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GOALS

LECTURE SCHEDULES
1. GENERAL POLICIES AND PROCEDURES GUIDE
FOR RESIDENTS IN RADIATION ONCOLOGY

The general policies of Rutgers Robert Wood Johnson Medical School’s residency programs are outlined in the handbook for Rutgers Robert Wood Johnson Medical School - Robert Wood Johnson University Hospital House Staff, which is available online at http://www.umdnj.edu/hrweb/labor_relations/cir.pdf. General policies with respect to salary and benefits, family leave of absence, life insurance, annuities, etc. are outlined in detail in the official handbook and in your annual contracts. The policies for Rutgers Robert Wood Johnson Medical School graduate medical education are available online at http://rwjms.umdnj.edu/education/GME/index.html

Policies for elective rotations outside of Rutgers Robert Wood Johnson Medical School - RWJUH must be approved by the Residency Program Director. Policies for family medical leaves are outlined in the official handbook. A grievance procedure is available to all residents, and this is also clearly specified in the official handbook.

The general responsibilities of the house staff are outlined in the handbook and follow the tenants of community behavior as outlined with respect to excellence in patient care, individual wellbeing, role of the physician in training, interpersonal relations, education, assignment of duties, scholarly activities, working with medical students, community service, and abuse issues. Other responsibilities are outlined in the handbook.
2. OVERALL ORGANIZATION AND EXPECTATIONS OF RESIDENTS

1. All residents entering the program are expected to have successfully completed at least one year of post medical school training in a clinical internship in internal medicine, family practice, obstetrics/gynecology, surgery or surgical subspecialty, pediatrics, a year of categorical radiation oncology or a transitional year. The PGY1 year should include at least 9 months of direct patient care in medical or surgical specialties other than radiation oncology.

PGY I applicants are generally selected through the National Residency Matching Program (NRMP). All fourth year medical students applying for a PGY I position must be enrolled in the NRMP match. Applicants must have graduated from either a medical College recognized by the (LCME) Liaison Committee on Medical Education or Osteopathic Association (AOA) or a Foreign Medical School recognized by the World Health Organization. A graduate of a foreign medical school must meet all of the requirements of the E.C.F.M.G., and must be either a US citizen, US permanent resident or holder of a J-1 exchange visa issued by the Education Commission on Foreign Medical Graduates (E.C.F.M.G.). All IMG’s must hold a current valid ECMFG certificate.

2. Robert Wood Johnson Hospital is the sponsoring institution for the residency program. There are two integrated satellite facilities including Newark, the East Orange VA. The Program Director at Robert Wood Johnson has the responsibility for resident assignments at the satellite facilities, and for continuity of the residents’ educational experience at these facilities.

3. During the four years of clinical training, residents will spend a minimum of 36 months in clinical radiation oncology. Typically this is divided into three-month blocks during which the resident rotates with physicians at Robert Wood Johnson University Hospital or at our integrated satellite facilities. In general, the residents will spend the first year of training at Robert Wood Johnson University Hospital. During the second, third and fourth years, the resident may spend 3-6 months at our integrated satellite facilities at Newark, the East Orange VA. Residents will be allowed approximately 6 months of elective during their residency. While outside rotations away from Robert Wood Johnson and integrated sites are encouraged, they may not total more than 6 months over the 4 years of residency.

4. It is expected that residents rotating on each service will report directly to their assigned attending physicians regarding patient care issues. Residents are expected to attend all scheduled teaching conferences and tumor boards with their respective attending physicians. While rotating at the integrated satellite facilities (Newark & East Orange VA), residents are required to spend Fridays at Robert Wood Johnson University Hospital for academics and didactics. Residents on “away” electives will be exempt from attending these didactics.

5. During the course of their four years, all residents are expected to conduct an investigative project under the mentorship and guidance of one of the attending physicians. It is expected that this project will be of sufficient quality to be considered for presentation at a national meeting and/or publication in a peer-reviewed journal.
6. Residents are expected to undergo periodic evaluation by the attending staff and to evaluate the program in accordance with the evaluation procedures. Residents are expected to follow the general supervisory guidelines of responsibility as outlined. Any specific problems or conflicts a resident has with the overall program should be brought immediately to the attention of the program director.

3. WRITTEN SUPERVISORY LINES OF RESPONSIBILITY

All residents in radiation oncology report directly to the Program Director, Department of Radiation Oncology, regarding all administrative issues and issues related to their education and training during the four years of clinical radiation oncology training. The Program Director in turn is responsible for the content of the training and for providing residents with schedules and supervising their overall education and training.

Issues regarding day-to-day scheduling are the responsibility of the Chief Resident. He/she is responsible for scheduling rotations, vacations and other day-to-day scheduling operations. The Chief Resident discusses all schedules and schedule conflicts with the Program Director to resolve any conflicts.

Direct Supervision - the supervising physician is physically present with the fellow and patient

- All patients will have an appropriately-credentialed and privileged attending physician who is ultimately responsible for that patient’s care.

- Residents and faculty members will appropriately identify themselves and inform patients of their respective roles in each patient’s care.

Indirect Supervision - with direct supervision immediately available – the supervising physician is physically within the hospital or other site of patient care, and is immediately available to provide direct supervision.

- All Residents are required to communicate with their supervising faculty attending after in-patient consultations are performed and after ambulatory care patients are evaluated (before the patient leaves the site of clinical care).

- Residents are required to communicate with supervising attending in cases where clinical situation has changed significantly, such as when the patient is transferred to the intensive care unit, or has made a change in end-of-life decisions. This is true in every setting, whether under direct or indirect supervision, or on call.

Supervisory Lines of Responsibilities at Satellite Facilities: While at a satellite facility, the resident is under the overall supervision of the director of the radiation services at the satellite facility, who is also a faculty member of Robert Wood Johnson University Hospital/Robert Wood Johnson Medical School, Department of Radiation Oncology.
Patient care activities are supervised by the attending of record for each patient, and the resident is responsible for communicating all issues regarding patient care with the appropriate assigned attending physician. The day-to-day supervision of the resident while at the satellite facility is the responsibility of the medical director of the satellite facility. The residency program director is responsible for the educational content and training program at the satellite facility and ultimately is responsible for the rotation of the resident at the satellite facility.

**On-call Supervisory Lines of Responsibility:** While on call, residents are the first line of response for incoming calls from patients and referring physicians. Residents will report directly to the attending physician on call regarding any patient care decisions, consults and interventions with respect to radiation treatment. Residents are also responsible to advise the attending of record regarding any patient care activities occurring during the on-call hours. When an inpatient is referred to our department outside of normal working hours, the resident should consult with the on-call attending regarding whether that patient should be seen that same day or not. In general, residents should expect to see all consulted inpatients that same day unless otherwise directed by their attending.

### 4. EVALUATION PROCESS

All residents will undergo a periodic evaluation to assess their progress and determine their eligibility for promotion to the next level. The evaluation process consists of the following:

1. Each resident will undergo quarterly evaluation by the attending physicians with whom they rotated in the previous three months. These quarterly evaluations by the attending staff assess the residents’ performance in all six areas of general competency including 1) patient care, 2) medical knowledge, 3) practice based learning and improvement, 4) interpersonal skills and communication, 5) professionalism, and 6) systems based practice. These evaluations are submitted to the program director in a timely fashion after each three-month rotation. The program director will meet with the resident on a twice-yearly basis in approximately January and June of each year to review their progress, identify areas of strength and weakness, and assess promotion to the next level. (Sample form attached in appendices.)

2. Residents also will undergo evaluation on an annual basis by the nursing staff, technical staff and dosimetry staff. (Sample forms attached in appendices.)

3. Residents will take the annual in-service examination and areas of strength and weakness will be discussed at the June semi-annual meeting with the program director.

4. Residents should also know that surveys are periodically sent out to patients and this information can also be entered into the resident’s file regarding their evaluation, particularly with respect to professionalism.

5. The physics and radiobiology staff will also give feedback to the program director regarding attendance and performance in the physics and radiobiology course.
6. Upon completion of the four year residency program, the program director will issue a summative evaluation which will address the satisfactory completion of the four year residency program in radiation oncology and will provide a statement regarding the residents' ability to practice competently and independently in their chosen specialty of radiation oncology.

It is also expected that residents will evaluate the attending staff and the program. Each resident on a quarterly basis will fill out evaluation forms for all attending physicians with whom they have rotated throughout the year. A program evaluation form will be completed annually where the residents evaluate each of the components of the program including site-specific tumor boards, conferences, physics course, radiobiology course, and didactic lectures. All of these evaluations are anonymous and do not require residents to identify themselves. In addition, annually, the chief resident will generate a summary evaluation of the attending physicians, which is a compilation of comments from each of the residents in the program and insures confidentiality in that none of the residents is specifically identified in the summary evaluation of each attending physician. (Sample forms attached in appendices.)

In addition to the above formal evaluation process, the program director is always open to suggestions regarding specific individualized problems and overall programmatic issues.

5. DEPARTMENTAL GOALS AND OBJECTIVES

The primary goal for our Residency Program is to prepare residents for a career in Radiation Oncology by providing training in all aspects of Radiobiology, Physics and Clinical Radiation Oncology. Our strong multidisciplinary program will provide exposure to varied literature sources and clinical instructors and will reinforce the importance of multidisciplinary treatment planning in clinical oncology practice. In addition, the outstanding scientific community at CINJ affords us the opportunity for strong didactic series and varied research opportunities that will expose the trainees to all aspects of cancer biology. For each year of training the expectations of the residents are as follows (Also see the site specific objectives outlined in the Appendices):

First year:
During the first year of residency, residents will typically spend its entirety in New Brunswick at RWJUH, as the schedule allows. They will rotate through 4 services during this year, including a combination of Breast/GYN/CNS/Pediatrics/Palliative/Lung/GI/Prostate/H&N. Through these rotations, the resident will be exposed to the general principles of oncology and radiation oncology through clinical rotations. The resident will learn the essentials of patient workups, diagnosis and staging in oncology. The general principles of radiation oncology, objectives of treatment, potential complications and general treatment guidelines will be learned through exposure to cases and discussions with the attending staff regarding appropriate management. The resident will be exposed to simulations, treatment planning and the fundamental principles of radiation delivery through case management and ongoing didactic sessions. During the first year, however, it is understood that the resident will not have a detailed understanding of all aspects of clinical radiation oncology and patient management. Throughout the first year and all subsequent years, the basic principles of radiation biology and radiation physics will be taught to build a solid foundation and understanding of the discipline. They will be required to attend these didactics up until they have taken and passed the appropriate board exam ie once the resident passes the radiobiology and physics written board examination, they are no longer
required to attend the respective didactic.

**Second year:**
Through continued case exposure, the resident will refine his/her skills and increase his/her fund of knowledge with respect to the diagnosis, staging and management of oncology patients. During this year, the resident will become more involved in the subtleties of the technical aspects of radiation and will be expected, by the end of this year, to work up, stage, and formulate a therapeutic plan for most patients. The resident will, by this stage, understand all of the basic principles of radiation biology and physics, upon which the delivery of radiation is based. The resident will have a basic understanding of treatment planning and dosimetry and will understand and be able to communicate a therapeutic plan for a patient undergoing radiation.

The resident may be allowed to rotate at either Newark or East Orange VA, based on the discretion of the program director. During this rotation, residents will be expected to comply with Department and GME policies as detailed above and in the CIR contract. The primary goal of these rotations will be developed based on the residents’ prior experience and the medical director of the satellite facility. The resident may also be given three months of electives during the second year, based on the discretion of the program director. During this block in the second year, the resident may be allowed to pursue a research elective, radiology, physics or other electives at RWJUH. All residents are strongly encouraged to take the physics elective in their R2/3 years, in order to assure resident comprehension of basic physics and to teach the fundamentals of patient positioning, simulation, treatment planning and treatment delivery.

**Third year:**
The resident, through additional case exposures, will further refine his/her skill and improve his/her fund of knowledge in all oncology subspecialties. Additional exposure to brachytherapy, IMRT and stereotactic radiosurgery will provide the resident with additional knowledge regarding the use of these tools in patient management. By the end of this year, the resident will have been exposed to all types of cases and be able to formulate and carry out a therapeutic plan for the majority of cases. The resident will have a thorough understanding of the classic and current literature, and be capable of effectively communicating the rationale for therapeutic strategies as supported by the available literature. Through exposure to patients in the surveillance clinics, the resident will understand the potential complications of radiation, and be able to effectively communicate the risks of radiation to a patient. The resident by this time will have a more sophisticated understanding of therapeutic options, and be able to communicate and support multiple management options, their potential risks and benefits, and understand evolving experimental strategies and future directions. The resident may choose to spend more time at satellite facilities in Newark or East Orange, at the discretion of the program director. The resident may also choose to perform electives in radiation oncology at away institutions if approved by the program director and they must follow the guidelines for away rotations put forth by the GME.

**Fourth year:**
By the fourth year, the resident will, for the majority of oncology patients, be capable of completely carrying out the workup, diagnosis, staging and management as it relates to radiation oncology. The resident will be able to use literature to justify a proposed treatment regimen, and be able to communicate his/her management plan to the patient (including its potential benefits, risks, and outcomes). The resident will be able to communicate the intended plan to the radiation therapy technical, dosimetry, and physics staff and demonstrate a level of understanding of
treatment planning and physics sufficient to consider alternative strategies. By the end of the fourth year, the resident will have completed his/her research elective, and will understand evolving treatment strategies and future directions for research and development as it relates to our specialty.

Note that during all stages of their training, all residents are required to check their applicable port films daily, in order to verify safe and accurate treatment of their patients and to gain experience in this skill.

At the completion of residency training, each resident will be prepared to provide compassionate, comprehensive care to patients and be prepared to sit for the written and oral boards. The specific learning objectives for the Physics and other elective rotations are itemized in the appendices.

6. ROTATIONS

Faculty members identified below will accept responsibility for disease-specific clinical training, including overseeing resident clinic experience, resident evaluation, and preparation/administration of mock oral board examinations.

Guidelines:

- Residents must rotate through at least 36 months of clinical rotations during the 4 years
- Residents will be allowed approximately 6 months of elective time, at the discretion of the program director
- The first year will be spent almost entirely at New Brunswick. In some cases, a resident may rotate at a satellite during the last quarter of their first year, at the program directors discretion.
- A rotation at Newark and at the East Orange VA is mandatory at some point during the 4 years.
- Electives are available in Physics (strongly recommended), Pathology, Radiology, Medical Oncology, research at parent institution, or rotations at other institutions
- Rotations at other institutions (besides RWJUH, East Orange VA and Newark) cannot total more than 6 months
- At any time, the usual resident complement will be
  - RWJ 5 residents
  - Elective 1 resident
  - Newark 1 resident
  - East Orange VA 1 resident
7. DOSIMETRY-RESIDENT PROTOCOL

Important issues are timeliness, who takes responsibility for the steps, and communication. In this protocol, the resident has the main responsibility for planning and communicating with dosimetry via the Dosimetry task list.

1. Simulation
   a. At the time of simulation, the simulation therapist will tag the case with the attending and resident
   b. Prior to or immediately after simulation, resident should discuss any issues, concerns, or any scans to be fused with Dosimetry
   c. Communication of the case from Dosimetry re the case will be primarily through the resident via the Dosimetry task list

2. Contouring/Setting up fields
   a. As a matter of policy, the resident will do the contours/set up fields the night of the simulation, unless otherwise specified by the attending
   b. Once contours/fields are completed, it is the resident’s responsibility to go over them with the attending and have them approved by the next day.
   c. Once done, resident will annotate in the Dosimetry task list

3. Approving the plan
   a. Once the plan is ready for review, Dosimetry will annotate on the Dosimetry task list
   b. Resident will review the plan and once they approve it, it is their responsibility to review with their attending.
   c. Once attending approves, resident will annotate in Dosimetry task list

8. RESIDENT DAILY CHECKLIST

1. Resident hours are a minimum of 8 AM – 5 PM. If you will be out, late, or leaving early, let your attending, chief resident and Kelli know.
2. Check all port films for your service daily, preferably in the morning. Residents can review but not approve films, and you should be another pair of eyes on your service’s films along with your attending or AOD. You should review all films on your attending’s service and that have not been approved or reviewed. Ask Bill to help you set up Offline review.
3. Prepare for the day: check time planner and discuss with your attending/APN so you are prepared to participate in patient visits, simulations etc. Be proactive to participate and do not wait for people to call you ie if you have multiple consults, OTVs or FUs, spend your time in clinic and look for the patients.
4. Take care of any outstanding patient issues that day ie mail scripts, check results etc.
5. Dictate any patients seen that same day
6. Review all documents in your queue in doc. approval and send to your attending’s queue daily
7. For any simulations performed that day, do all the work (contours, put on fields etc) the night of simulation, unless you discuss with your attending and agree otherwise
8. Prepare for the next day.
   a. Fill out treatment planning sheets and prescription in RT chart for next day so that you have thought about and are prepared for the simulation.
   b. Look through consult information planned for the next day

9. RESIDENT LOG

The residents are required to keep a web-based log of all procedures they perform. The logs will be reviewed semi-annually by the Program Director during individual performance evaluation meetings with the residents. Login procedures: go to www.acgme.org, click on Data Collection Systems -> Resident Case Log System -> Login. You will receive your username and password from the program coordinator or chief resident.

The ACGME/RRC requirements regarding numbers of patients treated are easily availbile at http://www.acgme.org/acWebsite/downloads/RRC_progReq/430_radiation_oncology_01012009_f07012011.pdf. Look at the website to get exact requirements. In general, the requirements are summarized in section 39: Bi annual resident-program director meeting.

Recently, the ABR put out a memo in the *Volume 4, Issue 1, Spring 2011* The BEAM with Clarification of Brachytherapy Requirements for Initial Certification in Radiation Oncology

Current requirements, from the ACGME Program *Essentials in Radiation Oncology*, adopted 1/2009, are: Section IV.A.5.a).(2)” . . . must perform no fewer than 5 interstitial implants and 15 intracavitary implants. Resident involvement should include planning, review of dosimetry, and hands-on participation in a significant portion of the implantation procedure. Separate applications of an implant in a given patient (such as two separate intracavitary applications) may be counted as two separate procedures. However, multiple fractions of a single application (such as multiple fractions of an interstitial implant) may be counted only once. Only one resident may count a specific application.” Section IV.A.5.a).(3)” . . . must participate in the administration of no fewer than six procedures using radioimmunotherapy, other targeted therapeutic radiopharmaceuticals, or unsealed radioactive sources;” In addition to ACGME requirements, the NRC requires a minimum of 3 oral I-131 cases and 3 cases employing unsealed sources for Authorized User (AU) eligibility status.

Under the newly adopted standards, acceptable case material includes:

1. Interstitial implants
   - Any application of radioactive needles, wires, or seeds directly into a tumor volume or into catheters placed in a tumor volume (e.g., prostate brachytherapy, etc.)
   - Any application of sealed or unsealed sources into a catheter pre-placed directly into tissue (non-natural body cavity or non-natural lumen) (e.g., breast balloons, GliaSite® applications, etc.)
   - Surface molds and eye plaques
2. Intracavitary implants
   - Any LDR or HDR application into a natural body cavity or lumen, whether direct or into a pre-placed applicator (e.g., endobronchial, billiary, cervix, endometrial, etc.)

