

Radiation Oncology: 1 month

Contact Information: Please call Jennifer Jones, Administrative Secretary, *ahead of time* at 531-1523 and tell her when you will be rotating in the division. She will give you a copy of the physician template and vacation schedule. She will arrange a meeting with you and Dr. Heath Mackley, the educational liaison, at the beginning of your rotation, and the schedule of your rotation will be designed at that point to meet your educational needs.

Purpose: Introduce rotating fellows to the scope of clinical Radiation Oncology.

Educational Goals: By the time a trainee has completed the rotation, he/she will have been exposed to as many of the following aspects of Radiation Oncology as feasible:

Medical Knowledge

1. Principles of radiation biology
2. Normal tissue tolerance and toxicity
3. Interactions
 - a. Chemotherapy
 - b. Hormone therapy
 - c. Biologic therapy
 - d. Sequencing of therapy
4. Fractionation and dosing
5. Brachytherapy
6. Focused radiation therapies
 - a. Gamma knife
 - b. Intensity-modulated radiation therapy (IMRT)
 - c. Other ablative techniques
7. Potentiation and protection
 - a. Host and other physical factors
 - b. Pharmacologic agents

Patient Care

Patient evaluation

- * Consultation with a Radiation Oncologist
- * Multidisciplinary Radiation Oncology Clinical Elective Overview tumor board meetings
- * Friday case conference with all division clinical personnel

Patient simulation (external beam radiation)

- * Four dimensional computed tomography simulation
- * Three dimensional computed tomography simulation
- * Fluoroscopic simulation
- * Clinical set-ups without the use of a simulator

Treatment planning

- * Target delineation and prescription, and organ-at-risk delineation and choice of dose constraints with a Radiation Oncologist
- * Treatment planning with a Dosimetrist
- * Evaluation of a treatment plan with a Radiation Oncologist
- * Quality assurance of a treatment plan with a Medical Physicist
- * Block check at the fluoroscopic simulator

Systems Based Learning

Treatment delivery

- * Patient set-up with a Radiation Therapist
- * Image acquisition on the treatment couch and couch adjustment with a
- * On treatment evaluation with a Nurse and Radiation Oncologist

Practice Based Learning

1. Radiobiologic Principles. *Textbook of Radiation Oncology 2nd Edition*, edited by Steven A. Leibel and Theodore L. Phillips. Elsevier, 2004.
2. Principles of Radiation Physics. *Textbook of Radiation Oncology 2nd Edition*, edited by Steven A. Leibel and Theodore L. Phillips. Elsevier, 2004

Professionalism

Interact respectfully with the treatment team, patients and families

Communication

Attend Multidisciplinary Radiation Oncology tumor board meetings to discuss cases with pathology, surgery and medical oncology