MSKCC SCHOOL OF RADIATION THERAPY

CLINICAL RADIATION ONCOLOGY/REVIEW I & II

Description

Content is designed to examine and evaluate the management of neoplastic disease using knowledge in arts and sciences, while promoting critical thinking and the basis of ethical clinical decision making. The epidemiology, etiology, detection, diagnosis, patient condition, treatment and prognosis of neoplastic disease will be presented, discussed and evaluated in relationship to histology, anatomical site and patterns of spread. The radiation therapist's responsibility in the management of neoplastic disease will be examined and linked to the skills required to analyze complex issues and make informed decisions while appreciating the character of the profession.

Objectives

1. Use tumor histology to determine pathways associated with cancer and neoplastic disease.
2. Use library/internet resources pertinent to radiation oncology.
3. Discuss multidisciplinary emerging approaches to neoplastic disease management.
4. Discuss epidemiologic and etiologic information pertinent to each neoplastic site.
5. Identify dose limiting structures and their tolerances.
6. Discuss the clinical presentation for each anatomic neoplastic site.
7. Explain detection, diagnosis, grading and staging systems for each neoplastic site.
8. Apply the parameters of treatment field design and arrangement used to treat neoplastic diseases.
9. Examine the role of radiation therapy in palliative disease management.
10. Examine treatment regimens and fractionation schemes used in palliative disease management.
11. Discuss epidemiologic and etiologic information pertinent to each neoplastic site.
12. Discuss the clinical presentation for each anatomic neoplastic site.
13. Discuss preventive methods/screening tools associated with each neoplastic site.
14. Explain detection, diagnosis, grading and staging systems for each neoplastic site.
15. Describe the role of radiation therapy in the management of oncology emergencies.
16. Examine the role of surgical, radiation and medical oncology to include immunotherapy (biological therapy) in the management of neoplastic disease.
17. Determine the appropriate treatment energy for any given tumor type or location.
18. Discuss multidisciplinary emerging approaches to neoplastic disease management.
19. Discuss the role of radiation therapy in the management of pediatric, acquired immunodeficiency (AIDS)-related and benign neoplasms.
20. Determine the medical and patient information necessary to develop a radiation therapy treatment plan.
21. Discuss the role of radiation therapy in the management of oncology emergencies.
12. Assess a patient's treatment plan based on the latest research findings.
13. Given diagnostic information about a particular cancer, determine the appropriateness of using radiation therapy as a primary treatment modality.
14. Distinguishes tumor histology to determine pathways associated with cancer and neoplastic disease.

15. Given a specific oncologic-related disease, determine probable diagnostic, prognostic, staging, grading and the rationale for the appropriate therapeutic pathway.
16. Distinguishes tumor histology to determine pathways associated with cancer and neoplastic disease.
17. Examine the role of radiation therapy in palliative disease management.
18. Demonstrate effective and accurate written and oral communication skills using appropriate terminology for radiation therapy.
19. Given the histology of a neoplasm, determine the tumor characteristic.

Content

I. Radiation Therapy Treatment of Neoplastic Disease Originating in the Central Nervous System, Ocular, Head and Neck, Lung, Alimentary Tract, Major Digestive Glands, Urinary System, Reproductive System, Breast, Hematopoietic System, Lymphoreticular System, Bone, Soft Tissue, Skin and Endocrine System

For each of the specified clinical sites, the following information will be presented and discussed:

A. Epidemiology of disease site
B. Etiology of disease site
C. Pertinent anatomy and patterns of spread
    1. Dose limiting structures
    2. Routes of spread
D. Clinical presentation
E. Detection and diagnosis
    1. Physical examination
    2. Imaging studies
    3. Tumor markers
    4. Laboratory studies
    5. Surgical reports
F. Histopathology
G. Disease classification
    1. Staging
    2. Grading
H. Role of surgery, radiation therapy, chemotherapy and immunotherapy as a treatment modality
I. Multimodality treatment approach
    1. Treatment modality combinations
    2. Treatment morbidity
        a. Acute
        b. Chronic
J. Simulation and treatment principles and practice
    1. Treatment volume localization
    2. Interpretation and implementation of treatment plan
    3. Treatment delivery
        a. Patient positioning

b. Immobilization devices
c. Parameters of treatment field design and arrangement
d. Beam energy
e. Dose schedule

4. Treatment monitoring
a. Patient
b. Room
c. Equipment

5. Treatment record keeping
a. Documentation of simulation procedures
b. Documentation of treatment plan
c. Documentation of calculations
d. Documentation and reporting machine malfunction
e. Treatment documentation

K. Assessment and management of treatment side effects
1. Acute
2. Chronic

L. Radiation therapy in the treatment of pediatric neoplasms
1. Leukemia
2. Solid tumors

M. Role of radiation therapy in the management of acquired immunodeficiency syndrome (AIDS) related neoplasms

N. Radiation therapy in the management of benign neoplasm

II. Palliative Treatment Applications

A. Common sites of metastases
B. Detection and diagnosis
C. Therapeutic management of metastases

III. Emergency Treatment Applications

A. Types of oncologic emergencies
B. Diagnosis
C. Treatment

MEMORIAL SLOAN KETTERING CANCER CENTER
SCHOOL OF RADIATION THERAPY

COURSE SYLLABUS

Course Information:	Clinical Radiation Oncology/Review I&II 3 hrs/week, 15weeks
Instructor Name:	Attending Physician Staff & Jason Dursi/Virali Shah E-mail: sagginar@mskcc.org/shahv@mskcc.org x3102/x6835
Textbooks:	*Principles and Practice of Radiation Therapy,* Washington & Leaver*,* 5th Edition, 2019 *Handbook of Radiation Oncology: Basic Principles and Clinical Protocols* (Paperback), 1st Edition, July 2008
Course Schedule:	Tuesdays & Thursdays, 9:15-10:45 am, unless otherwise specified Fall and Spring Semester 429-B or via Teams

Spring Grading:

Research Project:	30%
Exams:	50%
Departmental Meetings:	10% (These include 3 **required** departmental meeting students must attend at either Grand Round, QA, or Practicum attendances and a brief, 1-page type-written report of presentation or discussion). Spring Due dates: **March 4th, April 1st and April 27th**
Homework:	10%