3. Parenteral procedures (To be considered as unsealed sources for NRC Authorized User eligibility, a minimum of 3 is required.)
   - Therapeutic microspheres for treatment of disease in any anatomic site (e.g., TheraSpheres®, SIR Spheres®, etc.)
   - Unsealed sources for treatment of bone metastasis (e.g., strontium-89, samarium-153)
   - Unsealed sources for treatment of hematologic malignancies (e.g., P-32)
   - Unsealed source administration directly into a body cavity (e.g., P-32)

4. Oral 131-Iodine procedures (For NRC Authorized User [or Agreement State] eligibility, a minimum of 3 cases with administered activity equal to or in excess of 1.22 Gigabecquerels [33 mCi] is required.)
   - Conditions may be either benign or malignant, but the counted administration must be for therapeutic intent.
10. MONETARY ALLOWANCES AND TRAVEL

Residents are encouraged to prepare research projects for presentation at scientific societies.
Yearly monetary allowances for residents to be used for travel, books, or dues:

Total: $2400

The department will not cover any expenses above this budget. These funds are allocated from July 1 to Jun 30, and do not roll over to the next fiscal year. Funds can be used in varying proportions i.e you could use $1000 on travel and more than $200 on books, dues, or other work related items. If there is a question as to what constitutes a work related item, this should be discussed prior to purchase with the program director and Department administrator. In their last year, residents will receive an additional $1500 that is meant strictly for travel purposes, to job interviews and to attend ASTRO. Per Rutgers Robert Wood Johnson Medical School Travel Policy, all travel must be approved and all estimates for your trip must be turned into program coordinator at least 30 days prior to travel. Prior to submitting a TA (Travel advance which is mandatory for all trips) and ethics for must be filled out and accompany the TA. You can find the ethics for my logging into:

All receipts from said trip must be turned in immediately upon return, so that a travel expense can be created with 30 days. If you receive a travel advance and your receipts do not total that amount, you must submit a check to Rutgers Robert Wood Johnson Medical School for the difference along with your receipts.

Residents will be allowed to take administrative leave rather than vacation days for participation at conferences, committees.

Furthermore, residents may have limited amounts of administrative leave upon the discretion of the program director based on the resident’s performance and total leave each year. Residents will not be approved for more than 2-3 weeks of leave (vacation, conference, sick leave) during any given rotation.

11. MEETINGS WITH PROGRAM DIRECTOR

The Program Director will meet with each resident twice a year to discuss the program, review clinical and written examination performance results, log books, evaluations and discuss overall goals and career plans. In addition, the Program Director’s open door policy provides residents an opportunity to have informal discussions on any issue, including academic and administrative, at any time.

12. DEPARTMENTAL PROGRAM REVIEW

A departmental program review will be held annually to assess the residency programs strengths and weaknesses, goals and objectives. The chief residents, program director, representative faculty, head of radiobiology and physics shall attend if possible.
The group will consider utilization of resources available to the program, the contribution of the integrated satellites as well as Robert Wood Johnson Hospital to the program, financial and administrative support of the program, the volume and variety of patients available for educational purposes, performance of the teaching staff, and quality of supervision of residents. The group will consider written comments from the faculty, the most recent GMEC report, residents’ confidential written evaluations, and results from recent written and oral board exams. Minutes will detail any deficiencies and a plan of attack for correcting them. A form is included in the appendices.

13. RESIDENT LICENSING

In order to facilitate more autonomous and versatile care by the resident physicians, it is very helpful for them to be able to prescribe medications/controlled substances. The department has agreed to pay for the licensing required to be able to prescribe controlled substances:

1. NJ state medical license
   - Residents are eligible to obtain their NJ state medical license if after receiving a medical degree, the applicant has completed and received academic credit for at least two years of post-graduate training in an accredited program and has a signed contract for a third year of post-graduate training in an accredited program and already completed (or scheduled to complete shortly) USMLE 1-3 ie for most residents, after their first year of radonc training.
   - Applying for the NJ license is mandatory and should be done at the very start of the second year. This is to maximize the use of this license (which the dept pays for at significant cost), and to prevent a run on license fees in any one fiscal year.
   - You can obtain more information and get an application at http://www.state.nj.us/lps/ca/bme/.

2. DEA
   - Applications are available online at http://www.deadiversion.usdoj.gov/.
   - In the application, there is a part where you can opt for the no fee DEA (application will ask something to the effect of, are you a federal, state, or local government operated hospital, institution or official). Note that with this type of DEA you can prescribe for patients associated with CINJ, but not elsewhere. For example, if you moonlighted at the VA you would have to get your own DEA.

3. NJ state CDS
   - Applications are available online at http://www.state.nj.us/oag/ca/drug/dchome.htm.
14. RESEARCH

Residents are to actively participate in research and other scholarly activities. It is expected that during the course of residency, each resident should complete a research project of quality sufficient to merit consideration of publication or presentation at a regional or national meeting. To this end, each resident has at least 6 months of elective time.

If a resident wishes to pursue a more involved research project, then they have the option of seeking an additional 3-6 months, for a total of 9-12 research months. Of this research time, 2 months can be used for other activities such as outside rotations, and the rest of the time is expected to be used in completing the project. In order to qualify for this program, a resident must 1) develop a research plan that meets faculty review and 2) be performing well enough clinically that the missed clinical time will not be detrimental. Residents should seek mentorship from a departmental faculty member, even if they have an outside faculty mentor. Any departmental faculty can serve as this additional departmental mentor, but Dr Khan and Goyal will serve as primary faculty for this purpose.

Residents wishing to pursue this program should develop and present a proposal during their PGY 2/3 years. The proposal should include:

- Clearly presented hypothesis and goals
- Scientific background and rationale, including significance of project within its discipline
- Description of experimental approach
- Evaluation methodology, including statistical approach;
- Potential problems or impediments that may be encountered
- Possible outcomes and their implications for plans for future research
- Amount of research time required to complete the project and a timeline of how the research time will be used

Having an involved mentor has a great impact on the quality of the research proposal and the subsequent publication. To that end, prior to presentation to the program director, the resident will submit a written research proposal (PPT) consisting of the above-mentioned components to their departmental mentor. The departmental mentor will check for adequate quality and suggest improvements. After approval, the resident will be assigned a date and time for a formal presentation to their departmental mentor and PD.

Aspects that will significantly increase the odds of a project being approved for extra time:

- A large retrospective study (>100-150)
- Funded project
- Large clinical impact
- Molecular correlates (tissue microarray, IHC staining), labwork in radiobiology
- Prospective clinical trial
Presentation will be to the departmental faculty mentor and the program director. Faculty’s role will be to make suggestions to improve the proposal, provide mentorship, and ultimately, decide whether the proposal is of adequate quality to warrant the extra research time and whether 9 or 12 months is appropriate. Whether the resident is doing well enough clinically will be determined by the PD, with input from other faculty. Faculty mentor or PD may make suggestions for improvement, and have the resident re-present at a later time. The timing of the meeting is variable but could reasonably be done in the PGY2 or 3 years- the earlier the better with regards to offering the most flexibility in scheduling the research time.

After each 3 month block of research elective, the resident, departmental faculty mentor and PD will meet, and discuss progress. If the project is not making sufficient progress, or is not working out, the extra elective time may be rescinded.

It is anticipated that if scheduling allows, that the bulk of the electives would be taken during the PGY 4 year, but this can be variable. Scheduling of residents’ schedules, as always, is done by the chief residents. An inevitable result of this additional elective is that some rotations will be left uncovered. At times, the Newark rotation may be left uncovered, and sometimes the RWJUH rotations. To be fair, every attempt should be made to rotate the uncovered rotation ie a RWJUH attending who goes uncovered should not be uncovered again until the other RWJUH rotations have been uncovered.

After 9-12 months of research elective, it is anticipated that the resident should develop a paper suitable for publication in a peer review journal. The resident is expected to present their results in front of the department during their PGY5 year (or earlier).

15. IN-TRAINING EXAMINATION

All residents are required to sit for the in-training examination sponsored by the American College of Radiology on a yearly basis. The purpose of this exam is to provide the resident with information to assist in the evaluation of their progress. It is intended as a measure of general achievement in radiation oncology, but will not be used for evaluation, advancement, or graduation purposes. The exam is given annually in March and the scored are generally available in May. Residents are scored by the year-level in training. Scores are confidential, and available only to the Program Director. Aggregate and anonymous scores may be discussed at the annual departmental review, but individual scores will remain anonymous.

16. MOONLIGHTING

Although moonlighting activity is not encouraged, limited moonlighting is allowed provided that it does not interfere with the residents fulfilling their institutional service requirements and educational goals. This policy is in place in order to assure continued care of our patient population in radiation oncology and to avoid undue stress and fatigue with respect to resident work hours. It is important to note that Rutgers Robert Wood Johnson Medical School -Robert Wood Johnson University Hospital and/or Robert Wood Johnson Medical School will not provide liability coverage for residents while performing professional moonlighting activities outside of the training program. It should also be noted that residents on J1 visas are not permitted to moonlight as established by federal regulation 22CFR514.16.
Regarding other issues, including work-related stress, counseling, or disciplinary action, the Hospital and the Department are supportive of residents in training and will make available any necessary resources with respect to psychological and social support.

17. **ON-CALL RESPONSIBILITIES**

Residents take call from home via call phone after regular clinic hours. Call is taken in one-week blocks, rotating among the residents. A faculty member and therapist will also be designated on the call schedule.

Call schedules will be adjusted so that the total number of calls taken per year is the same for each resident + 1. Chief residents should review the call schedules quarterly or more often and adjust accordingly so call evens out by the end of the year.

Rutgers Robert Wood Johnson Medical School /RWJUH holidays include New Year’s Day, Presidents Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. The resident Rutgers Robert Wood Johnson Medical School contract, however, stipulates residents will receive these additional holidays: Martin Luther King’s Birthday, Good Friday, Day after Thanksgiving. No resident should be on call during a holiday more than twice a year. No resident will have to be on call on a specific holiday more than once during their residency ie if a resident is on call on Christmas their first year, they are exempt from Christmas call (if she wishes) for the rest of her residency, though she is still obligated to take the usual 1-2 holiday calls each year.

New residents will not be required to take call for the first 2 months of their residency- however by the end of the year they will make up enough calls so that the call number will even out. The call schedule will run from the beginning of July to end of June.

While on call, residents are the first line of response for incoming calls from patients and referring physicians. Residents will report directly to the attending physician on call regarding any patient care decisions, consults and interventions with respect to radiation treatment - if there is a question as to whether to ask the attending, you should call, esp if you are a more junior resident. Residents are also responsible to advise the attending of record (pt’s regular attending) regarding any patient care activities occurring during the on-call hours. All inpatient referrals to our department outside of normal working hours should be discussed with the on-call attending.

On call there are 2 types of cases: potential emergencies and absolute non-emergencies

1) An absolute non-emergency is a case where there is absolutely no way you are going to treat over the weekend, like a pt who got a whipple procedure friday and they didn't call the dept till saturday. Your job in this case is to make sure that the patient is plugged into our system and make sure that the referring knows that they are plugged in. This may mean coming in, saying hello to the patient and writing a quick note in the chart saying that you have given the patient a F/U appt on a certain date. At a minimum, you should get the pts contact information and let the referring know that you have their information and will arrange for a F/U appt. You should let the on-call attending know about all consults called in, regardless of whether they are emergencies or not.
2) A potential emergency is something like cord compression, brain metastases, bleeding, pain etc, where you might possibly radiate this patient over the weekend. You must come in to see this patient. The attending will come in for consult sim and treat. In the event that radiation is not indicated, the attending will see the patient within 24 hours and/or speak directly to the referring attending.

Emergency treatments will not be initiated unless a faculty member is present. However, a resident and therapist may treat a patient, if the simulation has been performed in advance.

If the resident is for some reason unable to reach the attending on-call, they are to contact the Chief Resident, program director, or other faculty. Any of the above can feel free to contact any other attending to assist in the case.

18. AFTER HOURS RESPONSIBILITIES

Usually the attending of the day will stay until the last patient is treated. Instead of the AOD resident staying, it will be the on call resident who stays until the last patient is treated. In the case that the on call resident is at the VA or Newark, the AOD resident will stay until the last patient is treated. In the case of a new emergency, the AOD resident will cover at RWJUH until 6 PM, at which time the on call resident will resume responsibilities.

18.5 On-call Brachytherapy Responsibilities

It is the responsibility of the on-service resident to attend and participate in brachytherapy treatments that are held on evenings and weekends. If the on-service resident is not available, it is their responsibility to very clearly sign-out the patient to the on-call resident who will participate on behalf of the on-service resident.

When a patient being treated with LDR brachytherapy is in-house overnight, the on-service resident should sign that patient out to the on-call resident. If there are issues with that patient overnight involving the implant (it fell out, etc) the on-call resident is the first POC but should notify on-service resident and attending. The on-service resident would be first in line to deal with the issue if it involves manipulation of the implant, as they should already be familiar w the case, packing etc.

19. WORK DUTY HOURS

Duty hours are defined as all clinical and academic activities related to the residency program i.e., patient care, administrative duties related to patient care, the provision for transfer of patient care, time spent in-house during call activities, time spent moonlighting and scheduled activities such as conferences. Duty hours do not include reading or preparation time spent away from the duty site. Duty hours are limited to 80 hours per week, averaged over a 4 week period. In general, the hours for a radiation oncology resident are far less than this 80 hour limit. In addition, residents should inform the chief resident and program director immediately if the duty
hour limit is exceeded, or if they feel that the demands of their job are causing them excessive fatigue or stress. If required, the chief resident and program director will arrange a backup plan to relieve the resident of their excessive duties. Semiannually (January and July), the residents will fill out the Resident work hours questionnaire (appendix) and these will be forwarded to the GMEC office.

Per the RRC, residents should have 10 hours free of duty, and must have eight hours between scheduled duty periods. In other words, in the rare case that there is some work activity late at night, for example a brachytherapy loading that occurs at 1 AM, the resident is not allowed to come back to work for another 8 hours, or until 9 AM. This is not an optional policy ie if the resident feels fine at 7 AM, they still cannot return to work until 9 AM.

Twice yearly (January and July), residents will watch an online training module on fatigue, sign that they have performed the training, and signature will be forwarded to the GMEC office.

CINJ Radiation Oncology Resident work hours questionnaire

1. Date ______________
2. You are PGY _________
   # hours you have worked per week, averaged over the last 4 weeks, including any in-house call __________
3. Did you receive 1 day (24 continuous hours) in 7 free from all educational and clinical responsibilities, averaged over the last 4 weeks?   Y /   N
4. In the past year, have you ever worked more than 24 continuous hours in a row?    Y   /   N
5. Do you ever take in-house call more frequently than every 3rd night?                (N/A since radiation oncology does not take in-house call).
6. In the past year, did you get 24 hours off on all University holidays or a comp day or comp pay?     Y   /   N
7. In the past academic year, has the allotted 4 weeks of vacation been available for you to take?     Y   /   N

*note that for all questions, residents must include moonlighting duties in addition to regular resident duties

**For any discrepancies, please explain below:
20. WEEKLY CONFERENCES

- New Patient conference is a teaching session led by one of the residents. This may take several forms, most often a case presentation followed by discussion/lecture. The resident designated to lead the discussion is often the resident who was on call the weekend before the conference. As with the call distribution, the number of conferences prepared should be adjusted so that the total number per year is the same for each resident +\(-1. Chief residents should review the conference schedules quarterly or more often and adjust accordingly so conference evens out by the end of the year. Though having the on call person prepare conference that week may be a useful tool to designate responsibility, evening out the number of conferences prepared is a higher priority.

- Planning Rounds is intended to discuss every new patient’s plan who is starting that week. The intent is to both QA and education. The applicable resident should give a brief one-liner about the patient, and then guide the group through the plan, in particular discussing anything unusual about the planning, obstacles faced, and dose constraints that were of particular interest in the case. This is also an opportunity to discuss in depth the dose constraints on a particular organ, and chief residents should designate the organ of the week on a regular basis.

- Morning Report is intended to discuss new patients seen that week, and therefore offer the residents clinical repetition in terms of clinical presentation, work up and evidence-based treatment. Applicable resident will give a short synopsis of the patients they saw in consult that week (or at least one consult, depending on time). Then they will discuss their plan for workup, treatment, and the evidence behind that treatment (concentrating in particular on phase III RCTs, if applicable).

21. FRIDAY DIDACTICS

Friday is meant to be an academic day for the residents, where they attend various lectures in physics, radiobiology, clinical radiation oncology, chart rounds etc. To that end, most of the residents time on fridays is protected from clinical duties, and clinical issues should be resolved by the applicable attending, APN or nurses.
After the last didactic of the day is over or if there is sufficient time prior to classes, the resident may participate in clinic as necessary. Residents who have already passed their radiobiology and physics board examinations are not required to attend those didactics, and may participate in clinic during that free time, but are also exempt from clinic duties during other didactic sessions.

22. MENTORSHIP
To augment the regular and documented group meetings between the residency director and the residents, each resident will be assigned a faculty mentor. This mentorship will develop and continue over the entire residency training program. We believe this will provide alternate modes of communication and will promote resident-specific teaching aids as needed.

23. APPROACH TO UNPROFESSIONAL BEHAVIOR
In the event that a resident displays unprofessional behavior, our goal is to identify and correct it as quickly and as fairly as possible. Our approach is predicated on the method described by Hickson GB et al. “A Complementary Approach to Promoting Professionalism: Identifying, Measuring, and Addressing Unprofessional Behaviors.” Acad Med. 2007; 82:1040–1048.

If the need arises, interventions will start relatively informally and become gradually more formal as necessary

1. Informal intervention: a cup of coffee. This intervention is appropriate when there is a single incident of unprofessional behavior. It may be carried out by another resident, a staff, program director, attending etc. During this informal intervention the resident in question should be apprised of the concerns that exist regarding their behavior and should be given an
opportunity to express their view. This intervention does not need to be documented and does not have to be reported to the program director. This intervention is not appropriate for certain serious allegations including discriminatory behavior, sexual harassment, substance abuse or any other behavior that is dangerous to the resident or other persons—such behaviors should be reported to the program director, vice chairman or chairman as soon as possible.

2. Chief Residents’ intervention. This intervention is appropriate when there is a clear pattern of unprofessional behavior. During this intervention the chief resident(s) will discuss their concerns over their behavior and make suggestions for self-remediation. This intervention will not be documented.

3. Program director intervention. This intervention is appropriate when there is a repeated pattern of unprofessional behavior despite the chief residents’ intervention. During this intervention the program director will discuss with the resident his concerns regarding their behavior and the consequences of this continued behavior. At the PD’s discretion, the first intervention may be relatively informal, and not documented in the residents chart. If the pattern is concerning enough, the PD may document the first intervention, and institute a mandatory improvement and evaluation plan with periodic follow up. By the second intervention, documentation and a mandatory improvement plan will be instituted.

4. Faculty Council intervention/disciplinary action. This intervention is appropriate once the resident has undergone program director intervention and still persists in their unprofessional behavior. This intervention will be initiated at the program director’s discretion. The resident will meet with the chairman, vice chairman, Dr Gabel and program director (if all are available). In some cases, a mandatory improvement and evaluation plan may be developed with periodic follow up meetings to ascertain compliance. If the pattern of behavior is extremely concerning, disciplinary action may be instituted immediately. At worst this may result in dismissal from the residency program or non-renewal of their resident contract. This intervention will be documented and placed in the residents file. Minutes from this meeting will also be forwarded to the head of the GMEC and CIR.

24. ELECTIVE TIME

Residents will be allocated 6 months of elective time, unless they are approved for extra research time. This time may be used to perform research, do outside electives, study for board examinations or other radiation oncology related activities at the discretion of the program director. If they are approved for extra research time, they are expected to spend the extra time on research, and no more than 2 months of their elective time doing other activities, such as outside rotations, etc.

