

UCSF DEPARTMENT OF RADIATION ONCOLOGY
EDUCATIONAL OBJECTIVES FOR
GAMMA KNIFE RADIOSURGERY ROTATION
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PATIENT CARE

- Communicate effectively and respectfully when interacting with radiosurgery team members, patients, and patients' families/caregivers
- Participate in patient presentation and discussion of treatment options/recommendations at radiosurgery conference
- Participate in the follow-up portion of radiosurgery conference to learn how to assess lesion response to treatment, check for new lesions, check for imaging evidence of complications, and evaluate for tumor vs. necrosis
- Learn how to assess adequacy of imaging on the day of Gamma Knife radiosurgery and participate in doing so
- Become proficient at drawing targets for radiosurgery and critical structures as indicated
- Observe the nurse discussing pre-treatment considerations with at least two patients
- Observe at least two stereotactic frame placement procedures
- Assist with patient positioning for treatment and frame removal in at least six cases
- Observe the nurse discussing post-treatment considerations with at least two patients
- Learn considerations in prescribing dexamethasone on the day of treatment and dexamethasone taper schedules when indicated
- Learn considerations in management of radiation necrosis

MEDICAL KNOWLEDGE

- Demonstrate good knowledge of basic neuroanatomy, with an emphasis on axial based magnetic resonance imaging
- Participate in both the new patient and follow-up portions of the weekly radiosurgery conference
- Gain proficiency at discussing the roles of whole brain radiotherapy vs. radiosurgery for brain metastases and in deciding what you would recommend for particular cases and why
- Develop a good awareness and understanding of radiosurgery dose selection considerations
- Gain proficiency at choosing an appropriate prescription dose for various treatment indications (AVM, metastases, meningioma, vestibular schwannoma, nonsecreting pituitary adenoma, secreting pituitary adenoma, and trigeminal neuralgia)
- Know the half-life of Cobalt-60
- Gain proficiency at evaluating the adequacy of radiosurgery plans developed by the physicist. Ideally, try to be present when the Radiation Oncologist and Neurosurgeon review and critique plans.
- Be familiar with each of the parameters listed on the prescription sheet and observe how the physicist determines the parameters for at least two lesions.

PRACTICE-BASED LEARNING AND IMPROVEMENT

- Practice treatment planning in at least 6 radiosurgery cases (at times that do not interfere with patient care)
- Possess and read at least two publications discussing outcomes of radiosurgery for the treatment of each major indication (AVM, metastases, meningioma, vestibular schwannoma, nonsecreting pituitary adenoma, secreting pituitary adenoma, and trigeminal neuralgia).
- Demonstrate the ability to use information technology to improve fund of knowledge and improve patient care

INTERPERSONAL AND COMMUNICATION SKILLS

- Communicate effectively with the radiosurgery team and other medical personnel
- Demonstrate compassionate and clear communication with patients from different cultures and patients' families/caregivers

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
- Be accountable to patients, the radiosurgery team, and colleagues

SYSTEMS BASED PRACTICE

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

AT THE END OF THE ROTATION, THE RESIDENT MUST BE PREPARED TO

- Describe every step of radiosurgery practice including patient selection, imaging for treatment, frame placement, target delineation, planning, dose selection, treatment, follow-up, how to distinguish between tumor and necrosis, and management of complications, new lesions, and recurrent lesions
- Adequately discuss radiosurgery dose selection considerations including doses or dose selection strategies for AVMs, metastases, meningioma, vestibular schwannoma, nonsecreting pituitary adenoma, secreting pituitary adenoma, and trigeminal neuralgia
- Adequately discuss diagnosis and management of radiation necrosis