Residents must fulfill specific ACGME requirements to complete a successful residency program in Radiation Oncology. Fulfillment of these requirements allows the resident to become "eligible" to take the written and oral board examinations. When a resident passes these examinations he/she becomes board certified by the American Board of Radiology. Below are specific "Policies and Procedures" for Radiation Oncology residents at the University of Utah. This manual will be updated on an annual basis. There is a housestaff manual produced by the GME that details the policies and procedures to be followed by all residents at the University of Utah.

A separate document entitled "The Standards of Performance" will be given to residents at the beginning of the residency program. This manual details the specific curriculum and educational program requirements for Radiation Oncology that the resident must fulfill to complete the training program and become board eligible. Additionally the manual details the process of resident evaluation, promotion, probation and dismissal.

I. Clinic Responsibilities
   A. Resident work hours are from 7:30 A.M. to 5:30 P.M. Monday through Friday. Residents are expected to be in the department during these hours for patient care unless conferences, brachytherapy cases, or electives are scheduled. Residents should always be able to be reached if they are out of the department during work hours.

   B. Professional and neat appearance is expected. Clean white lab coat with University of Utah ID is required when seeing patients in the clinic or in the hospital.

   C. A film badge must be worn at all times while in the clinic or in a setting where radiation exposure is possible. A ring badge must be worn while attending to any radioactive patient. Each month new badges will be exchanged for old badges. Permanent records of all readings are kept by the Department of Radiologic Health. A $15 fee will be imposed for a lost or damaged badge and a $10.00 fee will be imposed for late return of a film badge.

   D. Residents will be assigned to specific rotations by the program coordinator. The rotation schedule will be updated on a bi-annual or annual basis and will include rotations through the Huntsman Cancer Hospital, LDS clinic, Dosimetry, Radiology, Medical Oncology, Research, and Elective time. Residents will see patients with their assigned staff. The medical director of the Radiation Oncology clinic, Dr. Gaffney, oversees the daily clinic operations. He should be notified if there are any clinic problems that need to be addressed. An attending physician must staff all patients seen in the radiation oncology clinic.

II. Patient Care
   A. Consults
      1. Residents will be assigned to a faculty member for 3 month rotations and will see all new consults assigned to that attending. The resident will present the
patient’s history and physical, diagnostic work-up and treatment plan to the attending physician. The resident will assume responsibility for the patient's management while the patient is under treatment including the simulation, treatment planning and execution of treatment. The resident must see the patient with their assigned attending physician once a week during the course of treatment and write a note in the chart. Residents who rotate through LDS will consult patients who are to be treated at LDS.

2. Inpatient consults prior to 3 P.M. are covered by the resident affiliated with the appropriate attending physician. After 3 P.M. the on-call resident will assume responsibility. Attending physicians who do not have a resident rotating with them are responsible for seeing inpatients alone unless the consult is on a pediatric patient. In such cases the residents will determine among themselves who will accompany the attending physician.

3. When the resident rotates off service they will dictate a sign-out list of their "on treatment" patients or "pending" patients with current problems and give this to the resident who will be rotating on service. If no new resident will be assigned to those patients, the sign-out list will be discussed and given to the attending physician. The attending physician will manage his/her patients when a resident is absent for sick leave, vacation time, meetings or family leave. A sign-out list should be created for these absences.

B. Follow-ups

1. Follow-up patients will be seen with the assigned staff physician. Notes will be dictated per the radiation oncology template.

C. On Treatment Patients

1. Residents should be involved in on-treatment patients’ care. Routinely, the resident will see the on treatment patients either with or immediately before the attending physician. If the resident will be seeing the on-treatment patients at any other time, they should let the therapist know or sign their initials next to the patient’s name on the treatment schedule at the machines so that the technologists know to send the patient to the nursing area. Residents should also notify the nurses which day they will be seeing their patients so that they can ensure each patient is seen every week. Weekly documentation in the progress notes should include: current radiation dose, current problems, blood counts, weight, pertinent physical findings, new laboratory data, and plan. This should be a brief note with only the most pertinent facts. Document lab and X-ray results as obtained during the course of the patient's treatment.

2. Port films should be reviewed, signed and dated before the resident goes home each day. For electronic ports, residents should review and sign the ports with attending physicians together. The port films should be placed in the staff box for review. If the attending staff is not in the department, place the films in the covering physician box or ask the covering physician to sign the electronic ports.