Unless the resident is physically at an outside institution, they should attend the usual resident conferences ie planning rounds and the Friday lecture series.
25. RESIDENT SNOW DAYS

We'll take our cue from Rutgers Robert Wood Johnson Medical School - ie if they say they will delay opening till noon, the residents will do the same. However, unlike some outpatient clinics, we do need to have an attending and a resident here all the time. The logical resident is the on call resident. If the on call resident is physically unable to make it, you should call the chief resident, and figure out who can. It may come down to one of the residents who lives nearby and can walk to work-if they end up doing this excessively, we can figure out some comp time for them. As for the residents going to the VA or to Newark, you take your cues from Dr Kelly and Razdan.

26. FATIGUE TRAINING

Twice yearly (January and July), residents will watch an online training module on fatigue, sign that they have performed the training, and signature will be forwarded to the GMEC office.

27. TRANSITIONS OF PATIENT CARE

Residents rotate every 3 months to another service. To ensure safe transitions of care, the off-going resident shall prepare a written summary of the current and pending patients on that service (brief history, any issues that are pending) and discuss with the oncoming resident. On the Friday prior to the designated resident turnover day, there will be a scheduled one hour time period for the residents to exchange summaries and discuss any pertinent patient issues. The chief resident will be present to supervise and handle any issues. The program director will be present for the first such turnover at the beginning of the academic year to provide direction and training, and thereafter these will be supervised by the chief resident. This one hour period will be promulgated in the chief resident’s weekly departmental schedule email, which is sent out at the beginning of every week. Below is a sample format. If there are any patient issues that may need to be addressed after work hours, the applicable resident should discuss with the on-call resident.

<table>
<thead>
<tr>
<th>Patient</th>
<th>Situation</th>
<th>To do items</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

At the beginning of every academic year, the program coordinator and chief residents will ensure that a resident rotation schedule (resident to attending) is promulgated within the resident handbook, and a copy is also available at each treatment machine so that anyone in the health care team is able to identify which physicians are responsible for any patient.

In the event that a patient goes to the emergency room, the ER will call radiation oncology department. If during working hours, the front desk will take the call and direct the call to the
appropriate resident and attending. If a patient goes to the emergency room during off hours, the resident-on-call phone number, the resident and attending on call each week, is promulgated on the RWJUH home page http://rwjinfo.rwjuh.edu/ under On-call schedules. If the emergency room calls the front desk instead, the recorded message refers them to the resident on call and gives them the cell phone number. The resident on call has remote access to RWJUH intranet and using aria EMR can easily discern the resident/attending for the patient and obtain pertinent clinical records.

28. SELECTION AND PROMOTION OF HOUSESTAFF

Residents are primarily accepted into the program through the NRMP match in Radiation Oncology. In unusual circumstances, applications may be made outside of the match and transfers may be accepted from other institutions based on individual circumstances and availability. All applicants must hold an MD or DO degree or their equivalent and must have completed a PGY-1 year with at least 9 months of clinical training prior to entering their PGY-2 year in Radiation Oncology. Selection criteria include evaluation of prior academic standing and accomplishments in medical school, letters of recommendation, Deans letter, USMLE scores, personal statements and research experience. For those applicants selected for an interview, the interview will also be used in the selection and ranking process.

Criteria for promotion in each residency program shall be specified, maintained current, documented and communicated to residents at the beginning of each academic year. In general, postgraduate levels are determined by the Program Director, the Department Chair and the Dean on the basis of previous training and experience. In addition to fulfilling the requirement of satisfactory academic progress, residents must satisfy the following requirements with regard to registrations, permits, and licenses.

For promotion to PGY-2 and above, the resident must obtain and maintain a permit issued by the Board of Medical Examiners as defined in Board of Medical Examiners Regulation 13:35-1.5; a house officer who does not obtain or make application for such a permit shall automatically be terminated at the conclusion of PGY-1; a resident who fails to maintain such permits shall be terminated upon the loss of the permit; a New Jersey medical license shall satisfy these permit requirements. For promotion to PGY-3, the resident must have passed USMLE Step 3, NBME Part III or COMLEX Level III; a house officer who has taken the exam prior to June 30th and has not received exam scores will be promoted to PGY-3 with the understanding that passing scores must be provided to the program director within six weeks of the exam date or the PGY-3 contract will be terminated. For promotion to any postgraduate year after a house officer has used up the 5-year limit for registration/permit eligibility as specified in NJSA 45:9-21d, the house officer must have a New Jersey license; a house officer whose eligibility for a permit has expired and who has not obtained a New Jersey license shall automatically be terminated at the conclusion of the last academic year of eligibility for a permit.

The decision to offer a promotion to a house officer will be conveyed to the house officer by the Program Director after a review of his/her faculty evaluations, in-training exam performance and the personal observations of the Program Director. Written notification shall be given to the house officer for non-renewal of contracts. In the event a house officer’s performance is not satisfactory, the Program Director will inform the house officer in writing. The outline or plan for remedial training requirements must be provided to the house officer in writing. This shall include the time period for remedial training and subsequent re-evaluation of the house officer's
suitability for promotion. A timely written non renewal notification will be given which can be reversed if on re-evaluation the house officer is felt to be qualified for promotion.

29. RESIDENT PROGRAM IMPROVEMENT PROJECT

Yearly, each resident will take on a project to help improve the residency program. The project can be anything related to the program, from organizing the resident electronic files, preparing study materials, arranging lunches etc. The assignments will be per class, but can be adapted by chief residents in case the classes are not equal in size:

- PGY2 Social
- PGY3 research
- PGY4 education
- PGY5 clinic

Quarterly meetings will be scheduled involving the residents, PD and coordinator, and residents will present progress on their projects.

30. RESIDENTS ON COMMITTEES

Serving on performance improvement/safety type committees is an RRC requirement and a part of the core competencies. Residents will serve on various safety and quality improvement committees as below. The assignments will be per class, but can be adapted by chief residents in case the classes are not equal in size

<table>
<thead>
<tr>
<th>Committee</th>
<th>POC</th>
<th>Timing</th>
<th>Responsible residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer Committee</td>
<td>M Gabel</td>
<td>every other month</td>
<td>PGY 2</td>
</tr>
<tr>
<td>PIC</td>
<td>M Gabel</td>
<td>every other month</td>
<td>PGY 3</td>
</tr>
<tr>
<td>Rad.Safety Committee</td>
<td>V Nara</td>
<td>quarterly</td>
<td>PGY 4</td>
</tr>
<tr>
<td>GME</td>
<td>Skim</td>
<td>monthly</td>
<td>PGY 5</td>
</tr>
</tbody>
</table>

31. RESIDENT LEAVE POLICY

Per the contract between the Rutgers Robert Wood Johnson Medical School and the Committee of Interns and Residents, the following is the leave policy for residents. However, given the relationship of RWJUH and Rutgers Robert Wood Johnson Medical School and the nature of our field, the Department of Radiation Oncology has developed the following leave policy for residents in concordance with the CIR contract:

Residents will have a total of 4 weeks of vacation a year. For planned conferences and vacations, the chief resident should be the first point of contact for planning vacations and conferences so the overall services are appropriately covered. All vacation & conference requests must be submitted to the Chief Resident using the proper leave request form. To the greatest extent possible, we should try to coordinate such that the resident and attending of a given service are not away at the same time. Unresolved issues can be discussed with the program director. While there are always exceptional circumstances, in general, residents should not plan to be away
more than 2-3 weeks in a scheduled 3 month block.

Residents may take vacation in up to 2 week blocks, with a 3 week vacation permitted at the discretion of the program director. Our departmental policy (which is a bit more lenient than Rutgers Robert Wood Johnson Medical School resident policy) is that all vacation requests be submitted prior to the start of the 3 month block rotations, in order to accommodate schedule changes with respect to call & conference and coverage of teams with respect to attendings and APN’s. If residents do not put in vacation requests prior to rotation, they must have their current rotation attending sign the vacation request form in addition to the chief resident and PD.

Adequate coverage of the clinic is a necessity in determining vacation schedules. Thus, in some circumstances when a given resident is away, the other residents may be requested to cross cover, particularly if there are critical procedures being performed (brachytherapy), or for very busy clinic schedules where attendings are in need of assistance. In general, however, residents are not expected to routinely "cross cover" services while other residents are on vacation or at conference.

Quota of residents for Friday didactics. Fridays are days specifically set aside from the clinic for resident education. They are not meant to be used for “cherry-picking” vacation days. We also strongly discourage waiting until June and then attempting to use all remaining leave days before the next academic year- this can and should be avoided with some planning ahead- note that our institutional GMEC policy is that all vacation requests be sent to the PD by September. In general, there should always be adequate residents ie at least 5 in order to represent well at Friday lectures and conferences and chart rounds. Chief residents should keep this in mind when signing vacation requests ie last minute June vacations where there will be more than 3 residents out should be denied.

For unexpected absences, the resident should call the front desk (732-253-3939) to inform them they will be out for the day. The front desk should inform the chief resident and the appropriate attendings, as well as the residency coordinator of the resident absence. The chief resident should follow-up to determine how long the resident will be out, communicate this with the attendings and plan accordingly.

The following is the new ABR policy for radiation oncology leave effective July 1, 2010

Leaves of absence and vacation may be granted to residents at the discretion of the program director in accordance with local rules. Within the required period(s) of graduate medical education, the total such leave and vacation time may not exceed:

<table>
<thead>
<tr>
<th>Leave Duration</th>
<th>For Residents In:</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 calendar weeks (30 days)</td>
<td>one year</td>
</tr>
<tr>
<td>12 calendar weeks (60 days)</td>
<td>two years</td>
</tr>
<tr>
<td>18 calendar weeks (90 days)</td>
<td>three years</td>
</tr>
<tr>
<td>24 calendar weeks (120 days)</td>
<td>four years</td>
</tr>
</tbody>
</table>
If a longer leave of absence is granted, the required period of graduate medical education must be extended accordingly.

The ABR leave policy is based on educational needs and is not affected by other institutional, state or federal policies.

32. RESIDENT STUDY PERIOD PRIOR TO BOARD EXAMINATIONS

Residents will be given the 3 days just prior to board examinations (physics/radiobiology, clinical written) for study period, without using vacation days (EOVA may require vacation days).

33. DEPARTMENT POLICY FOR HOLIDAYS

The Department of Radiation Oncology will follow the RWJUH schedule for holidays. There is some difference in the holiday schedule for RWJUH vs Rutgers Robert Wood Johnson Medical School

<table>
<thead>
<tr>
<th>RWJUH holidays</th>
<th>Rutgers Robert Wood Johnson Medical School Resident Contract</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Year’s Day</td>
<td>New Year’s Day</td>
</tr>
<tr>
<td>Presidents Day</td>
<td>Memorial Day</td>
</tr>
<tr>
<td>Memorial Day</td>
<td>Independence Day</td>
</tr>
<tr>
<td>Independence Day</td>
<td>Labor Day</td>
</tr>
<tr>
<td>Labor Day</td>
<td>Thanksgiving Day</td>
</tr>
<tr>
<td>Thanksgiving Day</td>
<td>Christmas Day</td>
</tr>
<tr>
<td>Christmas Day</td>
<td>Day after Thanksgiving</td>
</tr>
<tr>
<td>Day after Thanksgiving</td>
<td>Martin Luther King's Birthday</td>
</tr>
<tr>
<td>Martin Luther King's Birthday</td>
<td>Good Friday</td>
</tr>
<tr>
<td>Good Friday</td>
<td>Three (3) floating holidays</td>
</tr>
</tbody>
</table>

For resident coverage in the department, the following will apply:

Due to the discrepancy in holiday schedule, we ask that residents take Presidents Day in lieu of Martin Luther King's Birthday, just as a matter of convenience. However, if a resident wishes to take Martin Luther King's Birthday as per the Rutgers Robert Wood Johnson Medical School - resident contract, they can do so without penalty. Residents will be given Good Friday and the day after Thanksgiving as a holiday. During holiday weeks (particularly Christmas or New Years) at least two residents must be in clinic at all times (ie can’t take vacation).

Sometimes, the department at RWJUH will alter its schedule during Christmas and New Years’ weeks ie take Christmas Eve or New Year’s Eve off. Residents rotating at RWJUH could consider these days as a float holiday, and not use vacation time. If the EOVA or Newark do not take these extra days off, then the resident would have to request that time off, as per usual, but could consider using their float holidays as well. Residents on elective, who would not normally
be in clinic on these days, will not be required to use a vacation or float holiday.

One resident (the on-call resident) will be expected to be at work on the Day after Thanksgiving. This resident will be given another day of leave, which must be submitted in writing within 10 days of this day using the proper form. It is the Housestaff officer's responsibility to submit the request for an alternate day off (using the form previously agreed to) within 10 business days of the holiday worked. If the form is not returned to the Housestaff officer within ten (10) business days, the Housestaff officer shall be paid for the holiday worked. Scheduling of an alternate day off shall be with the approval of the Program Director or Chief of Service, as appropriate. Pay in lieu of a holiday shall be at the rate of one tenth (1/10) of a bi-weekly pay.

Vacation requests during holidays (Thanksgiving, Christmas and New Years) must be given to the Chief Resident at least 3 months in advance. Senior residents will be given priority for vacation time during these holidays. A minimum of 2 residents will be expected to be in the clinic during these holidays, and will be asked to “cross cover” as necessary.

Note that since there are 4 years of residency, no resident should have to cover the same holiday twice ie if a resident covers Christmas their first year, they will not be obligated to cover Christmas again (unless they choose to).

In addition, residents are given 3 floating holidays. These may be taken at the leisure of the resident, in concordance with the departmental policy stated above.

34. INSTITUTIONAL LEAVE POLICIES

A. Vacations

1. All Housestaff Officers shall be entitled to four (4) weeks of paid vacation to be scheduled in accordance with departmental policy, which policy shall not preclude scheduling of vacation in two (2) week blocks. Whenever a holiday falls within a vacation period, the individual Housestaff Officer shall be entitled to an extra vacation day. Pro-rata earning of vacation is one and two-thirds (1 2/3) days for each full month of employment.

2. Officially, individual Housestaff Officers, on or before September 1 of each year, submit in writing to his/her Program Director all requests for vacation leave. The Program Director, after review of the needs of the services and rotation schedules, will make reasonable efforts to honor the individual request, at times granting Housestaff Officers at least two (2) consecutive weeks off, or in services where scheduling accommodations can be made, more than two (2) consecutive weeks. Where an opportunity exists to grant more than two (2) weeks of vacation, priority consideration shall be given to Housestaff Officers utilizing that vacation for a foreign homeland visit.

3. Should any Housestaff Officer fail to submit his/her vacation leave request on or before September 1st of each year, the Program Director shall, after scheduling the
vacation leaves of the other Housestaff Officers have the right to schedule vacation leave for those failing to meet the September 1 submission date. Once the vacation schedule is established, it will normally be available to the employee except where an emergency mandates rescheduling.

4. One week of scheduled vacation is defined as seven (7) consecutive twenty-four (24) hour days off during which there is no assignment of work. If less than a week’s vacation leave is requested, each day requested shall be one-fifth (1/5) of a vacation week.

5. The parties acknowledge that Housestaff Officers are credited with vacation leave time in anticipation of continued employment for the full year. In the event a Housestaff Officer leaves pay status during the course of the year, his/her vacation leave accrual shall be adjusted on a pro-rata basis in order to determine the proper amount of leave time to which the Housestaff Officer is entitled. In the event the Housestaff Officer has no vacation leave balances, such Housestaff Officer shall reimburse the University for any overdraft of leave time.

6. The University will make a reasonable effort not to assign Housestaff Officers on-call duty (including beeper calls) or to make rounds on the weekend immediately preceding or following their scheduled vacation.

B. Sick Leave

All Housestaff Officers will be credited with twelve (12) sick leave days at the beginning of each academic year. They can accumulate up to forty-eight (48) sick leave days.

1. Sick leave shall be used when a HOUSESTAFF OFFICER is unable to work due to illness or personal injury.

2. The HOUSESTAFF OFFICER must notify his/her Chief Resident, Program Coordinator or Program Director of his/her disability to work.

3. Approval for use of this time shall not be unreasonably denied by the Chief Resident or Program Director.

4. Each department is responsible for maintaining a record of usage of sick leave for each year.

5. First year resident or residents in their initial year of appointment are not eligible to use sick time until six full months have been completed.

6. Bargaining unit members are responsible for making up any unworked time after the end of the academic year as determined by accreditation requirements.

Effective July 1, 2003, such additional work time after the end of the academic year shall be paid up to two months if needed. Whether time is needed to complete the requirements is up to the Dean of GME who has sole discretion to approve or deny such request. The decision is not subject to the grievance procedure.
C. Medical Leave

1. Each Housestaff Officer is eligible for up to twelve (12) weeks of medical leave (they are eligible after six (6) months of service). A resident can use any remaining allotment of his/her sick leave prior to being in an unpaid status. Once sick leave days have expired and before the Housestaff Officer chooses to be in “leave without pay” status and apply for disability, the Housestaff Officer shall have the option to use any remaining portion of his/her vacation days. Once paid leave days have expired, the Housestaff Officer would be in “leave without pay” status and eligible to apply for temporary disability.

2. The resident must provide appropriate medical documentation to his/her Program Chair. Upon submission of the appropriate medical documentation such leave shall be approved.

3. Bargaining unit members are responsible for making up any unworked time after the end of the academic year as determined by accreditation requirements. Effective July 1, 2003, such additional work time after the end of the academic year shall be paid up to two months if needed. Whether time is needed to complete the requirements is up to the Dean of GME who has sole discretion to approve or deny such request. The decision is not subject to the grievance procedure.

D. Family Leave

1. For Birth or Adoption of a Child. All bargaining unit members are eligible for family leave (unpaid) upon the birth or adoption of a child after one year of service. This leave, in accordance with FMLA and New Jersey State Law, can be up to twelve (12) weeks. A HOUSESTAFF OFFICER can use paid vacation leave to cover a portion of this twelve (12) week period. Appropriate documentation must be provided to the Program Chair. Upon submission of appropriate medical documentation, such leave shall be approved.

Note that you can apply for New Jersey Paid Family Leave, which will pay a maximum of $524 a week for 6 weeks. You are eligible if you have worked 20 calendar weeks in covered New Jersey employment or who have earned at least $7,150.00 (1000 times NJ minimum wage [currently $7.15/hr]) during the 12 months preceding any leave are eligible to receive Paid Leave benefits. You must apply to the state to receive these benefits.

2. For Serious Illness in the Family. All bargaining unit members are eligible for family leave (unpaid) to take care of a seriously ill family member after one (1) year of service in accordance with FMLA and New Jersey State Law. This leave can be up to twelve (12) weeks. A HOUSESTAFF OFFICER can use paid vacation leave to cover a portion of this twelve week period. Appropriate documentation must be provided to the Program Chair. Upon submission of appropriate medical
documentation, such leave shall be approved.

3. Bargaining unit members are responsible for making up any unworked time after the end of the academic year as determined by accreditation requirements. Effective July 1, 2003, such additional work time after the end of the academic year shall be paid up to two months if needed. Whether time is needed to complete the requirements is up to the Dean of GME who has sole discretion to approve or deny such request. The decision is not subject to the grievance procedure.

E. Bereavement Leave

If there is a death in the immediate family, a Housestaff Officer may utilize sick leave for up to three (3) days of bereavement leave. Immediate family shall be defined as mother, father, sister, brother, spouse, child, or unmarried domestic partner. For unmarried domestic partners to be included, prior notice of the relationship shall have been provided to the University's Office of Labor Relations. The University may require reasonable and appropriate documentation of the relationship or of cohabitation, such as leases, drivers license, etc.

Additional leave may be granted as may be necessary without pay upon request to the Program Director.

F. Leave for USMLE or National Boards

Housestaff Officers will be permitted to take up to three (3) days paid leave for the purpose of taking the USMLE or other licensing examination. This shall not be charged against vacation time and such paid leave shall be permitted one time only.

