attending physician will sit down together to review the contours and/or plans in retrospect for teaching purposes, with a goal of 100% of contours and plans to be reviewed together.