

Goals and Objectives: Breast Cancer Service Department of Radiation Oncology

The breast cancer service provides training in the diagnosis, management, treatment, and follow-up of breast malignancies, including ductal carcinoma in situ (DCIS), early stage invasive cancer receiving breast conservation therapy, post-mastectomy radiation for locally advanced breast cancer, palliative treatment of metastatic disease, as well as the diagnosis and management of acute and long term complications of radiation therapy for breast cancer. These clinical skills are acquired in the context of the multidisciplinary care of breast cancer patients and require a knowledge base in the areas of pathology, radiology, medical oncology (chemotherapy and hormonal therapy), surgery, cancer rehabilitation, pain management and palliative medicine.

I. Patient Care:

1. Diagnosis, work-up, management and treatment of DCIS, stage I-II or locally advanced invasive breast cancer receiving breast conservation therapy or post-mastectomy therapy:
 - a. Ability to utilize pathologic findings and mammographic or MRI findings in the treatment recommendations for breast cancer
 - b. Knowledge of the indications for chemotherapy and/or hormonal therapy in the treatment of breast cancer, the current regimens or drugs being used, the mechanism of action of systemic agents, and the sequencing of radiation and chemotherapy.
 - c. Knowledge of the surgical work-up and techniques used for diagnosis and for breast conserving surgery or mastectomy, and reconstruction procedures
 - d. Proficiency in the use of both 2D and 3D CT-based simulation and planning for radiation therapy to the breast using tangential fields with or without regional nodal fields; ability to assess the appropriate field arrangements indicated; ability to assess dose distributions and to prescribe radiation dose for the treatment of the breast, chest wall and regional nodes; ability to contour a seroma or tumor bed and to plan an electron boost field
 - e. Proficiency in the set-up breast fields and in assessing weekly quality assurance portal films, and to make treatment adjustments as indicated
 - f. Proficiency in the assessment and treatment of acute radiation toxicities
 - g. Proficiency in the follow-up care of breast cancer patients including the assessment and treatment of local recurrence and late radiation effects, as well as appropriate follow-up studies, in particular the assessment and treatment of complications, such as arm lymphedema
 - h. Proficiency in the evaluation and metastatic work-up for patients with locally advanced breast cancer
 - i. Proficiency in the design and implementation of 2D and 3D comprehensive chest wall and regional nodal irradiation fields, including positioning, simulation, marking, dose plan assessment, dose prescription, set-up and weekly quality assurance
 - j. Ability to diagnose and manage local recurrence after breast conservation therapy or mastectomy, including knowledge of surgical or medical treatment

- options and radiation techniques
- k. Knowledge of specialized treatment techniques, including IMRT, accelerated partial breast irradiation (APBI), and breast brachytherapy
- 2. Diagnosis, work-up, management and treatment of metastatic breast cancer:
 - a. Knowledge of the patterns of failure after breast cancer treatment
 - b. Ability to work-up metastases to bone, brain, lung and other sites
 - c. Proficiency in the treatment of metastases to bone, brain or CNS, including ability to design and set-up treatment fields, prescribe dose, evaluate dose plans, assess set-up and weekly quality assurance portals
 - d. Ability to manage acute toxicities of palliative radiation fields, such as steroid implementation and tapers for CNS disease, skin care, and to manage pain and fatigue

II. Medical Knowledge:

1. Knowledge of the pertinent peer-reviewed medical literature pertaining to the diagnosis and management of all stages of breast cancer, including major randomized clinical trials and important institutional series, in the following disciplines:
 - a. radiation therapy
 - b. surgical management, including breast conservation surgery, mastectomy, and reconstruction
 - c. systemic therapy (chemotherapy, hormonal therapy, and targeted agents)
 - d. palliation, pain management and rehabilitation
 - e. psychosocial issues
 - f. breast cancer biology
 - g. breast cancer epidemiology and genetics
2. Ability to apply this knowledge base acquired from the medical literature in the management of breast cancer patients
3. Ability to critically review the medical literature as it pertains to breast cancer management and to apply new research findings to clinical practice

III. Practice-Based Learning and Improvement:

1. Proficiency in the quality assurance process in breast cancer treatment including dosimetry, dose plan assessment and optimization, and portal film assessment
2. Ability to discuss and critique the breast cancer medical literature in the conference series, including didactic conference, case conference, morbidity and mortality conference, journal club
3. Proficiency in the multidisciplinary care of breast cancer patients in cooperation with colleagues in medical oncology, surgery, pathology, diagnostic radiology, and in multidisciplinary conferences