F. ABR Requirement for Leave

The ABR allows a total of 24 calendar weeks (120 working days) off during four years of residency training. If a longer leave of absence is granted, the required period of graduate medical education must be extended accordingly.
## 35. DEPARTMENT OF RADIATION ONCOLOGY
### Master Conference Schedule

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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</thead>
<tbody>
<tr>
<td>7:00 – 8:00 AM</td>
<td>GU TB</td>
<td>7:00-7:30 Morning Report</td>
<td>7:30-8:30 AM</td>
<td>8:00-9:30am:</td>
</tr>
<tr>
<td>RWJUH G2 Conf. Room</td>
<td>(1st and 3rd week)</td>
<td>RWJUH G2 Conf. Room</td>
<td>GI TSG</td>
<td>Resident Led Discussion Conf.</td>
</tr>
<tr>
<td>7:00-8:00 AM</td>
<td>CNS Tumor Board</td>
<td>7:30-8:30 AM</td>
<td>Lung Cancer TSG</td>
<td>RWJUH G2 Conf. Room</td>
</tr>
<tr>
<td>CINJ Aud B</td>
<td>Planning Rounds</td>
<td>RWJUH G2 Conf. Room</td>
<td>CINJ 4512</td>
<td>8:00-9:00A</td>
</tr>
<tr>
<td>(alternates with GU tumor board)</td>
<td>8:30-9:00 AM</td>
<td>Admin Rounds</td>
<td>Lymphoma Case Conf.</td>
<td>GYN Tumor Board</td>
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<td></td>
<td></td>
<td>RWJUH G2 Conf. Room</td>
<td>CINJ 4512</td>
<td>RWJUH Pathology Dept.</td>
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<tr>
<td></td>
<td>4:00-5:00 PM</td>
<td>CINJ Cancer Center Grand Rounds</td>
<td>12:00-1:00 PM</td>
<td>[2nd and 4th Monday of the month]</td>
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<td>CINJ Auditorium A [1st, 2nd &amp; 4th Wednesday of the month]</td>
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<td></td>
<td>4:30-5:30 PM</td>
<td>Departmental Research Meeting</td>
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<td>9:00-12:00P</td>
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<td></td>
<td></td>
<td>RWJUH G2 Conf. Room</td>
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<td>Clinical Lecture</td>
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<td></td>
<td>[quarterly]</td>
<td>[1st Tuesday of the month]</td>
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<td>RWJUH G2 Conf. Room</td>
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<td></td>
<td>5:00-6:00 PM</td>
<td>CINJ Distinguished Lecture Series</td>
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<td>10:30-12:00P</td>
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<td>CINJ Auditorium A [3rd Wednesday of the month]</td>
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<td>Physics</td>
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<td>RWJUH G1 Conf. Room</td>
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<td>12:00-1:00P</td>
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<td>Chart Rounds</td>
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<td>RWJUH G2 Conf. Room</td>
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<td>2:15-3:30P</td>
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<td>Radiobiology</td>
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<td>RWJUH G2 Conf. Room</td>
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<td>3:30-4:30pm</td>
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<td></td>
<td>Friday Journal Club, RWJUH, G2 Conference Room</td>
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</tbody>
</table>
### Resident Evaluation by Clinical Faculty

**Department of Radiation Oncology**
**Residency Training Program**

**Rotation Date:** [Date]

**Attending Evaluator:** [Evaluator Name]

**Resident Name:** [Resident Name]

<table>
<thead>
<tr>
<th>Measure</th>
<th>Poor</th>
<th>Fair</th>
<th>Good</th>
<th>Excellent</th>
<th>Outstanding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PATIENT CARE</strong></td>
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<tr>
<td>Resident accurately obtains the medical history of patients?</td>
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<tr>
<td>Resident uses patient information, up-to-date scientific data and good</td>
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<td>☐</td>
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<td>clinical judgment to make informed decisions regarding diagnostic and</td>
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<td>therapeutic interventions for the patient</td>
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<tr>
<td>Resident is capable of developing and carrying out patient management</td>
<td>☐</td>
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<tr>
<td>plans?</td>
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<tr>
<td>Resident is capable of simulating the patients correctly?</td>
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<td>☐</td>
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<tr>
<td>Resident is capable of designing conformal external beam radiation</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>therapy for his/her patients?</td>
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<tr>
<td>Resident is capable of executing conformal external beam radiation</td>
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<tr>
<td>therapy for his/her patients? (i.e., beam film checks, clinical set-up</td>
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<td>checks, etc.)</td>
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<tr>
<td>Resident is capable of executing brachytherapy for his/her patients:</td>
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<td>a. Interstitial?</td>
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<td>b. Intracavitary?</td>
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<td>☐</td>
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<tr>
<td>c. Administration of unsealed sources?</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Resident is capable of counseling and educating patients and their</td>
<td>☐</td>
<td>☐</td>
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<td>families regarding their diagnosis and treatment plan?</td>
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<tr>
<td><strong>MEDICAL KNOWLEDGE</strong></td>
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<tr>
<td>Resident appropriately applies clinical and supportive scientific data</td>
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<tr>
<td>to the management of clinical problem?</td>
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<tr>
<td><strong>PRACTICE BASED LEARNING AND IMPROVEMENT</strong></td>
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<tr>
<td>Resident adequately accesses medical information on line to support</td>
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<td>his/her own education?</td>
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<tr>
<td>Resident adequately accesses medical information on line to</td>
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<td>appropriately manage patients?</td>
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<tr>
<td>Resident uses practice experience to improve patient care?</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Resident is able to locate, appraise, and assimilate evidence from</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>scientific studies related to their patients’ health problems?</td>
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<tr>
<td>Resident uses evaluation of peers, patients, superiors and subordinates</td>
<td>☐</td>
<td>☐</td>
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<td>☑</td>
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<td>to improve practices?</td>
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<tr>
<td><strong>INTERPERSONAL SKILLS &amp; COMMUNICATION</strong></td>
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<tr>
<td>Resident speaks understandable English?</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Resident listens well?</td>
<td>☐</td>
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<tr>
<td>Resident shows respect for patients and their families?</td>
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<tr>
<td>Resident is able to gain the trust of patients and their families?</td>
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<tr>
<td>Resident identifies key issues for patients and their families?</td>
<td>☐</td>
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<td>Resident is able to communicate limitations of outcome?</td>
<td>☐</td>
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<tr>
<td>Resident is able to manage difficult patients/family situations?</td>
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<tr>
<td>Resident is able to communicate risks, side effects, and benefits of</td>
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<tr>
<td>Measure</td>
<td>Poor 1</td>
<td>Fair 2</td>
<td>Good 3</td>
<td>Excellent 4</td>
<td>Outstanding 5</td>
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<tr>
<td>treatment plan to the patients and their families?</td>
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<td>Resident gives quality verbal case presentations?</td>
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<td>Resident communicates effectively with physicians and other health</td>
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<td>professionals including acting in a consultive role?</td>
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<td>QUALITY OF THE RESIDENTS' MEDICAL RECORD</td>
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<td>Record is done in a timely fashion?</td>
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<td>Record is legible?</td>
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<td>Record is complete?</td>
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<td>Record includes appropriate discussion of lab/pathology findings?</td>
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<td>Record includes an appropriate discussion of radiologic findings?</td>
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<td>Record includes a well-documented physical exam?</td>
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<td>Record includes an appropriate and complete discussion of the therapy</td>
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<td>plan?</td>
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<tr>
<td>PROFESSIONALISM</td>
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<td>Resident demonstrates a commitment to ethical principles pertaining to</td>
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<td>provision or withholding of clinical care, confidentiality of patient</td>
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<td>information, informed consent, and business practices?</td>
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<td>Resident demonstrates respect, compassion and integrity?</td>
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<td>Resident demonstrates responsiveness to the needs of patients and</td>
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<td>society that supersedes self-interest?</td>
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<td>Resident demonstrates accountability to patients, society, and the</td>
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<td>profession of medicine?</td>
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<td>Resident demonstrates a commitment to excellence and ongoing</td>
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<td>professional development?</td>
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<td>Resident demonstrates sensitivity and responsiveness to patient’s</td>
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<td>culture, age, gender, and disabilities?</td>
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<td>SYSTEM BASED PRACTICE</td>
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<td>Resident practices cost effective medicine and resource allocation that</td>
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<td>does not compromise patient care?</td>
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ADDITIONAL COMMENTS

OVERALL GRADE (please circle one)

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Attending Signature  
Resident Signature
# Resident Evaluation by APN/Nursing Staff

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<tr>
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<td>Resident adequately accesses medical information on line to appropriately manage patients</td>
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<td>Fair 2</td>
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Reviewed by:

_________________________________________  ____________________________
APN/Nurse Signature  Date

_________________________________________  ____________________________
Resident Signature  Date
### 38. Department of Radiation Oncology
Residency Training Program
Resident Evaluation by Radiation Therapy Staff

**Chief Therapist:** [Print Name]  
**Resident:** [Print Name]

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<td>subordinates to improve practices</td>
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<td>Resident can access medical information on line to support</td>
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<td>Resident communicates effectively with therapists and other</td>
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<td><strong>PROFESSIONALISM</strong></td>
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Reviewed by:

______________________________  __________________________
Chief Therapist Signature       Date

______________________________  __________________________
Resident Signature              Date
# Resident Evaluation by Treatment Planning Staff

**Chief Physicist:** [Print Name]  
**Resident:** [Print Name]

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Reviewed by:

______________________________  __________________________
Chief Physicist Signature       Date

______________________________  __________________________
Resident Signature              Date
40. RESIDENT EVALUATION OF CLINICAL FACULTY

Attending Name: ______________________

Attending Evaluation form by Residents Date: ______________________

Rotation Date: ____________________

*Any score less than 3 should be accompanied by comments

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Submitted anonymously to the Program Coordinator by each Resident at the completion of each rotation, and annually by the residents as a group.

These evaluations are to remain anonymous at all times. If an attending has a question about their eval or wants clarification on a certain point, they should not ask any resident, but go through the program director. The PD will
### 41. ATTENDING EVALUATION FORM BY MEDICAL STUDENTS

<table>
<thead>
<tr>
<th>Department of Radiation Oncology</th>
<th>Attending Name:</th>
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</thead>
<tbody>
<tr>
<td>Attending Evaluation Form by Medical Students</td>
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*each rating of less than 3 should be accompanied by comment

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<thead>
<tr>
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<th>Excellent</th>
<th>Outstanding</th>
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<tbody>
<tr>
<td>1. Clinical Teaching:</td>
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<td>5. Provides constructive criticism:</td>
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<td>9. Serves as a good role model:</td>
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Then ask the chief residents to provide any clarification they feel is appropriate.
**42. Bi-Annual Program Director Evaluation Form**

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<tr>
<th></th>
<th>Requirement</th>
<th>Total</th>
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<tbody>
<tr>
<td>External Beam</td>
<td>450 (about 150/yr &amp; no more than 250/yr)</td>
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<tr>
<td>Pediatric</td>
<td>12 (at least 9 of which are solid tumors)</td>
<td></td>
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<tr>
<td>Intracavitary brachy</td>
<td>15 performed</td>
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<tr>
<td>Interstitial brachy</td>
<td>5 performed</td>
<td></td>
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<tr>
<td>Radioimmunotherapy, unsealed Sources, targeted therapeutic radiopharmaceutical</td>
<td>6 (NRC requires 3 oral I-131 cases and 3 cases employing unsealed sources for Authorized User status)</td>
<td></td>
</tr>
<tr>
<td>Stereotactic radiosurgery of brain</td>
<td>10</td>
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<tr>
<td>Stereotactic radiosurgery of extracranial sites (liver, lung, spine)</td>
<td>5</td>
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</table>

- **Days off (ABR limit is 6 weeks/yr or 120 working days):**
- **Evaluations by faculty/staff:**
- **Self Study Plan:**
- **In service exams:**
- **Areas to improve:**
- **Long term career plans:**
- **Personal Issues:**
- **Issues w program:**

**Overall Evaluation:**
- Below Expectation
- Meets Expectation
- Exceeds Expectation

Resident Signature __________________________ Program Director Signature __________________________
43. Unsealed Sources Case Log

Radiation Oncology
Oral I-131 & Parenteral Administration Log

Resident Name _______________ Program __________________________ Program # __________________________

Date __________ Disorder __________ Radionuclide __________ Dose Administered __________ Preceptor Name/Signature

**Oral I-131** (>33 mCi)

1. ___________________________ __________ I-131 __________
2. ___________________________ __________ I-131 __________
3. ___________________________ __________ I-131 __________

**Parenteral**

1. ___________________________ __________ __________
2. ___________________________ __________ __________
3. ___________________________ __________ __________

Fm the ABR website:

**Parenteral procedures** (to be considered as unsealed sources for NRC Authorized User eligibility a minimum of 3 are required)

- Therapeutic microspheres for treatment of disease in any anatomic site (e.g. TheraSpheres®, SIR Spheres®, etc.)
- Unsealed sources for treatment of bone metastasis (e.g. strontium-89, samarium-153)
- Unsealed sources for treatment of hematologic malignancies (e.g. P-32)
- Unsealed source administration directly into a body cavity (e.g. P-32)

**Oral 131-Iodine procedures** (for NRC Authorized User (or Agreement State) eligibility a minimum of 3 cases with administered activity equal to or in excess of 1.22 Gigabequerels (33 mCi) are required)
- Conditions may be either benign or malignant but the counted administration must be for therapeutic intent.

## 44. Department of Radiation Oncology Residency Program
**Overall Program Evaluation by Residents/Attendings**

(Evaluate and comment on the following. Please comment regarding specific positive or negative points, including specific sessions that were particularly valuable or not helpful.)

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<th>Good</th>
<th>Excellent</th>
<th>Outstanding</th>
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<td>Chart Rounds</td>
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Planning Rounds

Comments

Journal Club

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Comments:

Site specific Tumor Boards

Comments:

GU

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Comments:

GI

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Date: _________________________
45. Department of Radiation Oncology Annual Program Review Minutes

Date of Review Meeting:

Participants:
Residency Program: S Kim, K Van Nosdall
Residents:
Faculty Members:

Physics course
- Review of last year’s action items:
  1. how did we do?
- Resident comments/evaluations
- Faculty comments/evaluations
- In training scores:
- Board exam pass rates:
- Review board comments/action items:
  *Action items for this year:*

Radiobiology course
- Review of last year’s action items:
  1. how did we do?
- Resident comments/evaluations
- Faculty comments/evaluations:
- In training scores:
- Board exam pass rates:
- Review board comments/conclusions:
  *Action items for this year:*

Clinical didactic course
- Review of last year’s action items:
  o how did we do?
- Resident comments/evaluations
- Faculty comments/evaluations
- In training scores:
- Board exam pass rates (written clinical and oral clinical):
- Review board comments/conclusions:
  *Action items for this year:*

49
Statistics
- Review of last year’s action items:
- Resident comments/evaluations
- Faculty comments/evaluations
- Review board comments/conclusions:
  - Action items for this year:

New Patient conference
- Review of last year’s action items:
- Resident comments/evaluations
- Faculty comments/evaluations
- Review board comments/conclusions:
  - Action items for this year:

Chart Rounds
- Review of last year’s action items:
- Resident comments/evaluations
- Faculty comments/evaluations
- Review board comments/conclusions:
  - Action items for this year:

Planning Rounds
- Review of last year’s action items:
- Resident comments/evaluations
- Faculty comments/evaluations
- Review board comments/conclusions:
  - Action items for this year:

Journal Club
- Action items from last year
  - how did we do?
- Resident comments/evaluations
- Faculty comments/evaluations
- Review board comments/conclusions:
  - Action items for this year

Clinical rotation experience
- Action item from last year:
  - how did we do?
- Resident comments/evaluations
- Faculty comments/evaluations
• Review board comments/conclusions:
  • Action items for this year:

Tumor boards
• Resident comments/evaluations
• Faculty comments/evaluations
  • Action items for this year

Newark Rotation
• Action item from last year:
  ▪ how did we do?
• Resident comments/evaluations
• Faculty comments/evaluations
• Review board comments/conclusions:
  • Action items for this year:

VA Rotation
• Action item from last year:
  ▪ how did we do?
• Resident comments/evaluations
• Faculty comments/evaluations
• Review board comments/conclusions:
  • Action items for this year:

Resident Evaluations of Attendings
• Summative evaluation by residents sent to Chairman and individual attending

Evaluation of residents
  ▪ By nursing staff and Dosimetry

Other action items to be done and who is responsible and date to be completed:
**46. Annual Newark Evaluation**

Date: ________________________________

*Comments are more useful than scores, and any score less than 3 should be accompanied by comments*

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<th>Measure</th>
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<th>Fair (2)</th>
<th>Good (3)</th>
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<th>Outstanding (5)</th>
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<td>Treats residents fairly and appropriately:</td>
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| Provides appropriate mentorship: | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: |

| Efficiency: | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: |

| Attendings serve as a good role model: | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: |

| How well does this site supplement your education (unique pt population, treatment, teaching etc)? | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: |

| Overall Rotation Performance: | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Comments: |
Further Comments:

Submitted anonymously to the Program Coordinator by each Resident at the completion of each rotation.
47. Annual E Orange VA Evaluation

Date: ________________________________

*Comments are more useful than scores, and any score less than 3 should be accompanied by comments

<table>
<thead>
<tr>
<th>Measure</th>
<th>Poor</th>
<th>Fair</th>
<th>Good</th>
<th>Excellent</th>
<th>Outstanding</th>
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<tr>
<td><strong>Clinical Teaching:</strong></td>
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<td></td>
<td>1</td>
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| **Technical Teaching:**  |      |      |      |           |             |
|                          |    |    |    |    |    |
| **Comments:**            |    |    |    |    |    |

| **Attending Availability:** |      |      |      |           |             |
|                            | 1 | 2 | 3 | 4 | 5 |
| **Comments:**              |    |    |    |    |    |

| **Patient Care:**         |      |      |      |           |             |
|                           | 1 | 2 | 3 | 4 | 5 |
| **Comments:**             |    |    |    |    |    |

| **Provides constructive criticism:** |      |      |      |           |             |
|                                      | 1 | 2 | 3 | 4 | 5 |
| **Comments:**                      |    |    |    |    |    |
| Treats residents fairly and appropriately: | | | | | | |
| Comments: |

| Provides appropriate mentorship: | | | | | | |
| Comments: |

| Efficiency: | | | | | | |
| Comments: |

| Attendings serve as a good role model: | | | | | | |
| Comments: |

| How well does this site supplement your education (unique pt population, treatment, teaching etc)? | | | | | | |
| Comments: |

| Overall Rotation Performance: | | | | | | |
| Comments: |
Further Comments:

Submitted anonymously to the Program Coordinator by each Resident at the completion of each rotation.

48. COMPETENCY BASED GOALS AND OBJECTIVES FOR NEWARK

Newark: Residents rotate at this facility in order to gain exposure to cancers not often seen at Robert Wood Johnson Hospital, most often head and neck cancer (in addition to certain gynecologic cancers). Therefore, the objectives are identical to the competency based goals and objectives for head and neck cancer.

Patient Care:

PGY 2-3: Be able to completely workup a head and neck patient, with detailed history, diagnostic studies and formulate a management plan. Know what steps should be taken in preparation for radiotherapy and the acute side effects. Know what sites should be treated primarily with surgery vs radiotherapy and why. Be capable of simulation and planning for treatment using IMRT or 3 dimensional techniques. Follow patients through a complete course of therapy and be able to manage routine acute complications.

PGY 4-5: Be capable of independently developing a management plan, simulation and treatment for a patient. Have a greater understanding of head and neck anatomy, specific drainage patterns for different primary tumors and how that affects treatment planning. Understand the complexities and controversies of IMRT treatment in head and neck cancers. Be capable of managing acute and chronic complications of treatment.