3. If a pre-treatment port is needed or if there are changes on a port film that are not straightforward the technologist should be notified in person.
4. If you need to see a patient on set-up you must notify the technologist. Be available to OK films or see a patient on treatment if you have requested pre-treatment films.

D. Simulations

1. Simulation techniques / set-up / treatment planning devices should be discussed with the attending physician prior to the patient’s arrival. The resident will be responsible for all aspects of the simulation to the best of their ability. The attending physician will be available to review any and all aspects of the simulation and will provide final approval prior to the patient leaving the department.

2. Necessary information for simulations:
   a. Treatment position, casts, or other special positioning requirements
   b. Markers, contrast, or other special pre-film requirements needed for tumor or anatomy identification
   c. Field borders
   d. Beam directions, placement of isocenter, special blocking or matching considerations
   e. Physics support for contours
   f. Treatment planning CT scan
   g. Dose and fractionation
   h. When patient needs to begin treatment and if treatment needs to be coordinated with chemotherapy

3. Scheduling of all appointment times will be done by the therapists, chief technologist and/or the front desk staff.

4. If a patient needs to be simulated and treated on the same day, the chief technologist, Steve Meisner should be notified so that the patient can be worked into the treatment schedule.

5. For comprehensive breast, electron arc set-ups and multiple fields, 2 sequential time slots are necessary. If the set-up is complicated ask dosimetry how much time should be allotted on the simulation schedule.

6. For set-ups that require casts (i.e., sarcoma of the extremity) 2 separate one hour slots should be booked on consecutive days.

7. Pediatric cases requiring anesthesia require special scheduling. Simulation technologist will need to book a special slot. The resident is responsible for informing the nursing staff to schedule anesthesia coverage for each day of planning and treatment for the patient’s entire course.

8. TBI patients should be scheduled 1 week in advance when possible. Schedule simulation and notify physics so that they can prepare accordingly.

9. Brachytherapy cases should be booked through the nurse responsible for overseeing brachytherapy procedures.

10. Simulation films will be placed in resident's box. Ports should be drawn on as soon as possible so that the staff can review the films within 24 hours. If radiographs are needed to draw tumor volumes they should be ordered from radiology the day before the simulation.

11. The prescription should be completed in black ink and co-signed by the staff prior to treatment. The attending physician must exclusively fill out the “Treatment Plan” section of the prescription.
E. Clinical Set-ups
   1. Mark treatment field on patient's skin, obtain consent and fill-out prescription sheet prior to patient entering treatment room. Staff must check set-up prior to treatment.

F. Consent Forms
   1. Consent forms must be obtained on all patients prior to treatment. The physician or nurse that explains the potential benefits versus risks of radiation including acute effects and late complications should co-sign the consent. The attending physician will co-sign if they are present and participate in the informed consent process.
   2. A new consent form is required for each treatment course.
   3. If a patient is not coherent or is unable to sign the consent form a relative or legal guardian must sign for the individual. It is hospital policy not to permit consents by phone. The exception is an emergency where a delay in treatment jeopardizes the life of the patient. In this case a legal guardian can give consent by phone if witnessed by a hospital employee. A record should be made of the reason for the telephone consent including the reason the telephone consent was obtained, the name and relationship of the consenting individual and the time and date the telephone consent was obtained.
   4. In house or multi-institutional protocols require additional consent forms. The research coordinator should be present or provide the appropriate consent form for all protocol patients. This includes patients undergoing TBI.

G. Dictations
   1. The radiation chart should never leave the department.
   2. It is important for dictations to be done on the day of the consultation. If patient information is lacking or missing, complete the dictation anyway and fill in the information as it is accumulated. Corrections should be made as soon as they appear in your computer and sent to the staff for final signatures.
   3. It is the resident’s responsibility to make sure that the XRT chart includes all the mandatory information required to pass chart rounds, including, H and P, consent, pathology, problem list, and staging form. Most of this information can be filled out or obtained during the initial consultation.
   4. Brachytherapy summaries should be done as soon as the implant is removed. Operative reports for brachytherapy cases will usually be dictated by the resident unless otherwise specified by the attending staff. An operative note will usually need to be dictated into the hospital dictation system to appear in the hospital chart and/or electronic chart. The resident participating in the procedure will dictate that report the day of the procedure. The resident will also assure that an up-to-date H&P is available for the hospital / electronic chart. Discharge summaries for brachytherapy cases should be done on the day of discharge.
   5. OTV notes are a considered an attending physician function. If a resident writes an OTV note it is still the responsibility of the attending physician to write one of their own and it is not sufficient for the attending physician to simply sign an attestation to a resident OTV note.
H. Content of Dictations