IV. Interpersonal and Communication Skills:

1. Ability to clearly explain the rationale, procedures, potential side effects and follow-up care after radiation therapy for breast cancer treatment to patients and families, colleagues, peers, and ancillary personnel (nurses, therapists, dosimetrists, physicists)

2. Ability to clearly discuss the disease process of breast cancer, treatment options and outcomes for the various stages of breast cancer to patients and families, peers and colleagues
3. Ability to assess and discuss patient's psychosocial or end of life issues
4. Ability to express empathy and caring in communications with patients and families

V. Professionalism:

1. Maintains a professional appearance that is neat, clean and appropriate in dress
2. Demonstrates sensitivity to ethnic, social and psychological concerns of a largely female patient population
3. Demonstrates ethical principles in personal behavior and in interactions with patients and colleagues
4. Fulfills commitments to patients needs in a timely manner
5. Completes documentation in a thorough and timely manner
6. Attends to clinical responsibilities punctually and efficiently
7. Demonstrates a respectful demeanor towards patients and families, peers, colleagues and staff

VI. Systems-Based Practice:

1. Ability to coordinate appointments with other physicians, or schedule appropriate tests as indicated with an understanding of the patient's insurance issues and geographical preferences
2. Ability to assess psychosocial needs and to refer the patient to appropriate services for social, psychological or financial assistance
3. Ability to coordinate the patient's comprehensive cancer care and other medical needs during their radiation therapy
4. Proficiency with departmental and hospital-based computer data systems and medical records databases

PBI Breast Service Rotation

Goals of Rotation:

By the completion of the three month rotation, the resident will have developed skills to:

- 1) Fully develop and care for breast cancer patients from evaluation through end of treatment and follow-up. Skill set includes:
 - a. Synthesize care plan for patient after full assessment
 - b. Counsel patients regarding treatment options, recommendations, process of treatment, side effects as well as rare risks or complications.
 - c. Coordinate care including scheduling additional studies, requesting additional surgery, requesting medical oncology evaluation, and scheduling of reconsultation on completion of chemotherapy.
 - d. Simulate all breast patients including set-up, marking, cax placement, initial and final field design.

- e. Assess dosimetric plans to determine best plan for individual patient with adjustments as necessary
 - f. Evaluate adequacy of fields, positioning and reproducibility at verification simulation
 - g. Assess patient weekly for toxicity of therapy and adjust skin care regimen as needed including review of laboratory studies obtained weekly in post chemotherapy patients and once early in the course of treatment for all others.
 - h. Ensure appropriate follow-up is coordinated for patients at the completion of treatment course (4 weeks after standard external beam, 1 week and 4 weeks after partial breast irradiation)
- 2) Develop understanding, mechanism, and process of newer treatment options, particularly partial breast irradiation via external beam or mammosite. This includes:
- a. Knowledge of indications and contraindications
 - b. Knowledge of pathologic and technical factors that may require change in treatment plan.
 - c. Completion of on-line training developed by Cytotec for mammosite.
 - d. Evaluate treatment plan and daily imaging
 - e. Provide appropriate safety and monitoring of all treatments.

Resident responsibilities:

- 1) Complete patient list and update on all patients. I will insert information or keep resident updated on new patients seen or interventions occurring when resident performing other duties
- 2) Review data provided for new consults by secretarial staff and direct acquisition of additional reports on the day prior to consultation.
- 3) Highest priority is placed on simulations and treatment planning for each service and evaluation and plan development of new patients. Follow-up and OTV are important, but simulations and new consults take precedence.
- 4) Perform all simulations including cax placement, contouring of scar, gtv, clips, and LV, and final field design at time of simulation under my supervision.
- 5) Participate in weekly dosimetry meeting to review treatment plans.
- 6) Resident will perform their own OTV with patients on Fridays when not in conflict with gyn responsibilities

Given responsibilities for both breast and gyn services, the following will occur to facilitate smooth workflow and achievement of goals:

- 1) We will have biweekly status meetings at 9am on Monday and Thursday.
- 2) Standing appointments in dosimetry for review of plans on Thurs am 8-9 with overflow on Tues am at 9.
- 3) Simulations will preferentially be scheduled on Tues afternoons with overflow on Thurs am. This should allow participation in simulations after Gyn HDR treatments have been completed.
- 4) Set-ups will preferentially be scheduled on Tues afternoons with overflow on Thurs afternoons.

The above stated goals and objectives are to be reviewed by the resident prior to the start of the rotation.