Medical Knowledge:

PGY2-3: Gain understanding of the risk factors, workup, staging, pathology, and natural history of head and neck cancer. Understand the indications for radiation as primary therapy, or as adjuvant therapy. Understand when chemotherapy is indicated, in the primary and adjuvant settings. Understand the basics of treatment planning, use of IMRT and wedges, and be able to relate the principles of physics to radiation treatment planning.
**PGY 4-5:** Gain a deeper understanding of the literature, controversies, alternate fractionation schemes. Be able to defend your position regarding management of a patient with radiation, with respect to the indications, details of treatment, sequencing with systemic therapy and surgery. Understand the patterns of failure and how they relate to field selection.

**Practice Based learning**

**PGY 2-3:** Consistently reads the literature regarding the role of radiation in the management of head and neck cancer and is able to understand how to access medical information to support their own education and supplement their knowledge. Participates in and understands how the chart rounds process is used to monitor and improve practice.

**PGY 4-5:** Through follow-up clinics and morbidity and mortality conference, the resident understands complications of treatment, how to manage them and how to improve practice based on evaluation of complications.

**Interpersonal Skills and Communication**

**PGY 2-3:** Understand the role of the physician in the radiation oncology department, how to communicate with other staff including secretarial and administrative, nursing, therapists, dosimetrists and physicists. Learn an appropriate level of respect for the roles each of these individuals play in the management of patients undergoing radiation.

**PGY 4-5:** Gain a more in-depth understanding of both intradepartmental and interdepartmental communications. Be knowledgeable and appropriate with respect to communication and interpersonal skills with referring physicians, hospital administration, social services, hospital nursing and other outside individuals. Be capable of presenting and defending the role of radiation in patient management at multidisciplinary tumor boards, while respecting the role of other specialties and alternative strategies.

**Professionalism:**

**PGY 2-3:** Demonstrates an appropriate level of respect for patients and their families. Demonstrates appropriate behavior and respect for other departmental members, including secretarial staff, nursing, therapists, dosimetrists, physicists, other residents and faculty.

**PGY 4-5:** Demonstrates an understanding of the ethical principles and complexities of caring for the cancer patient. Gains a deeper understanding of the role of the radiation oncologist in the multidisciplinary setting and demonstrates professionalism in dealing with other health care providers managing the patient.

**Systems Based Practice**

**PGY 2-3:** Resident learns the details of the hospital environment, how to utilize social services, pathology and radiology services, and other intra and interdepartmental resources to optimize patient care.

**PGY 4-5:** Resident gains a deeper understanding of the greater health care environment in which we work, understands the role of the nuclear regulatory commission and radiation safety officer, and how these agencies influence the practice of radiation oncology. The resident is able to demonstrate cost-effective practice and gains a deeper understanding of the cost-benefit analysis of radiation treatment as it relates to head and neck cancer patients.
49. COMPETENCY BASED GOALS AND OBJECTIVES FOR EAST ORANGE VA

Overview

a. The primary purpose of this rotation is to gain experience in radiation oncology that is typical in a veterans hospital, namely head and neck cancer and prostate cancer. Though head and neck cancers are occasionally treated at RWJUH, it is not in great numbers, as there is no head and neck surgeon there. We anticipate that there will be a large number of prostate patients treated at the VA, some of which will choose brachytherapy as an option and greatly enhance the resident brachytherapy experience.

b. It is anticipated that the resident will have a greater amount of autonomy at the VA (though with appropriate attending supervision) to formulate, coordinate and execute their patients’ treatment plan than at RWJUH. This will accelerate their clinical skill and acumen.

Patient Care:

PGY 2-3: Be able to completely workup a head and neck patient, with detailed history, diagnostic studies and formulate a management plan. Know what steps should be taken in preparation for radiotherapy and the acute side effects. Know what sites should be treated primarily with surgery vs radiotherapy and why. Be capable of simulation and planning for treatment using IMRT or 3 dimensional techniques. Follow patients through a complete course of therapy and be able to manage routine acute complications. Particular aspects of H&N and prostate cancer that they should learn about include:

H&N cancer

a. Residents should gain experience in all aspects of treating H&N cancer, including initial clinical examination, simulation, treatment planning (both 3D and IMRT techniques), care during and immediately following radiation therapy, and evaluation post-treatment.

b. Residents should gain experience in evaluating and treating H&N cancer in a multi-specialty setting.

c. Surgical oncology
   - practice H&N exam, including fiber optic examination
   - learn about the indications and role of salvage neck dissection
   - learn about the types of partial laryngectomy and appropriate indications, as well as role of total laryngectomy

d. Medical oncology
   - learn about role of neoadjuvant/concurrent/adjuvant chemotherapy with radiation therapy and typical chemotherapy regimens
   - Attend H&N tumor board and observe how the various specialties can contribute to the treatment of H&N cancer

Prostate cancer

a. learn the appropriate roles for observation, surgery, external beam radiotherapy and brachytherapy in low, intermediate and high risk patients

b. practice digital rectal examination and be familiar with clinical staging

c. learn how to contour and deliver external beam radiation for prostate cancer
d. learn how to perform brachytherapy for prostate cancer

PGY 4-5: Be capable of independently developing a management plan, simulation and treatment for a patient. Have a greater understanding of head and neck anatomy, specific drainage patterns for different primary tumors and how that affects treatment planning. Understand the complexities and controversies of IMRT treatment in head and neck cancers. Be capable of managing acute and chronic complications of treatment.

Practice Based learning
PGY 2-3: Consistently reads the literature regarding the role of radiation in the management of head and neck cancer and is able to understand how to access medical information to support their own education and supplement their knowledge. Participates in and understands how the chart rounds process is used to monitor and improve practice.
PGY 4-5: Through follow-up clinics and morbidity and mortality conference, the resident understands complications of treatment, how to manage them and how to improve practice based on evaluation of complications.

Interpersonal Skills and Communication
PGY 2-3: Understand the role of the physician in the radiation oncology department, how to communicate with other staff including secretarial and administrative, nursing, therapists, dosimetrists and physicists. Learn an appropriate level of respect for the roles each of these individuals play in the management of patients undergoing radiation.
PGY 4-5: Gain a more in-depth understanding of both intradepartmental and interdepartmental communications. Be knowledgeable and appropriate with respect to communication and interpersonal skills with referring physicians, hospital administration, social services, hospital nursing and other outside individuals. Be capable of presenting and defending the role of radiation in patient management at multidisciplinary tumor boards, while respecting the role of other specialties and alternative strategies.

Professionalism:
PGY2-3: Demonstrates an appropriate level of respect for patients and their families. Demonstrates appropriate behavior and respect for other departmental members, including secretarial staff, nursing, therapists, dosimetrists, physicists, other residents and faculty.
PGY 4-5: Demonstrates an understanding of the ethical principles and complexities of caring for the cancer patient. Gains a deeper understanding of the role of the radiation oncologist in the multidisciplinary setting and demonstrates professionalism in dealing with other health care providers managing the patient.

Systems Based Practice
PGY 2-3: Resident learns the details of the hospital environment, how to utilize social services, pathology and radiology services, and other intra and interdepartmental resources to optimize patient care.
PGY 4-5: Resident gains a deeper understanding of the greater health care environment in which we work, understands the role of the nuclear regulatory commission and radiation safety officer, and how these agencies influence the practice of radiation oncology. The resident is able to
demonstrate cost-effective practice and gains a deeper understanding of the cost-benefit analysis of radiation treatment as it relates to head and neck cancer patients.

50. EOVA Supplementary Guidelines

GOALS AND EXPECTATIONS
As the sole resident at the EOVA Radiation Oncology Department, you are expected to assume a leadership role in the evaluation, planning and treatment of patients in the department. However, due to scheduling and patient volume, the resident may be unable to see every patient throughout the week. In order to facilitate optimal resident training and participation, priority will be given for the resident’s duties in the following order:

1. Initial consultation for definitive radiation cases – and optimally will see other consults
2. Simulations
3. Treatment Planning
4. Implantation of Calypso Beacons
5. OTV and Follow up appointments (H&N follow up, lung, and first prostate follow up)

All of the scheduled appointments are in MOSAIQ and it is the responsibility of the resident to review the appointments of the day with the attending prior to the start of clinic in order to establish which appointments will be seen by the resident, the attending and the nursing staff. These assignments will then be communicated to Rosa (nursing station) to coordinate care.

There will be a maximum of 25 patients that the resident will carry for their service responsibilities. If the number of patients treated at the VA exceeds 25, then additional patients that are less likely to contribute to resident learning will be designated “attending only” patients.

WEEKLY SCHEDULING

<table>
<thead>
<tr>
<th>Monday (Jain)</th>
<th>Tuesday (Jain)</th>
<th>Wednesday (Jain)</th>
<th>Thursday (Obedian/ Jain)</th>
<th>Friday (Dawson)</th>
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<tbody>
<tr>
<td>8 AM: ENT Tumor Board (every 2 wks)</td>
<td>Clinic</td>
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<td>Clinic</td>
<td>Resident at RWJUH</td>
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<tr>
<td>OTV/Clinic Day</td>
<td>12:30 Thoracic Tumor Board 2:30 General Tumor Board</td>
<td>ENT clinic (every other week) Prostate ultrasound practice (every other week)</td>
<td>Beacon placement</td>
<td>Chart Rounds</td>
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</table>

WEEKLY CLINICAL RESPONSIBILITIES
ON TREATMENT VISITS (OTV): Mondays are OTV days for patients who have started treatment. The resident will assist the attending with these visits if there are no conflicting clinical responsibilities. The visit will be documented in CPRS as a “WEEKLY EVALUATION” and describe the current dose, planned dose and any treatment related toxicities. The attending will cosign the resident note and copy it into MOSAIQ.

CONSULTATIONS: May be scheduled Tuesday through Thursday and the majority are outpatient consultations; however emergency inpatient consultations are possible. For all non-palliative cases (definitive RT or adjuvant RT), it is the first priority of the resident to staff these cases with the attending, and the remainder of the consultations will optimally be seen by the resident if there are no conflicting simulations or procedures. The visit will be documented in CPRS (using pre-formatted CPRS templates when possible). The following will be performed at the time of the consultation:

1. Medicine reconciliation (Med Rec) with the listed medicines in CPRS
2. Prostate patients will meet with nurse (Barbara or Sadhana) to schedule androgen deprivation therapy or follow up scans as needed.
3. The patient will be scheduled for follow-up simulation, consults or further testing as needed.
4. The attending will cosign the resident note and copy it into MOSAIQ.
5. In MOSAIQ, the resident will enter/affirm the diagnosis code and enter a care plan (optimally the care plan will include a note describing the intended treatment plan)

FOLLOW UP VISITS: The majority of the prostate and palliative follow up visits will be seen by the nurse practitioner (NP) with the attending. The resident may assist the attending with follow up visits if there are no conflicting clinical responsibilities. The visit will be documented in CPRS and describe the previously treated site, radiation dose and any treatment related toxicities and further tests and appointments. The attending will cosign the resident note and copy it into MOSAIQ.

SIMULATIONS: May be scheduled Monday through Friday and it is a high priority of the resident to staff these cases. The resident will:

1. Meet with attending and sim therapist at 8:30 am to review simulation instructions regarding positioning of patient (prone/supine), use of immobilization devices, contrast (IV/PO), and patient instructions (full/empty bladder) prior to CT scan.
2. Confirm with the simulation therapist that the patient has been consented, and/or obtain electronic consent in CPRS as needed.
3. Affirm diagnosis code in MOSAIQ and enter prescription into MOSAIQ
4. Enter Simulation Note into CPRS as addendum to technical note
5. Set isocenter with dosimetry at the time of simulation using Pinnacle.

TREATMENT PLANNING: The treatment planning for the majority of the cases will be completed by the resident and will use the Pinnacle planning system. The resident will:

1. Discuss with attending if images need to be fused with CT simulation and
determine volumes to be contoured and desired beam arrangement.
2. Identify and locate any studies that need to be fused with the CT simulation (PET, MRI) and instruct the dosimetrist to fuse the desired images.
3. Contour target volumes and organs at risk (OAR) for all IMRT and 3D plans. For 3D conformal and 2D plans, the RT field will be drawn by the resident or the dosimetrist will be given instructions on field and MLC (margin) design and specifications.
4. Review contours with attending to confirm target volumes and field design.
5. Review final plan and DVH with attending to confirm that the plan adheres to department specifications.
6. At time of patient setup (Sim Verification) Enter Treatment Planning Note into CPRS as addendum to technical node.

CHART ROUNDS: Held once a week on Thursday. The resident will:
1. Complete Peer Review sheet – weekly list of new consults and new starts for the past week, to be completed and saved in:
   i. R:/Document Templates/Chart Rounds Peer Review List
2. Patient List- Nursing maintains current and pending patient list. Located at: R:/RTPatientsList/Current VA List

TUMOR BOARD: ENT tumor board are held on Monday at 8 AM every 2 weeks. On Tuesdays, Thoracic Tumor Board meets at 12:30 and General tumor board meets at 2:30. The resident will:
1. Identify cases to be presented at weekly tumor board and provide the list of patients for the administrative staff to send out.
2. Present radiation oncology patients at tumor board and provide treatment recommendations with evidence based guidelines and/or studies.
3. Be prepared to discuss other cases at tumor board presented by other specialties based on the patient list provided prior to the tumor board.

ENT CLINIC: Every other Wednesday afternoon (i.e. two times per month) the resident may go to ENT clinic to see and scope patients with ENT attendings and residents.

PROSTATE BRACHYTHERAPY:
1. Residents will be given the opportunity to participate in prostate brachytherapy cases that have been referred from the EOVA to the Brooklyn VA.

CALYPSO BEACON PLACEMENT: In order to develop experience using transrectal ultrasound and identifying prostate anatomy, it is a priority for the resident to assist in implanting 6-10 calypso beacons per rotation. Because the difficulty removing Calypso beacons from the prostate if they are incorrectly placed, residents will practice transrectal ultrasound technique and place seeds in a dummy under the guidance of Dr Jain and Obedian. Once the resident has developed proficiency with transrectal ultrasound then they may assist with beacon placement under the instruction of Dr. Jain on Thursdays.
during clinic.

CLINICAL SYSTEMS
The resident will utilize clinical systems used in the EOVA Radiation Oncology Department:

CPRS: This is the EMR system for the entire VA.
1. All patient information including past medical history, medications, past visit history, pathology and radiological studies can be viewed in CPRS
2. All notes from consults, follow ups, OTVs, simulations and treatment summaries will be entered into CPRS. Templates have been created to auto-populate with patient specific information for prostate, head and neck and general consults, as well as prostate follow up and OTV templates. These can be entered into CPRS after you log in and can be modified to the specifications of the resident and attending.
3. Orders will be entered into CPRS for radiological imaging, consults and prescriptions.
4. Prescriptions for narcotics will require a note in CPRS and a printout for the patient.
5. Consents will be entered electronically via CPRS using the templates provided

CPRS – HIGH IMPACT INFORMATION
1. Upload all templates from R:/Document Templates into CPRS.
2. Make sure all consults/follow-ups are connected to the appropriate appointment.
3. Make notes in Word then copy past into CPRS. If you type the note in CPRS make sure you “SAVE WITHOUT SIGNATURE” for further editing. Then click “Don’t sign” when exiting CPRS. This way a draft will be saved.
4. CONSULTS for PROSTATE - see the Prostate Checklist to know what to order for each patient at the end of consult.
5. There is a pull-down menu in CPRS->PHARMACY ALL MENUS->RAD ONC/ BEACON FIDUCIAL PROCEDURE
6. Remember once a note is entered in CPRS, it cannot be changed, so when in doubt ASK QUESTIONS before you sign any document.
7. To access PET/CT reports – Go to Mosaic or VISTA image display
8. To view imaging- go to CPRS Tools → Radiology PACS

MOSAIQ: EOVA Radiation Oncology EMR system
1. All department schedules are maintained in MOSAIQ and appointments for clinic, treatment machines, and simulation can be reviewed or modified.
2. Radiation prescriptions will be entered into MOSAIQ by the resident prior to the start of treatment for each patient.
3. Treatment and setup films will be available for review in MOSAIQ after
the patient is filmed on the treatment machine.

4. A task list (QCL list) will be available for each EOVA staff member to monitor open tasks that have yet to be completed in MOSAIQ. The QCL list will be explained to the resident by EOVA staff.

PINNACLE: Treatment planning system for EOVA

1. All treatment planning will be performed using pinnacle in the work station located in dosimetry.
2. Pinnacle training will be provided by the EOVA Chief Physicist Ann Greener.

OPTIMIZING THE EOVA EXPERIENCE

The EOVA rotation should be an exercise in taking charge of your own day and service. It is the resident’s responsibility to take the initiative to meet with the attending in the morning and develop a plan for the entire day. Ask Dr. Kelly if there are educational opportunities that could be added to the VA experience and let Dr. Kelly know of issues/concerns in a timely manner so that she can have time to address them.

51. GOALS FOR RADIOLOGY ELECTIVE (FOR ROTATING RADIATION ONCOLOGY RESIDENTS)

I. MRI
   a. Learn to read MRIs of the spine and brain with emphasis on pathology and normal anatomy
   b. Learn the different modalities available in MRI i.e. T2, T1, STIR, FLAIR, etc and appropriate uses

II. CT scan
   a. Learn to read abdominal/pelvic CT scans with emphasis on pathology and normal anatomy
   b. Learn to read chest CT scans with emphasis on pathology and normal anatomy
   c. Learn to read head & neck CT scans with emphasis on pathology and normal anatomy

III. Mammogram
   a. Learn how to read mammograms
   b. Observe stereotactic biopsy

IV. Nuclear
   a. Learn how to read PET scan with emphasis on pathology and normal anatomy
   b. Learn how to read bone scan with emphasis on pathology and normal anatomy
   c. Unsealed source requirements as per ABR guidelines: each resident will need to complete 3 cases involving oral administration of >33 mCi of I-131 and 3 cases involving parenteral administration of any beta emitter or a photon emitter with energy <150 KeV (note this does include I-131 labeled antibodies and I-131 MIBG).
52. GOALS FOR MEDICAL ONCOLOGY ELECTIVE (FOR ROTATING RADIATION ONCOLOGY RESIDENTS)

1) Learn about the typical chemotherapy regimens delivered for common malignancies, including (as time allows) breast, lung, gastrointestinal, and head & neck cancers.

2) Learn about the typical side effects associated with common chemotherapy regimens and how they are managed.

3) Learn how to deliver compassionate end of life care, with emphasis on pain management and palliative procedures.

53. GOALS FOR PATHOLOGY ELECTIVE (FOR ROTATING RADIATION ONCOLOGY RESIDENTS)

1) Learn and observe with a pathologist the classic hallmarks of malignant cells, i.e. large nucleus, atypia, etc.

2) Observe with a pathologist histology from common cancers (as time allows), such as lung cancer, breast cancer, gastrointestinal cancer, prostate cancer, gynecologic cancers.

3) Observe in prostate cancer the difference between low Gleason and high Gleason cancers.

4) Observe in breast cancer the difference between DCIS and invasive cancers.

5) Observe immunohistochemistry and how it contributes to diagnosis in lymphoma or other malignancies.

54. GOALS FOR PHYSICS ELECTIVE (FOR ROTATING RADIATION ONCOLOGY RESIDENTS)

1) Become familiar with and understand each step and the physics behind a 2D plan. Be able to compute a point dose and MU independently.

2) Become familiar with and understand each step and the physics behind a 3D plan. Be able to compute a point dose and MU independently.

3) Understand and participate in an entire treatment process, from simulation to delivery of radiation.

If there is time, or if a second physics elective is taken, further goals include:
1) Become familiar with and understand each step and the physics behind an IMRT plan.
2) Observe and understand various physics quality assurance procedures
3) Become familiar with and understand each step and the physics behind various special procedures, including LDR and HDR brachytherapy, total body irradiation, stereotactic radiosurgery, etc.