1. New patients consults (NP) - Include: history of present illness, past medical history (including previous irradiation for any reason, collagen vascular disorders and medications with doses), social history, family history of cancer, review of systems, physical exam, laboratory studies and radiographs with dates, pathology, impression and plan. The impression should include stage, histology and previous treatment. For example, 50 year old post-menopausal female with T1N0M0 infiltrating ductal carcinoma of the left breast s/p wide excision. The plan should briefly outline the proposed management including radiation therapy treatment field and doses, use of concurrent or sequential chemotherapy, further imaging studies as well as the expected side-effects and complications of the proposed radiation therapy.

2. Previous Patients (PP) - Include and interim history since the patient was last seen and update the PMH with medications and dosages. Complete physical exam, impression and plan are required.

3. Continuing Consults (CC) - A brief updated history and exam with impression and plan are required.

4. Follow-up (FU) - Brief summary of reason for follow-up and interim history since last evaluated. For example, Mr. Smith returns for a routine follow-up of his T1 true vocal carcinoma 6 months after completing radiation therapy. He reports no interim problems specifically no hoarseness or throat pain. Include a brief exam focusing on the area of involvement. For men always document rectal exam and for women a breast exam and the most recent mammogram and pelvic exam with pap smear. For children standing and sitting height should be documented. The impression should include a one line statement of tumor histology, site, stage, treatment and tumor status. For example, T1N0 squamous cell carcinoma of the true vocal cord s/p 66 Gy without evidence of disease. Plan should include pertinent studies and follow-up plan. An RTOG late toxicity score and KPS must be documented on each follow-up visit.

I. Clinical Interactions

1. Should a patient request to “tape” clinical interactions, it is the policy of the department to never refuse.

III. Patient Records

A. Front desk will obtain hospital records and XRT charts. They will try to obtain pertinent material on all new patients prior to the initial consult. If you have specific requests try to anticipate this at the time of the phone consult so that the information will be available when the patient is here for consult. They will try to have this information by 8 A.M. on the day of the consult. Information to be returned to outside institutions such as films can be sent back through the front desk.

B. The radiation chart and treatment sheet should be together before treatment begins. It is the therapists job (with the help of the front desk) to make sure these items are together.

IV. Patient Films
A. Front desk will call for inside and outside films. Films on in-house patients will be returned to the file room each night in case an emergency arises. Eventually the department should be “filmless” and all radiographic studies should be accessible by computer.

V. Scheduling
A. Scheduling of new patients and follow-ups is done through the front desk. Consults referred to specific staff will be scheduled on their clinic day when feasible. Other consults will be scheduled as soon as possible. Consult forms are to be filled out by the resident or staff who takes the consult and given to the front desk. Obtain as much pertinent information as possible including the patients name and phone number, physician’s name and phone number, location of films and pathology slides and the reason for the consult. If a simulation is anticipated, allow 1-2 hours between consult and simulation. TBI and electron arcs require co-ordination of a sim time and treatment planning CT scan on the same day. This needs to be scheduled through dosimetry.

B. In cases where a patient is re-referred (already completed an original treatment course) for a recurrence or metastasis, the attending physician who originally treated the patient should first be given the opportunity to re-accept the patient.

VI. Administrative
A. Chief Resident - A senior resident will serve as the chief resident. Generally, the chief resident works directly with the program director to organize and implement the day-to-day operations of the residency program. The chief resident serves as the resident advocate for all interactions between the faculty, staff and residents. He/she also will play a critical role in resident education by organizing lectures, journal clubs, visiting professors and inter-departmental educational activities. The chief resident will receive administrative support from the program coordinator.

VII. Call
A. Call will be rotated among all the residents. In general call will be for one week every fourth or fifth week. The chief resident is responsible for making out the call schedule. Holiday coverage will be evenly distributed among the residents. The call week begins Friday at 8 A.M. and continues for a week until the following Friday at 8 A.M. The on call resident will take any emergency consults after 3 P.M. on work days and 24 hours on holidays and week-end days. Residents do not need to be in the hospital to take call after clinic hours and an attending physician is always on call with the resident. Residents who are rotating at IHC/LDS will take call one week for each month they are rotating there.

B. In the event that a pediatric patient needs to be treated after hours or on a holiday, an attending physician must be in the department.

VIII. Clinical Curriculum
A. In accordance with ACGME program requirements, residents will irradiate no fewer than 150 patients per year or a minimum of 450 patients during their training. Residents should not treat more than 250 patients in any one year and they must treat no fewer than 12 pediatric patients of whom a minimum of 9 have solid tumors.
1. In order to stay in compliance with ACGME requirements residents should not see more than 4 new consultations on any one day and/or more than 10 new consultations during any one week. Any additional patients must be seen by the attending physician alone and they must perform all aspects of the H & P, dictation, simulation, treatment planning, etc.…

2. It is the responsibility of the resident to keep track of their case logs and to take the appropriate action in making sure they are getting as much experience in each area as needed. In addition, residents should also inform their attending physician if they are exceeding the limitations set forth by the ACGME and the department.

B. In accordance with ACGME program requirements, residents must perform at least 5 interstitial implants in at least 5 patients and assist in an additional 5 implants in at least 5 patients and perform 10 intracavitary implants in at least 5 patients plus assist in 10 implants in at least 5 patients.

C. The ACGME has set forth guidelines when determining how patients should be counted in resident case logs. Residents should follow the rules below when completing their case logs:

1. Patients should be counted as simulated by a resident if;
   a. the resident was present and participated throughout the initial simulation and treatment planning process,
   b. the resident simulates and plans treatment of a new area on an established patient (for example a new metastasis, new primary, or new recurrence).

2. Patients should not be counted as simulated by a resident if;
   a. the case was “picked up” from another resident, even if subsequent care involves a second simulation unless this involves treatment of another area,
   b. the simulation and planning were performed by staff and the resident only saw the patient after they were on treatment,
   c. another resident has counted the case on their log,
   d. the patient was seen in consult only.

3. Procedures should be counted as performed if the resident had hands on involvement:
   a. Intracavitary procedures: the resident participated in the planning, placed the applicator in the uterus, vagina, or other cavity, participated in the selection of sources/dwell times and reviewed the dosimetry.
   b. Interstitial procedures: the resident was present throughout the procedure and placed at least ½ needles/sources and participated in the selection of sources/dwell times and reviewed the dosimetry.
   c. Endovascular procedures: the resident reviews the case and indications, inserted and withdrew the sources under faculty supervision, and verified the dosimetric calculations. Endovascular procedures should be counted separately and do not count as intracavitary procedures.

4. Procedures should not be counted as “performed” if:
a. another resident has counted the procedure (residents should determine up front which of them will have primary responsibility);
b. they only examined the patient, sounded the uterus, observed someone else do the procedure, reviewed the dosimetry, loaded or pulled the sources, or were otherwise involved without actually inserting the applicator/needles/sources.

5. Procedures may be counted as observed if the resident observed or assisted in the entire procedure and reviewed the dosimetry but did not actually perform the procedure as described above.

IX. Didactic Curriculum

A. The educational program is an important part of the residency program. Residents are excused from clinic duties to attend conferences and lectures.

B. Conferences - A schedule of all conferences and tumor boards will be posted monthly with times and locations. Residents are required to attend pediatric and breast tumor boards as well as those tumor boards relevant to their specific clinical rotation. Residents should also attend tumor boards related to other services, providing they do not conflict with their service activities.

C. Chart rounds are held weekly on Wednesday mornings and all residents must be ready to discuss their patient’s who are under treatment.

D. Lectures and Seminars

1. Physics – The residents are expected to attend the lectures series delivered annually to gain an in-depth understanding of medical physics and the application to radiation. A Raphex in-training exam is given annually at the completion of the course. The course is also evaluated at the end of the year by each of the residents.
2. Radiobiology - The residents are required to attend the lecture series delivered annually to gain an in-depth understanding of radiation biology. There is a test given at the completion of the course and the course is also evaluated by each of the residents.
3. Statistics - The residents are required to attend the lecture series delivered every other year to gain an in-depth understanding of statistics as it relates to radiation. There is a test given at the completion of the course and the course is also evaluated by each of the residents.
4. Compliance training – mandatory training in billing-related issues will be performed annually.
5. Grand Rounds – The residents are encouraged to attend any grand rounds lectures where the topic is pertinent to oncology. Residents will be excused from chart rounds or any other department conference, when applicable, to attend grand rounds.
6. Other lectures at UUHSC/PCMC/HCI – residents will be notified as they are scheduled.
X. Research Projects
A. During the four year training period, residents are required to complete an investigative project under faculty supervision. This may take the form of biological laboratory research, clinical research, medical physics research, or the retrospective analysis of data from treated patients. The results of these projects shall be suitable for publication in peer-reviewed scholarly journals or presentation at scientific meetings.
B. Resident research projects are designed by the resident’s interest and involvement in faculty research projects. Residents are given the opportunity to choose which research projects they participate in based on their personal interests. Research will usually begin in the second or third year of residency. Six months of dedicated research time may be allocated over the four year training period. All dedicated research time must be outlined in a proposal which must be submitted to the Program Director at least three months before the research rotation begins.