55. CLINICAL LECTURES

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<th>Instructor</th>
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<td>Prostate brachytherapy- LDR</td>
<td>Jain</td>
<td>9am</td>
<td>27-Sep-13</td>
</tr>
<tr>
<td>October: GU</td>
<td><strong>Professor of the Month: Dr. Kim</strong></td>
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<tr>
<td></td>
<td>Hormones for prostate cancer</td>
<td>Rudoltz</td>
<td>9am</td>
<td>4-Oct-13</td>
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<tr>
<td></td>
<td><strong>No Lecture- NYRS meeting</strong></td>
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<tr>
<td></td>
<td>Seminoma</td>
<td>Kim</td>
<td>9am</td>
<td>18-Oct-13</td>
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<td>GU Mock Orals</td>
<td>Kim</td>
<td>9am</td>
<td>25-Oct-13</td>
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<tr>
<td>Month: GI</td>
<td>Professor of the Month: Dr. Jabbour</td>
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<tr>
<td>Stomach/Esophagus technical rounds</td>
<td>Jabbour 9am 1-Nov-13</td>
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<tr>
<td>Hepatobiliary technical rounds</td>
<td>Jabbour 9am 8-Nov-13</td>
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<tr>
<td>Rectal Cancer Operations</td>
<td>Patel 9am 15-Nov-13</td>
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<tr>
<td><strong>No Lecture - Thanksgiving</strong></td>
<td>22-Nov-13</td>
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<tr>
<td>GI Mock Orals</td>
<td>Jabbour 9am 29-Nov-13</td>
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<table>
<thead>
<tr>
<th>Month: CNS</th>
<th>Professor of the Month: Dr. Motwani</th>
</tr>
</thead>
<tbody>
<tr>
<td>High grade glioma</td>
<td>Motwani 3PM 6-Dec-13</td>
</tr>
<tr>
<td>Low grade glioma</td>
<td>Motwani 3PM 13-Dec-13</td>
</tr>
<tr>
<td>Neuroradiology</td>
<td>Roychowdhury 9am 20-Dec-13</td>
</tr>
<tr>
<td><strong>No Lecture- Christmas</strong></td>
<td>27-Dec-13</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Month: Head and Neck</th>
<th>Professor of the Month: Dr. Kim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head and Neck Anatomy I</td>
<td>Kim 9am 3-Jan-14</td>
</tr>
<tr>
<td>Head and Neck Anatomy II</td>
<td>Kim 9am 10-Jan-14</td>
</tr>
<tr>
<td>Make-up Lecture</td>
<td>Kim 9am 17-Jan-14</td>
</tr>
<tr>
<td>Salivary gland</td>
<td>Kim 9am 24-Jan-14</td>
</tr>
<tr>
<td>Head and neck mock orals</td>
<td>Kim 9am 31-Jan-14</td>
</tr>
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<table>
<thead>
<tr>
<th>Month: Hematologic Malignancies</th>
<th>Professor of the Month: Dr. Khan</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTCL and TSET</td>
<td>Cohler 9am 7-Feb-14</td>
</tr>
<tr>
<td>Non-Hodgkin's Lymphoma</td>
<td>Khan 9am 14-Feb-14</td>
</tr>
<tr>
<td>Lymphoma Technical Rounds</td>
<td>Khan 9am 21-Feb-14</td>
</tr>
<tr>
<td>Lymphoma Mock Oral Boards</td>
<td>Khan 2pm 28-Feb-14</td>
</tr>
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<table>
<thead>
<tr>
<th>Month: Pediatrics</th>
<th>Professor of the Month: Dr. Khan</th>
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</thead>
<tbody>
<tr>
<td>Neuroblastoma</td>
<td>Goyal 9am 7-Mar-14</td>
</tr>
<tr>
<td>Medulloblastoma</td>
<td>Khan 9am 14-Mar-14</td>
</tr>
<tr>
<td>CSI Technical Rounds</td>
<td>Khan 9am 21-Mar-14</td>
</tr>
<tr>
<td>Peds Mock Oral Boards</td>
<td>Khan 9am 28-Mar-14</td>
</tr>
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<thead>
<tr>
<th>Month: Lung</th>
<th>Professor of the Month: Dr. Jabbour</th>
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<tbody>
<tr>
<td>Technical rounds: Lung</td>
<td>Jabbour 9am 4-Apr-14</td>
</tr>
<tr>
<td>Lung Mock Oral Boards</td>
<td>Jabbour 9am 11-Apr-14</td>
</tr>
<tr>
<td><strong>No lectures- Good Friday</strong></td>
<td>18-Apr-14</td>
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<tr>
<td><strong>No lectures- ARS</strong></td>
<td>25-Apr-14</td>
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<p>| Month: Gyn | Professor of the Month: Dr. Gabel |</p>
<table>
<thead>
<tr>
<th>Event Description</th>
<th>Instructor</th>
<th>Time</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical management of GYN Malignancies II</td>
<td>Gibbon</td>
<td>10:30am</td>
<td>2-May-14</td>
</tr>
<tr>
<td>Vulvar Ca</td>
<td>Gabel</td>
<td>9am</td>
<td>9-May-14</td>
</tr>
<tr>
<td>Gyn brachytherapy technical rounds</td>
<td>Gabel</td>
<td>9am</td>
<td>16-May-14</td>
</tr>
<tr>
<td>Cervical Ca</td>
<td>Gabel</td>
<td>9am</td>
<td>23-May-14</td>
</tr>
<tr>
<td>Gyn Mock Oral Boards</td>
<td>Gabel</td>
<td>9am</td>
<td>30-May-14</td>
</tr>
<tr>
<td>June: Skin and Sarcoma</td>
<td>Professor of the Month: Dr. Goyal</td>
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</tr>
<tr>
<td>Non-melanomatous skin ca</td>
<td>Kim</td>
<td>9am</td>
<td>6-Jun-14</td>
</tr>
<tr>
<td>Melanomatous skin ca</td>
<td>Goyal</td>
<td>9am</td>
<td>13-Jun-14</td>
</tr>
<tr>
<td>Skin and Sarcoma Mock Orals</td>
<td>Goyal</td>
<td>9am</td>
<td>20-Jun-14</td>
</tr>
<tr>
<td><strong>No lectures</strong></td>
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<tr>
<td>Friday Schedule</td>
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<tr>
<td>Resident Led Conference</td>
<td></td>
<td>8am</td>
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<tr>
<td>Faculty lecture</td>
<td></td>
<td>9am</td>
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</tr>
<tr>
<td>Radiation Physics</td>
<td></td>
<td>10:30am</td>
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<tr>
<td>Chart Rounds</td>
<td></td>
<td>12:00PM-1:00PM</td>
<td></td>
</tr>
<tr>
<td>Radiation Biology</td>
<td></td>
<td>2:15pm-3:30pm</td>
<td></td>
</tr>
<tr>
<td>Journal Club</td>
<td></td>
<td>3:30pm-4:30pm</td>
<td></td>
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</tbody>
</table>
56. RADIATION BIOLOGY SYLLABUS 2013-2014
DEPARTMENT OF RADIATION ONCOLOGY, Rutgers Robert Wood Johnson Medical School

Course Description: This is a multiple-instructor course designed for Radiation Oncology Residents and Graduate Students in Radiation Biology. It contains three major parts: Cell and Molecular Response to Radiation; Tumor and Normal Tissue Response to Radiation; Radiation Protection and Late Effects of Radiation.

Course Director: Zhiyuan Shen, MD, PhD
Professor of Radiation Oncology, Pharmacology
Chief, Division of Radiation Cancer Biology
Email: shenzh@rutgers.edu
Office: 732-235-6101
Cell: 732-589-1944

Administrative Contact: Dallas Sanchez
Email: sancheod@rutgers.edu
Tel: 732-235-7595

Time: Friday, 2:00pm – 3:30pm, starting on Sept. 7, 2012

Classroom: RWJUH-G2 Conference Room

Text Book: Radiobiology for the Radiologist, 7th edition (2012), by Eric Hall and Amato Giaccia. Publisher: Lippincott Williams & Wilkins

Other readings: Will be assigned during the course

Homework: May be assigned occasionally

Instructor Contact

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Email</th>
<th>Office</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zhaohui Feng</td>
<td><a href="mailto:fengzh@umdnj.edu">fengzh@umdnj.edu</a></td>
<td>732-235-8814</td>
</tr>
<tr>
<td>Molly Gabel</td>
<td><a href="mailto:gabelmo@umdnj.edu">gabelmo@umdnj.edu</a></td>
<td>732-253-3939</td>
</tr>
<tr>
<td>Salma Jabbour</td>
<td><a href="mailto:jabbousk@umdnj.edu">jabbousk@umdnj.edu</a></td>
<td>732-253-3939</td>
</tr>
<tr>
<td>Atif Khan</td>
<td><a href="mailto:khanat@umdnj.edu">khanat@umdnj.edu</a></td>
<td>732-253-3939</td>
</tr>
<tr>
<td>Sung Kim</td>
<td><a href="mailto:kim18@umdnj.edu">kim18@umdnj.edu</a></td>
<td>732-253-3939</td>
</tr>
<tr>
<td>Sabin Motwani</td>
<td><a href="mailto:motwansa@umdnj.edu">motwansa@umdnj.edu</a></td>
<td>732-253-3939</td>
</tr>
<tr>
<td>Marc Rudoltz</td>
<td><a href="mailto:mrudoltz@yahoo.com">mrudoltz@yahoo.com</a></td>
<td></td>
</tr>
<tr>
<td>Zhiyuan Shen</td>
<td><a href="mailto:shenzh@umdnj.edu">shenzh@umdnj.edu</a></td>
<td>732-235-6101</td>
</tr>
<tr>
<td>Bing Xia</td>
<td><a href="mailto:xiabi@umdnj.edu">xiabi@umdnj.edu</a></td>
<td>732-235-7410</td>
</tr>
<tr>
<td>Ning Jeff Yue</td>
<td><a href="mailto:yuenj@umdnj.edu">yuenj@umdnj.edu</a></td>
<td>732-253-3939</td>
</tr>
</tbody>
</table>
57. PHYSICS LECTURE SCHEDULE

TO BE PROMULGATED
58. Competency Based Goals for all Rotations

Below in sections a-l are specific medical knowledge goals and required reading for the various tumor sites as designated by the applicable attending(s). However, In addition, it should be kept in mind that at all times, we strive to achieve proficiency in the 6 basic competencies:

Patient Care:

PGY 2-3: Be able to completely work up cancer patients, with detailed history, diagnostic studies and formulate a management plan. Know what steps should be taken in preparation for radiotherapy and the acute and long term side effects. Be capable of simulation and planning for treatment using IMRT or 3 dimensional techniques. Follow patients through a complete course of therapy and be able to manage routine acute complications.

PGY 4-5: Be capable of independently developing a management plan, simulation and treatment for a patient. Have a greater understanding of applicable anatomy, specific drainage patterns for different primary tumors and how that affects treatment planning. Understand the complexities and controversies of treatment in detail. Be capable of managing acute and chronic complications of treatment.

Medical Knowledge:

PGY2-3: Gain understanding of the risk factors, workup, staging, pathology, and natural history of various tumor sites. Understand the indications for radiation as primary therapy, or as adjuvant therapy. Understand when chemotherapy is indicated, in the primary and adjuvant settings. Understand the basics of treatment planning, use of IMRT and wedges, and be able to relate the principles of physics to radiation treatment planning.

PGY 4-5: Gain a deeper understanding of the literature, controversies, alternate fractionation schemes. Be able to defend your position regarding management of a patient with radiation, with respect to the indications, details of treatment, sequencing with systemic therapy and surgery. Understand the patterns of failure and how they relate to field selection.

Practice Based learning

PGY 2-3: Consistently reads the literature regarding the role of radiation in the management of cancer and is able to understand how to access medical information to support their own education and supplement their knowledge. Participates in and understands how the chart rounds process is used to monitor and improve practice.

PGY 4-5: Through follow-up clinics and morbidity and mortality conference, the resident understands complications of treatment, how to manage them and how to improve practice based on evaluation of complications.

Interpersonal Skills and Communication

PGY 2-3: Understand the role of the physician in the radiation oncology department, how to communicate with other staff including secretarial and administrative, nursing, therapists, dosimetrists and physicists. Learn an appropriate level of respect for the roles each of these individuals play in the management of patients undergoing radiation.

PGY4-5: Gain a more in-depth understanding of both intradepartmental and interdepartmental communications. Be knowledgeable and appropriate with respect to communication and interpersonal skills with referring physicians, hospital administration, social services, hospital
nursing and other outside individuals. Be capable of presenting and defending the role of radiation in patient management at multidisciplinary tumor boards, while respecting the role of other specialties and alternative strategies.

**Professionalism:**

*PGY2-3:* Demonstrates an appropriate level of respect for patients and their families. Demonstrates appropriate behavior and respect for other departmental members, including secretarial staff, nursing, therapists, dosimetrists, physicists, other residents and faculty.

*PGY 4-5:* Demonstrates an understanding of the ethical principles and complexities of caring for the cancer patient. Gains a deeper understanding of the role of the radiation oncologist in the multidisciplinary setting and demonstrates professionalism in dealing with other health care providers managing the patient.

**Systems Based Practice**

*PGY 2-3:* Resident learns the details of the hospital environment, how to utilize social services, pathology and radiology services, and other intra and interdepartmental resources to optimize patient care.

*PGY 4-5:* Resident gains a deeper understanding of the greater health care environment in which we work, understands the role of the nuclear regulatory commission and radiation safety officer, and how these agencies influence the practice of radiation oncology. The resident is able to demonstrate cost-effective practice and gains a deeper understanding of the cost-benefit analysis of radiation treatment as it relates to cancer patients.

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59. Rotations on Skin Cancer  
**Guidelines, Goals and Expectations**

**Site:** Skin  
**Attendings:** Cohler, Khan, Kim

I. Skin Cancer

A. Objective:  
The objective of this rotation is to provide the resident with a broad oncologic understanding of skin cancer, with specific focus on clinical, technical, and professional skills as they relate to radiation oncology.

B. Knowledge expectation:  
1. AJCC staging systems, prognostic factors, extent of disease work-up, treatment options, side effects associated with radiotherapy, and the follow-up of patients with skin malignancies.  
3. Required textbook reading: Chapters on the subject of skin cancer in DeVita, Leibel, Perez, Gunderson.  
4. Classic and recent papers (see bibliography and journal club list).  
5. Understand the indications and contraindications of different treatment options in skin cancer.  
6. Interpret and recognize salient findings on imaging studies of skin tumors.
C. Clinical Skills:
There is graded responsibility for learning skills of simulation, treatment planning, physical examination, and beam film interpretation. In addition, the residents are expected to learn about radiotherapy including placement, dose prescription, and evaluation of treatment plans. Although supervised, residents will be asked to perform the skills below first. By the end of the rotation (12 weeks), the resident should be able to complete the skills below on his/her own and present the final product for approval by the attending.

D. Simulation:
1. PGY 2-3
   a. Understand proper set-up and immobilization techniques
   b. Learn anatomy pertinent to simulation and orthovoltage setups
   c. Gain experience with electron set-ups and orthovoltage techniques
   d. Be knowledgeable about matching techniques for total skin
   e. Be able to set up skin cases and define a provisional plan

2. PGY 4-5
   a. Treatment planning (contours, conformal plan assessment) and proficient with all aspects of treatment planning for skin cancer by the end of the rotation, and be able to set up and prescribe a course of total skin irradiation for cutaneous T-Cell lymphomas
   b. Pay attention to normal tissue tolerances
   c. Be prepared to interpret and approve beam films and treatment setups along with an attending physician
   d. Be aware of alternative fractionation schemes for treatment of skin tumors.
   e. Physical evaluation skills and management
   f. Port film interpretation and clinical setups
   g. Management of acute and late effects of skin radiotherapy
II. Breast Cancer

A. Objective:
The objective of this rotation is to provide the resident with a broad oncologic understanding of breast cancer, with specific focus on clinical, technical, and professional skills as they relate to radiation oncology.

B. Knowledge expectation:
1. AJCC staging systems, prognostic factors, extent of disease work-up, treatment options, side effects associated with radiotherapy, and the follow-up of patients with breast malignancies
2. Anatomy of the breast
3. Required textbook reading: Chapters on the subject of breast cancer in Gunderson, Leibel, Perez, DeVita.
4. Recent papers and classic papers (See Bibliography/Journal Club Files)
5. Understand the indications and contraindications of different treatment options in breast cancer
6. Interpret and recognize salient findings on imaging studies of breast tumors

C. Clinical Skills:
There is graded responsibility for learning skills of simulation, treatment planning, physical examination, and beam film interpretation. In addition, the residents are expected to learn about radiotherapy including placement, dose prescription, and evaluation of treatment plans. Although supervised, residents will be asked to perform the skills below first. By the end of the rotation (12 weeks), the resident should be able to complete the skills below on his/her own and present the final product for approval by the attending.

D. Simulation:
1. PGY 2-3
   a. See entire simulation of breast tumors
   b. Understand proper set-up and immobilization techniques
   c. Learn anatomy pertinent to simulation and contouring of breast tumors
   d. Be knowledgeable about contrast agents and the management of contrast reactions
   e. Understand the decision tree to treat the breast only, or breast and regional lymphatics.
   f. Comprehend the rationale for treatment in the prone or supine position, for patients with preserved breasts, and with chest wall photons or electrons after mastectomy
   g. Residents at the first and second year level must learn how to position the patient, and how the alpha cradle is made. They must also learn the technique of planning a two-field and 3-field breast simulation in both the Aqusim and the conventional simulator
   h. Be knowledgeable about the basics of tangent beam angle calculations and matching using a single isocenter technique
   i. Be able to contour target volumes, tumors, internal mammary chain, and define provisional isocenter at simulation
   j. Senior residents should be comfortable with placement of wires around breast tissue, and the anatomic location of the internal mammary, axillary, and supra-clavicular and Rotter’s node areas.
   k. They should be able to direct the simulator therapists to fine-tune a procedure with changes in gantry and collimator angles, and patient position as needed. They should
be confident in digitizing these areas, as well as breast tissue and clips placed for boost field design.

2. PGY 4-5
   a. Treatment planning (contours, conformal plan assessment)
   b. Understand the concept of compensating wedges for patients treated with tangential fields, as well as the role of IMRT in treating the breast
   c. Pay attention to lung and heart tolerance, and acceptable dose to contralateral breast
   d. Acquire concept of dose in homogeneity within the breast and methods of improving this, including the use of higher energy beams and a spoiler
   e. Understand indications for the use of bolus
   f. Physical evaluation skills and management, including breast examination skills
   g. Port film interpretation
   h. Management of acute and late effects of breast radiotherapy
   i. All communication from the nursing, technical, and physics staff, as well as other Yale departments/services will be addressed by the resident first. He or she will formulate a plan and then present it to the attending for approval
   j. Must be in constant contact with fellows and attending staff in pathology and mammography
   k. Presentation at tumor boards
   l. Communication with patients
   m. Ability to clearly communicate different treatment options to patients
   n. Should learn to provide emotional support for patients receiving intensive or palliative therapy for breast cancer, and for their families
   o. Inform and follow-up on patient test results

Breast Cancer Reading List (Goyal, Haffty)

Guidelines


http://www.rtog.org/LinkClick.aspx?fileticket=vzJfhpB1pE%3d&tabid=236
RTOG 1014 Trial: http://www.rtog.org/ClinicalTrials/ProtocolTable/StudyDetails.aspx?study=1014

Breast - DCIS


**Breast – Early Invasive**


Breast – Molecular Markers


61. Rotations on CNS/OCULAR
Guidelines, Goals and Expectations

Site: Central Nervous System, Brain, Eyes
Attendings: Khan, Cohler

III. CNS/OCULAR
A. Objective:
The objective of this rotation is to provide the resident with a broad oncologic understanding of CNS/ocular cancer, with specific focus on clinical, technical, and professional skills as they relate to radiation oncology.

B. Knowledge expectation:
1. AJCC staging systems, prognostic factors, extent of disease work-up, treatment options, side effects associated with radiotherapy, and the follow-up of patients with CNS/ocular malignancies
2. Anatomy of the CNS/eye
3. Required textbook reading: Chapters on the subject of CNS/ocular cancer in Leibel, Gunderson, Perez, DeVita.
4. Recent and classic papers (see bibliography and journal club lists)
5. Understand the indications and contraindications of different treatment options in CNS/ocular cancer
6. Interpret and recognize salient findings on imaging studies of CNS/ocular tumors

C. Clinical Skills:
There is graded responsibility for learning skills of simulation, treatment planning, physical examination, and beam film interpretation. In addition, the residents are expected to learn about radiotherapy including placement, dose prescription, and evaluation of treatment plans. Although supervised, residents will be asked to perform the skills below first. By the end of the rotation (12 weeks), the resident should be able to complete the skills below on his/her own and present the final product for approval by the attending.

D. Simulation:
1. PGY 2-3
   a. See entire simulation of CNS/ocular tumors
   b. Understand proper set-up and immobilization techniques
   c. Learn anatomy pertinent to simulation and contouring of CNS/ocular tumors, focusing on target volumes, using CT simulation
   d. Be knowledgeable about contrast agents and the management of contrast reactions
   e. Gain experience with electron set-up
   f. Be able to contour tumors and define provisional treatment plan.

2. PGY 4-5
   a. Treatment planning (contours, conformal plan assessment)
   b. Be comfortable and proficient with all aspects of treatment planning (2D, 3D, and IMRT) for CNS/ocular cancer by the end of the rotation
   c. Pay attention to normal tissue tolerance, and acceptable dose to the treatment area
   d. Be prepared to interpret and approve beam films along with an attending physician
   e. Understand indications for SRS/SRT
   f. Assist attending in SRS/SRT planning
   g. Physical evaluation skills and management
   h. Port film interpretation
i. Management of acute and late effects of CNS/ocular radiotherapy
j. All communication from the nursing, technical, and physics staff, as well as other
   RWJ/CINJ departments/ services will be addressed by the resident first. He or she will
   formulate a plan and then present it to the attending for approval
k. Must be in constant contact with fellows and attending staff in pathology,
   neurosurgery, ophthalmology
l. Maturity in clinic
m. Presentation at tumor boards
n. Communication with patients
o. Ability to clearly communicate different treatment options to patients
p. Should learn to provide emotional support for patients receiving intensive or palliative
   therapy for CNS/ocular cancer, and for their families
q. Inform and follow-up on patient test results

Reading List for CNS (Dr Motwani)

Brain Mets:


Patchell RA, Tibbs PA, Regine WF, et al. Postoperative radiotherapy in the treatment of

RTOG 90-05 Shaw E, Scott C, Souhami L, et al. Single dose radiosurgical treatment of
   recurrent previously irradiated primary brain tumors and brain metastases: final report of

RTOG 95-08 Andrews DW, Scott CB, Sperduto PW, et al. Whole brain radiation therapy
   with or without stereotactic radiosurgery boost for patients with one to three brain
   metastases: phase III results of the RTOG 9508 randomised trial. Lancet. 2004 May
   22;363(9422):1665-72.

   therapy vs stereotactic radiosurgery alone for treatment of brain metastases: a randomized
   controlled trial. Jama 2006; 295:2483.

   with radiosurgery or radiosurgery plus whole-brain irradiation: a randomised controlled trial.

Adjuvant whole-brain radiotherapy versus observation after radiosurgery or surgical
   resection of one to three cerebral metastases: results of the EORTC 22952-26001 study
   Kocher M, Soffietti R, Abacioglu U, Villà S, Fauchon F, Baumert BG, Fariselli L, Tzuk-Shina T,
   Kortmann RD, Carrie C, Ben Hassel M, Kouri M, Valeinis E, van den Berge D, Collette S,
   (Gaspar IJROBP 1991)
Glioma – High Grade


Stupp update (Lancet Oncology 2009)


RPA Classes using Stupp data (Mirimanoff JCO 2006)

Glioma – Low Grade


CNS Lymphoma

DeAngelis (JCO 2002)
Ferrari (JCO 2003)

NCCN Guidelines 2011 for CNS

AVM

Maruyama NEJM 2005

62. Rotations on Gastrointestinal Cancers

Guidelines, Goals and Expectations

Site: Esophagus, Stomach, Liver, Pancreas, Colon, Rectum

Attendings: Jabbour, Cohler

IV. Gastrointestinal Cancers

A. Objective:
The objective of this rotation is to provide the resident with a broad oncologic understanding of GI cancers, with specific focus on clinical, technical, and professional skills as they relate to radiation oncology.

B. Knowledge expectation:
1. AJCC staging systems, prognostic factors, extent of disease work-up, treatment options, side effects associated with radiotherapy, and the follow-up of patients with GI malignancies
2. Anatomy of the gastrointestinal system
3. Required textbook reading: Chapters on the subject of GI cancer in Gunderson, Leibel, Perez, DeVita.
4. Classic and recent papers (see bibliography and journal club list)
5. Understand the indications and contraindications of different treatment options in GI cancer
6. Interpret and recognize salient findings on imaging studies of GI tumors

C. Clinical Skills:

There is graded responsibility for learning skills of simulation, treatment planning, physical examination, and beam film interpretation. In addition, the residents are expected to learn about radiotherapy including placement, dose prescription, and evaluation of treatment plans. Although supervised, residents will be asked to perform the skills below first. By the end of the rotation (12 weeks), the resident should be able to complete the skills below on his/her own and present the final product for approval by the attending.

D. Simulation:

1. PGY 2-3
   a. See entire simulation of GI tumors
   b. Understand proper set-up and immobilization techniques
   c. Learn anatomy pertinent to simulation and contouring of GI tumors, focusing on target volumes, using CT simulation
   d. Be knowledgeable about contrast agents and the management of contrast reactions
   e. Gain experience with barium and contrast agents.
   f. Be knowledgeable about the basics of multiple field techniques, use of wedges, minimizing normal bowel in fields.

2. PGY 4-5
   a. Treatment planning (contours, conformal plan assessment)
   b. Be comfortable and proficient with all aspects of treatment planning (2D, 3D, and IMRT) for GI cancers by the end of the rotation
   c. Pay attention to normal tissue tolerance, and acceptable dose to the liver, kidney, and other critical normal tissues in the treatment area
   d. Be prepared to interpret and approve beam films along with an attending physician
   e. Physical evaluation skills and management
   f. Port film interpretation
   g. Management of acute and late effects of GI radiotherapy
   h. All communication from the nursing, technical, and physics staff, as well as other RWJ/CINJ departments/services will be addressed by the resident first. He or she will formulate a plan and then present it to the attending for approval
   i. Must be in constant contact with fellows and attending staff in pathology, medical oncology, surgery
   j. Maturity in clinic
   k. Presentation at tumor boards
   l. Communication with patients
   m. Ability to clearly communicate different treatment options to patients
   n. Should learn to provide emotional support for patients receiving intensive or palliative therapy for GI cancer, and for their families
   o. Inform and follow-up on patient test results
63. Rotations on Genitourinary Cancers
Guidelines, Goals and Expectations

Site: prostate, bladder, seminoma
Attendings: Kim, Motwani

V. Gastrointestinal Cancers
   A. Objective:
      The objective of this rotation is to provide the resident with a broad oncologic understanding of GI cancers, with specific focus on clinical, technical, and professional skills as they relate to radiation oncology.

   B. Knowledge expectation:
      1. AJCC staging systems, prognostic factors, extent of disease work-up, treatment options, side effects associated with radiotherapy, and the follow-up of patients with GI malignancies
      2. Anatomy of the gastrointestinal system
      3. Required textbook reading: Chapters on the subject of GI cancer in Gunderson, Leibel, Perez, DeVita.
      4. Classic and recent papers (see bibliography and journal club list)
      5. Understand the indications and contraindications of different treatment options in GI cancer
      6. Interpret and recognize salient findings on imaging studies of GI tumors

   C. Clinical Skills:
      There is graded responsibility for learning skills of simulation, treatment planning, physical examination, and beam film interpretation. In addition, the residents are expected to learn about radiotherapy including placement, dose prescription, and evaluation of treatment plans. Although supervised, residents will be asked to perform the skills below first. By the end of the rotation (12 weeks), the resident should be able to complete the skills below on his/her own and present the final product for approval by the attending.

   D. Simulation:
      1. PGY 2-3
         a. See entire simulation of GI tumors
         b. Understand proper set-up and immobilization techniques
         c. Learn anatomy pertinent to simulation and contouring of GI tumors, focusing on target volumes, using CT simulation
         d. Be knowledgeable about contrast agents and the management of contrast reactions
         e. Gain experience with barium and contrast agents.
         f. Be knowledgeable about the basics of multiple field techniques, use of wedges, minimizing normal bowel in fields.

      2. PGY 4-5
         a. Treatment planning (contours, conformal plan assessment)
         b. Be comfortable and proficient with all aspects of treatment planning (2D, 3D, and IMRT ) for GI cancers by the end of the rotation
         c. Pay attention to normal tissue tolerance, and acceptable dose to the liver, kidney, and other critical normal tissues in the treatment area
         d. Be prepared to interpret and approve beam films along with an attending physician
         e. Physical evaluation skills and management
         f. Port film interpretation
         g. Management of acute and late effects of GI radiotherapy
         h. All communication from the nursing, technical, and physics staff, as well as other
RWJ/CINJ departments/services will be addressed by the resident first. He or she will formulate a plan and then present it to the attending for approval.

i. Must be in constant contact with fellows and attending staff in pathology, medical oncology, surgery

j. Maturity in clinic

k. Presentation at tumor boards

l. Communication with patients

m. Ability to clearly communicate different treatment options to patients

n. Should learn to provide emotional support for patients receiving intensive or palliative therapy for GI cancer, and for their families

o. Inform and follow-up on patient test results

Required reading list for GU (Kim)

Prostate

I. Dose escalation
   b. Zumre A. Alicikus, MD1; Yoshiya Yamada, MD1; Zhigang Zhang, Ten-Year Outcomes of High-Dose, Intensity-Modulated Radiotherapy for Localized Prostate Cancer Cancer Month 00, 2010

II. Salvage RT
   a. Stephenson et al. Predicting the Outcome of Salvage Radiation Therapy for Recurrent Prostate Cancer After Radical Prostatectomy JCO VOLUME 25 NUMBER 15 MAY 2007

III. Adjuvant RT
   a. Adjuvant Radiotherapy for Pathological T3N0M0 Prostate Cancer Significantly Reduces Risk of Metastases and Improves Survival: Long-Term Followup of a Randomized Clinical Trial. The journal of urology  Vol. 181, 956-962, March 2009

IV. Hormones
   c. Toxicity of hormones damico

V. Natural history
a. Pound et al. Natural history of progression after PSA elevation following radical prostatectomy. JAMA 1999: 281; 1591-97

VI. RCT surgery vs observation

VII. RCT hormones v obs in LN +

Bladder

I. Cystectomy
a. USC experience paper on cystectomy

II. bladder preservation

Seminoma

I. RT technique


II. Treatment options

c. Observation vs RT cost analysis

III. Stage II
64. Rotations on Gynecologic Cancer
Guidelines, Goals and Expectations

Site: Gynecologic cancers: Endometrial, cervical, vaginal, vulvar, and ovarian
Attendings: Gabel, Khan

VI. Gynecologic Cancer
A. Objective:
The objective of this rotation is to provide the resident with a broad oncologic understanding of
gynecologic cancer with specific focus on clinical, technical, and professional skills as they relate
to radiation oncology.

B. Knowledge expectation:
1. AJCC staging systems, prognostic factors, extent of disease work-up, treatment options, side
effects associated with radiotherapy, and the follow-up of patients with gynecologic
malignancies
2. Anatomy of the gynecologic system
3. Required textbook reading: Chapters on the subject of gynecologic cancer in Leibel,
Gunderson, Perez, DeVita
4. Classic and recent papers (see bibliography and journal club list)
5. Understand the indications and contraindications of different treatment options in gynecologic
cancer

C. Clinical Skills:
There is graded responsibility for learning skills of simulation, treatment planning, physical
examination, and beam film interpretation. In addition, the residents are expected to learn about
intracavitary and intravaginal high dose rate and low dose rate brachytherapy including placement,
do se prescription, and evaluation of treatment plans. Although supervised, residents will be asked
to perform the skills below first. By the end of the rotation (8 weeks), the resident should be able to
complete the skills below on his/her own and present the final product for approval by the
attending.

D. Simulation
1. PGY 2-3
   a. See entire simulation of gynecologic tumors
   b. Understand proper set-up and immobilization techniques
   c. Learn anatomy pertinent to simulation and contouring of gynecologic tumors
   d. Be knowledgeable about contrast agents and the management of contrast reactions
   e. Be knowledgeable about placement of intracavitary applicators
2. PGY 4-5
   a. Treatment planning (contours, conformal plan assessment)
   b. Understand the concept of treatment planning of gynecological malignancies
   c. Pay attention to normal tissue tolerances, specifically related to external beam and
      intracavitary placements
   d. Understand the complexities of combining external beam and intracavitary treatment.
   e. Physical evaluation skills and management, including gynecologic examination skills,
      including examination under anesthesia
   f. Port film interpretation
   g. Management of acute and late effects of gynecologic radiotherapy
   h. Professionalism:
      i. Ability to interact with peers, faculty, and staff
j. All communication from the nursing, technical, and physics staff, as well as other RWJ/CINJ departments/services will be addressed by the resident first
k. He or she will formulate a plan and then present it to the attending for approval Must be in constant contact with fellows and attending staff in gynecologic oncology and pathology
l. Presentation at tumor boards
m. Communication with patients
n. Ability to clearly communicate different treatment options to patients
o. Should learn to provide emotional support for patients receiving intensive or palliative therapy for gynecologic cancers, and for their families
p. Inform and follow-up on patient test results

Gynecologic Malignancies (Gabel)

Textbook General Reading:
disease-specific chapters including chemotherapy, care of patient undergoing chemoradiation

Perez (Principles and Practice of Radiation Oncology)----good for anatomy and techniques

Hoskins (Principles and Practice: Gynecologic Oncology)

Devlin (Brachytherapy Applications and Techniques)

1st and 2nd year: concentrate on Hoskins and Perez: learn natural history, basic treatment options, radiation techniques and care of acute and chronic side effects
3rd and 4th year: master cardinal studies, learn brachy techniques (LDR and HDR), become aware of other issues by review of Gershenson -GYN Cancer Controversies


CERVICAL CANCER

General:

Wright JD; Li J; Gerhard DS; Zhang Z; Huettner PC; Powell MA; Gibb RK; Herzog TJ; Mutch DG; Trinkaus KM; Rader JS. Human papillomavirus type and tobacco use as predictors of survival in early stage cervical carcinoma. Gynecol Oncol 2005 Jul; 98(1):84-91.

Combined Chemoradiotherapy:
Whitney CW; Sause W; Bundy BN; Malfehtano JH; Hannigan EV; Fowler WC Jr; Clarke-Pearson DL; Liao SY. Randomized comparison of fluorouracil plus cisplatin versus


Green JA; Kirwan JM; Rierney JF; Symonds P; Fresco L; Collingwood M; Williams CJ. Survival and recurrence after concomitant chemotherapy and radiotherapy for cancer of the uterine cervix: a systematic review and meta-analysis. Lancet 2001 Sep 8; 358(9284):781-6.

Keys HM; Bundy BN; Stehman FB; Muderspach LI; Chafe WE; Suggs CL 3rd; Walker JL Gersell D. Cisplatin, radiation, and adjuvant hysterectomy compared with radiation and adjuvant hysterectomy for bulky stage IB cervical carcinoma. N Engl J Med 1999 Apr 15; 340(15):1154-61.


Positive Para-aortic Nodes:

Rotman M; Pajak TF; Choi K; Clery M; Marcial V; Grigsby PW; Cooper J; John M. Prophylactic extended-field irradiation of para-aortic lymph nodes in stages IIB and bulky IB and IIA cervical carcinomas. Ten-year treatment results of RTOG 79-20. JAMA 1995 Aug 2; 274(5):387-93.


Lovecchio JL; Averette HE; Donato D; Bell J. 5-year survival of patients with periaortic nodal metastases in clinical stage IB and IIA cervical carcinoma. Gynecol Oncol 1989 Jul; 34(1):43-5.

**Dose and Elapsed Time of Radiation:**


Perez CA; Grigsby PW; Nene SM; Camel HM; Galakatos A; Kao MS; Lockett MA. Effect of tumor size on the prognosis of carcinoma of the uterine cervix treated with irradiation alone. Cancer 1992 Jun 1; 69(11):2796-2806.

Grogan M; Thomas GM; Melamed I; Wong FL; Pearcey RG; Joseph PK; Portelance L; Crook J; Jones KD. The importance of hemoglobin levels during radiotherapy for carcinoma of the cervix. Cancer 1999 Oct 15; 86(8): 1528-36.


Lavey RS; Liu PY; Greer BE; Robinson WR 3rd; Chang PC; Wynn RB; Conrad ME; Jiang C; Markman M; Alberts DS. Recombinant human erythropoietin as an adjunct to radiation therapy and cisplatin for stage IIB-IVA carcinoma of the cervix: a Southwest Oncology Group study. Gynecol Oncol 2004 Oct; 95(1):145-51.
**Brachytherapy:**


**IGRT for Brachytherapy:**


**ENDOMETRIAL CANCER:**

**General:**


Havrilesky, LJ, Cragun, JM, Calingaert, B, et al. The prognostic significance of positive peritoneal cytology and adnexal/serosal metastasis in stage IIIA endometrial cancer. Gynecol
Oncol 2007; 104:401.


**Adjuvant Treatment after TAH/BSO:**


(PORTEC-I high risk subset) Creutzberg et al. Outcome of high-risk Stage IC, grade 3, compared with Stage I endometrial carcinoma patients: the PORTEC trial. JCO 22(7): 1234-1241, 2004 April.


Endometrial Cancer, cont’d


**Definitive RT for Early Stage Inoperative Cancers:**


**High Risk/High Stage Cancers:**


GOG 94: Sutton et al. Adjuvant WAI in clinical stage I/II papillary serous or clear cell carcinoma of the endometrium: A GOG study. Gynecol Oncol 2006 Feb; 100(2):349-54


**Endometrial Cancer, cont’d**


95
**Carcinosarcoma/Uterine Sarcomas:**


GOG study on adjuvant treatment carcinosarcomas:

VAGINAL CANCER:

**General:**


**Radiation Details:**


VULVAR CANCER:

Prognostic Importance of Lymph Node Involvement:


Adjuvant RT after vulvectomy and groin dissection:

Homesley et al: Radiation therapy versus pelvic node resection for carcinoma of the vulva with positive groin nodes. *Obstet Gynecol* 1986; 68: 733. (important data for anatomy to include)


Neoadjuvant RT:


Definitive Chemoradiation:


Surgical Aspects: Lymphadenectomy:


65. GOALS AND OBJECTIVES Head and Neck Cancer:

**Patient Care:**
*PGY 2-3:* Be able to completely workup a patient, with detailed history, diagnostic studies and formulate a management plan. Know what steps should be taken in preparation for radiotherapy and the acute side effects. Know what sites should be treated primarily with surgery vs radiotherapy and why. Be capable of simulation and planning for treatment using IMRT or 3 dimensional radiation. Follow patients through a complete course of therapy and be able to manage routine acute complications.
*PGY 4-5:* Be capable of independently developing a management plan, simulation and treatment for a patient. Have a greater understanding of head and neck anatomy, specific drainage patterns for different primary tumors and how that affects treatment planning. Understand the complexities and controversies of IMRT treatment in head and neck cancers. Be capable of managing acute and chronic complications of treatment.

**Medical Knowledge:**
*PGY2-3:* Gain understanding of the risk factors, workup, staging, pathology, and natural history of head and neck cancer. Understand the indications for radiation as primary therapy, or as adjuvant therapy. Understand when chemotherapy is indicated, in the primary and adjuvant settings. Understand the basics of treatment planning, use of IMRT and wedges, and be able to relate the principles of physics to radiation treatment planning.
*PGY 4-5:* Gain a deeper understanding of the literature, controversies, alternate fractionation schemes. Be able to defend your position regarding management of a patient with radiation, with respect to the indications, details of treatment, sequencing with systemic therapy and surgery. Understand the patterns of failure and how they relate to field selection.

**Practice Based learning**
*PGY 2-3:* Consistently reads the literature regarding the role of radiation in the management of head and neck cancer and is able to understand how to access medical information to support their own education and supplement their knowledge. Participates in and understands how the chart rounds process is used to monitor and improve practice.
*PGY 4-5:* Through follow-up clinics and morbidity and mortality conference, the resident understands complications of treatment, how to manage them and how to improve practice based on evaluation of complications.

**Interpersonal Skills and Communication**
*PGY 2-3:* Understand the role of the physician in the radiation oncology department, how to communicate with other staff including secretarial and administrative, nursing, therapists, dosimetrists and physicists. Learn an appropriate level of respect for the roles each of these individuals play in the management of patients undergoing radiation.
*PGY 4-5:* Gain a more in-depth understanding of both intradepartmental and interdepartmental communications. Be knowledgeable and appropriate with respect to communication and interpersonal skills with referring physicians, hospital administration, social services, hospital nursing and other outside individuals. Be capable of presenting and defending the role of radiation in patient management at multidisciplinary tumor boards, while respecting the role of other specialties and alternative strategies.
Professionalism:

PGY 2-3: Demonstrates an appropriate level of respect for patients and their families. Demonstrates appropriate behavior and respect for other departmental members, including secretarial staff, nursing, therapists, dosimetrists, physicists, other residents and faculty. 

PGY 4-5: Demonstrates an understanding of the ethical principles and complexities of caring for the cancer patient. Gains a deeper understanding of the role of the radiation oncologist in the multidisciplinary setting and demonstrates professionalism in dealing with other health care providers managing the patient.

Systems Based Practice

PGY 2-3: Resident learns the details of the hospital environment, how to utilize social services, pathology and radiology services, and other intra and interdepartmental resources to optimize patient care. 

PGY 4-5: Resident gains a deeper understanding of the greater health care environment in which we work, understands the role of the nuclear regulatory commission and radiation safety officer, and how these agencies influence the practice of radiation oncology. The resident is able to demonstrate cost-effective practice and gains a deeper understanding of the cost-benefit analysis of radiation treatment as it relates to head and neck cancer patients.

Required reading list for Head and Neck rotation (Kim)

I. IMRT contouring
   a. RTOG online atlas
   b. Ang IMRT book (what LN regions for what dz)

II. Concurrent chemoRT

III. Cetuximab
   a. Bonner RCT cetuximab Radiotherapy plus cetuximab for locoregionally advanced head and neck cancer: 5-year survival data from a phase 3 randomised trial, and relation between cetuximab-induced rash and survival. www.thelancet.com/oncology Published online November 7, 2009

IV. Postop RT

V. Postop chemoRT

VI. Larynx
c. HIDEYA YAMAZAKI et al. RADIOTHERAPY FOR EARLY GLOTTIC CARCINOMA (T1N0M0): RESULTS OF PROSPECTIVE RANDOMIZED STUDY OF RADIATION FRACTION SIZE AND OVERALL TREATMENT TIME. Int. J. Radiation Oncology Biol. Phys., Vol. 64, No. 1, pp. 77–82, 2006

VII. Tonsil

VIII. NP

IX. Hypopharynx

X. Unknown primary

XI. Fractionation
a. Fu et al. RTOG 90-03 Fu et al. conventional fractional versus split course vs. accelerated

XII. HPV
a. Ang et al. Human Papillomavirus and Survival of Patients with Oropharyngeal Cancer. n engl j med 363;1 nejm.org july 1, 2010
66. Rotations on Lung Cancer
Guidelines, Goals and Expectations

Site: Lung
Attendings: Jabbour, Cohler

VII. Lung Cancer
A. Objective:
The objective of this rotation is to provide the resident with a broad oncologic understanding of lung cancer, with specific focus on clinical, technical, and professional skills as they relate to radiation oncology.

B. Knowledge expectation:
1. AJCC staging systems, prognostic factors, extent of disease work-up, treatment options, side effects associated with radiotherapy, and the follow-up of patients with lung malignancies
2. Anatomy of the lungs
3. Required textbook reading: Chapters on the subject of lung cancer in Leibel, Gunderson, Perez, DeVita
4. Classic and recent papers (see Bibliography and journal club list)
5. Understand the indications and contraindications of different treatment options in lung cancer
6. Interpret and recognize salient findings on imaging studies of lung tumors

C. Clinical Skills:
There is graded responsibility for learning skills of simulation, treatment planning, physical examination, and beam film interpretation. In addition, the residents are expected to learn about radiotherapy including placement, dose prescription, and evaluation of treatment plans. Although supervised, residents will be asked to perform the skills below first. By the end of the rotation (12 weeks), the resident should be able to complete the skills below on his/her own and present the final product for approval by the attending.

D. Simulation:
1. PGY 2-3
   a. See entire simulation of lung tumors
   b. Understand proper set-up and immobilization techniques
   c. Learn anatomy pertinent to simulation and contouring of lung tumors, focusing on target volumes, using CT simulation
   d. Be knowledgeable about contrast agents and the management of contrast reactions
   e. Gain experience with oblique fields to protect spinal cord tolerance
   f. Be knowledgeable about the basics of target volumes, including mediastinal treatment, oblique fields, multi-field techniques.
   g. Be able to contour tumors and define provisional treatment plans for lung cancers.

2. PGY 4-5
   a. Treatment planning (contours, conformal plan assessment)
   b. Be comfortable and proficient with all aspects of treatment planning (2D, 3D, and IMRT) for lung cancer by the end of the rotation
   c. Pay attention to normal tissue tolerances, including cardiac and spinal cord protection
   d. Be prepared to interpret and approve beam films along with an attending physician
   e. Physical evaluation skills and management
   f. Port film interpretation
   g. Management of acute and late effects of lung radiotherapy
   h. Professionalism
i. All communication from the nursing, technical, and physics staff, as well as other RWJ/CINJ departments/services will be addressed by the resident first. He or she will formulate a plan and then present it to the attending for approval.

j. Must be in constant contact with fellows and attending staff in surgery, medical oncology, radiology and pathology.

k. Maturity in clinic.

l. Presentation at tumor boards.

m. Communication with patients.

n. Ability to clearly communicate different treatment options to patients.

o. Should learn to provide emotional support for patients receiving intensive or palliative therapy for lung cancer, and for their families.

p. Inform and follow-up on patient test results.
67. Rotations on Lymphomas and Hematologic Malignancies
Guidelines, Goals and Expectations

Site:  Lymphoma and Blood
Attendings:  Cohler, Khan

VIII. Lymphomas and Hematologic Malignancies

A. Objective:
The objective of this rotation is to provide the resident with a broad oncologic understanding of hematologic malignancies, with specific focus on clinical, technical, and professional skills as they relate to radiation oncology.

B. Knowledge expectation:
1. AJCC staging systems, prognostic factors, extent of disease work-up, treatment options, side effects associated with radiotherapy, and the follow-up of patients with lymphomas and hematologic malignancy
2. General anatomy of the lymphatic system
3. Required textbook reading: Chapters on the subject of lymphomas and leukemias in Leibel, Gunderson, Perez, DeVita
4. Classic and recent papers (see bibliography and journal club list)
5. Understand the indications and contraindications of different treatment options in hematologic malignancy
6. Interpret and recognize salient findings on imaging studies of lymphomas and hematologic malignancies.

C. Clinical Skills:
There is graded responsibility for learning skills of simulation, treatment planning, physical examination, and beam film interpretation. In addition, the residents are expected to learn about radiotherapy including placement, dose prescription, and evaluation of treatment plans. Although supervised, residents will be asked to perform the skills below first. By the end of the rotation (8 weeks), the resident should be able to complete the skills below on his/her own and present the final product for approval by the attending.

D. Simulation:
1. PGY 2-3
   a. See entire simulation of lymphomas and leukemias
   b. Understand proper set-up and immobilization techniques
   c. Learn anatomy pertinent to simulation and contouring of lymphomas using CT simulation
   d. Be knowledgeable about contrast agents and the management of contrast reactions
   e. Gain experience with unusual field set ups, total lymphoid irradiation, and total body irradiation in the treatment of lymphomas and leukemias
   f. Be familiar with TBI techniques and prophylactic cranial irradiation techniques.
   g. Be knowledgeable about the basics of mantle irradiation, matching fields, and gap calculations
   h. Be able to contour tumors and define provisional treatment plans
2. PGY 4-5
   a. Treatment planning (contours, conformal plan assessment)
   b. Be comfortable and proficient with all aspects of treatment planning (2D, 3D) for lymphomas and leukemias and be able to set up and plan TB I for treatment of leukemias and lymphomas
   c. Pay attention to normal tissue tolerance, and acceptable dose to the treatment area
   d. Be prepared to interpret and approve beam films along with an attending physician
   e. Physical evaluation skills and management
   f. Port film interpretation
   g. Management of acute and late effects of treatment for hematologic malignancies.
   h. All communication from the nursing, technical, and physics staff, as well as other RWJ/CINJ departments/services will be addressed by the resident first. He or she will formulate a plan and then present it to the attending for approval
   i. Must be in constant contact with fellows and attending staff in surgery, oncology, radiology and pathology
   j. Maturity in clinic
   k. Presentation at tumor boards
   l. Communication with patients
   m. Ability to clearly communicate different treatment options to patients
   n. Should learn to provide emotional support for patients receiving intensive or palliative therapy for soft tissue sarcomas, and for their families
   o. Inform and follow-up on patient test results
68. Rotations on Pediatric Cancers
Guidelines, Goals and Expectations

Site: Pediatrics
Attendings: Khan

IX. Pediatric Cancers
A. Objective:
The objective of this rotation is to provide the resident with a broad oncologic understanding of pediatric cancers with specific focus on clinical, technical, and professional skills as they relate to radiation oncology.

B. Knowledge expectation:
1. AJCC staging systems, prognostic factors, extent of disease work-up, treatment options, side effects associated with radiotherapy, and the follow-up of patients with pediatric malignancies
2. Pediatric anatomy
3. Required textbook reading: Chapters on the subject of pediatric cancers in Halperin, Perez, Gunderson, Leibel, DeVita
4. Classic and recent papers (see bibliography and journal club list)
5. Understand the indications and contraindications of different treatment options in pediatric cancers
6. Interpret and recognize salient findings on imaging studies of pediatric tumors

C. Clinical Skills:
There is graded responsibility for learning skills of simulation, treatment planning, physical examination, and beam film interpretation. In addition, the residents are expected to learn about radiotherapy including placement, dose prescription, and evaluation of treatment plans. Although supervised, residents will be asked to perform the skills below first. By the end of the rotation (12 weeks), the resident should be able to complete the skills below on his/her own and present the final product for approval by the attending.

D. Simulation:
1. PGY 2-3
   a. See entire simulation of pediatric tumors
   b. Understand proper set-up and immobilization techniques
   c. Learn anatomy pertinent to simulation and contouring of pediatric tumors, focusing on target volumes, using CT simulation
   d. Be knowledgeable about contrast agents and the management of contrast reactions
   e. Gain experience with unusual setups for pediatric cases.
   f. Be knowledgeable about the basics of sedation techniques and anesthesia for pediatric simulations.
   g. Be knowledgeable about the basics of total body irradiation
   h. Be able to contour tumors and define provisional treatment plans

2. PGY 4-5
   a. Treatment planning (contours, conformal plan assessment)
   b. Be comfortable and proficient with all aspects of treatment planning (2D, 3D, and IMRT) for pediatric cancers by the end of the rotation
   c. Pay attention to normal tissue tolerances and long term sequellae of treatment to normal tissues in pediatric cases
   d. Be prepared to interpret and approve beam films along with an attending physician
   e. Physical evaluation skills and management
f. Graduate to a high level of skill and comfort with examining children

g. Port film interpretation

h. Management of acute and late effects of pediatric radiotherapy, particularly long term sequellae of treatment

i. Ability to interact with peers, faculty, and staff

j. All communication from the nursing, technical, and physics staff, as well as other RWJ/CINJ departments/services will be addressed by the resident first. He or she will formulate a plan and then present it to the attending for approval

k. Must be in constant contact with fellows and attending staff in pediatrics, pediatric oncology, radiology and pathology

l. Maturity in clinic

m. Presentation at tumor boards

n. Communication with patients

o. Ability to clearly communicate different treatment options to patients

p. Should learn to provide emotional support for children receiving intensive or palliative therapy for pediatric cancers, and for their families

q. Inform and follow-up on patient test results

69. Rotations on Sarcomas

Guidelines, Goals and Expectations

Site: Soft Tissue

Attendings: Cohler, Khan

X. Sarcomas

A. Objective:
The objective of this rotation is to provide the resident with a broad oncologic understanding of soft tissue sarcomas, with specific focus on clinical, technical, and professional skills as they relate to radiation oncology.

B. Knowledge expectation:

1. AJCC staging systems, prognostic factors, extent of disease work-up, treatment options, side effects associated with radiotherapy, and the follow-up of patients with soft tissue sarcomas

2. General anatomy

3. Required textbook reading: Chapters on the subject of soft tissue sarcomas in Leibel, Gunderson, Perez, DeVita

4. Classic and Recent papers (see bibliography and journal club list)

5. Understand the indications and contraindications of different treatment options in soft tissue sarcomas

6. Interpret and recognize salient findings on imaging studies of soft tissue sarcoma tumors

C. Clinical Skills:

There is graded responsibility for learning skills of simulation, treatment planning, physical examination, and beam film interpretation. In addition, the residents are expected to learn about radiotherapy including placement, dose prescription, and evaluation of treatment plans. Although supervised, residents will be asked to perform the skills below first. By the end of the rotation (12 weeks), the resident should be able to complete the skills below on his/her own and present the final product for approval by the attending.
D. Simulation:

1. PGY 2-3
   a. See entire simulation of soft tissue sarcoma tumors
   b. Understand proper set-up and immobilization techniques
   c. Learn anatomy pertinent to simulation and contouring of soft tissue sarcoma tumors, focusing on target volumes, using CT simulation
   d. Be knowledgeable about contrast agents and the management of contrast reactions
   e. Gain experience with unusual field set ups and electron beam capabilities in the treatment of soft tissue sarcomas
   f. Be familiar with interstitial brachytherapy techniques
   g. Be knowledgeable about the basics of multi field calculations, and matching techniques
   h. Be able to contour tumors and define provisional treatment plans

2. PGY 4-5
   a. Treatment planning (contours, conformal plan assessment)
   b. Be comfortable and proficient with all aspects of treatment planning (2D, 3D, and IMRT) for soft tissue sarcomas by the end of the rotation
   c. Pay attention to normal tissue tolerance, and acceptable dose to the treatment area
   d. Be prepared to interpret and approve beam films along with an attending physician
   e. Physical evaluation skills and management
   f. Port film interpretation
   g. Management of acute and late effects of soft tissue sarcoma radiotherapy
   h. Professionalism:
      i. Ability to interact with peers, faculty, and staff
      j. All communication from the nursing, technical, and physics staff, as well as other RWJ/CINJ departments/services will be addressed by the resident first. He or she will formulate a plan and then present it to the attending for approval
      k. Must be in constant contact with fellows and attending staff in surgery, oncology, radiology and pathology
      l. Maturity in clinic
   m. Presentation at tumor boards
   n. Communication with patients
   o. Ability to clearly communicate different treatment options to patients
   p. Should learn to provide emotional support for patients receiving intensive or palliative therapy for soft tissue sarcomas, and for their families
   q. Inform and follow-up on patient test results
70. Rotations at Newark and East Orange VA
General Community Oncology Service Guidelines, Goals and Expectations

Rotations at Newark, East Orange VA

I. Objective:
The objective of these rotations is to provide the resident with a broad oncologic understanding of general malignancies treated in settings that are somewhat different from the main campus at RWJUH, namely at an urban, veterans hospital, and community practice setting. The typical malignancies seen may vary from a prevalence of head & neck/gynecologic/sarcoma at Newark, Head & neck/prostate cancer at the VA, but in each location, the goal is to be able to evaluate and treat any seen malignancy at these sites.

II. Knowledge expectation:
3. AJCC staging systems, prognostic factors, extent of disease work-up, treatment options, side effects associated with radiotherapy, and the follow-up of patients with any malignancies
4. Required textbook reading: Chapters on the subject of applicable malignancies in Gunderson, Leibel, Perez, DeVita.
5. Recent papers and classic papers (See Bibliography/Journal Club Files).
6. Understand the indications and contraindications of different treatment options in all malignancies
7. Interpret and recognize salient findings on imaging studies of any malignancy

III. Clinical Skills:
There is graded responsibility for learning skills of simulation, treatment planning, physical examination, and beam film interpretation. In addition, the residents are expected to learn about radiotherapy including placement, dose prescription, and evaluation of treatment plans. Although supervised, residents will be asked to perform the skills below first. By the end of the rotation (12 weeks), the resident should be able to complete the skills below on his/her own and present the final product for approval by the attending.

IV. Simulation:
• PGY 3-5
  a. Perform entire simulation of any malignancy
  b. Understand proper set-up and immobilization techniques
  c. Learn anatomy pertinent to simulation and contouring of any malignancy
  d. Be knowledgeable about contrast agents and the management of contrast reactions
  e. Understand the decision to treat various malignancies presenting to a general community hospital
  f. Comprehend the rationale for treatment in the prone or supine position, indications for alternative strategies
  g. Understanding when patients should be referred to a tertiary facility for specialized procedures
  h. Residents must learn how to position the patient, and how the alpha cradle is made. They must also learn the techniques for matching fields, gap calculations and dealing with any technical issue pertinent to the general practice of radiation oncology.
  i. Be able to contour target volumes, tumors, normal tissues and define provisional treatment plan
  j. Treatment planning (contours, conformal plan assessment)
  k. Understand the concept of multiple fields, compensating wedges,
as well as the role of conformal therapy and IMRT in treating various malignancies.

1. Pay attention to normal tissue tolerance, and acceptable dose to normal structures for any malignancy

m. Physical evaluation skills and management

n. Port film interpretation

o. Management of acute and late effects of external beam radiotherapy

p. Professionalism:

q. Ability to interact with peers, faculty, and staff

r. All communication from the nursing, technical, and physics staff, as well as other RWJ/CINJ departments/services will be addressed by the resident first. He or she will formulate a plan and then present it to the attending for approval

s. Must be in constant contact with community physicians and attending staff in other departments

t. Maturity in clinic

u. Presentation at tumor boards

v. Communication with patients

w. Ability to clearly communicate different treatment options to patients

x. Should learn to provide emotional support for patients receiving intensive or palliative therapy for malignancy, and for their families

y. Inform and follow-up on patient test results