XI. Evaluations
A. Resident Evaluation - the staff formally evaluates the resident’s progress at the end of each rotation. This will be a written evaluation that evaluates each resident’s learning and development of the six general competencies (1. patient care, 2. medical knowledge, 3. practice-based learning and improvement, 4. systems-based practice, 5. professionalism and 6. interpersonal and communication skills). The review will take place within 1 month of completion of the rotation. Specific areas are rated from a low (1) to high (9) score. The results of the evaluation are discussed with the resident on an individual basis. A low rating of 3 is considered an unacceptable performance. The residency director and one other faculty will meet with the resident to determine what corrective action is necessary to improve performance. Specific suggestions in writing will be provided to the resident and monthly review of progress will be conducted. If the resident is not able to improve performance scores by the next quarterly review the faculty will jointly discuss whether probationary action is necessary. The resident may appeal a probation decision that he or she deems inappropriate. Please see process for airing a grievance in “Standards of Performance”.

B. Rotation/Staff Evaluation- the residents will submit an anonymous formal rotation/staff evaluation at the end of their rotation with that faculty member. The scores will be tallied by the Residency Program Coordinator and given to the Department Chair for annual review and discussion with faculty members.

XII. Exams
A. ACR in-training exam - Once a year in March an exam is given through the American Board of Radiology. This is a mandatory exam for all residents nationwide and covers radiobiology, physics, clinical oncology, and statistics.

B. ABR written and oral exam - 50% pass rate on the annual in-training exam is required before the resident is eligible to sit for the ABR written exam. The written exam will be taken in September following completion of the residency program. If residents pass the written exam they may take the oral exam the following spring. To prepare residents for the oral exams each year there will be mock oral exams given by the UUHSC and LDS
faculty. The exam will be given in the spring each year. The residents will not be graded on the exam. The guidelines for applying and criteria for passing the exams can be accessed on the web at www.theabr.org.

C. ACLS certification- first year residents (PGY2) must either have been certified or take a course by October 15 of the year they start.

XIII. Leave Time

A. Vacation - Residents get 15 working days of paid vacation per year. Vacation time must be cleared with the chief resident and program director and reported to the program coordinator and front desk in advance so that resident coverage in the clinic is assured. Time away from the department for job interviewing or locums is not counted against vacation time. If additional time is needed during the senior year the resident must clear the request through the program director.

B. Family Medical Leave/Sick time/Maternity leave - In compliance with the Family Medical Leave Act of 1993 residents may have up to twelve weeks of unpaid leave per year if they have worked for longer than a year. The American Board of Radiology allows 6 weeks for maternity leave and disability leave. The resident must complete the requisite course curriculum to become board eligible. Cumulative time away from the residency program for any reason must not exceed *80 days over the four year residency program. Any time beyond *80 days must be made up at the end of the residency program. This additional time will be without pay if the resident had been receiving a regular paycheck during the time they were away on leave. (*Those in training before July 1, 2005, are permitted SIX CALENDAR WEEKS (30 working days) of leave per year. These may be accumulated during the four training years; that is, they may take the 80 working days, plus 10 days per year for every year they were in training before July 1, 2005.)

C. Educational leave / funding - Resident presenting original research at relevant local, regional or national meetings will be required to obtain written authorization to submit an abstract for presentation. If this is approved, they will be provided paid time off to include travel time to and from the meeting plus the day of presentation. Any additional time taken to attend the meeting will be approved at the Program Directors discretion. The department will provide funding to cover travel expenses (if approved in advance) and costs of attending the meeting including registration costs, preparation costs, housing and meal expenses for the days of travel and the day of presentation. Any additional costs associated with meeting attendance will not be covered unless approved in writing by the Program Director and Chair prior to the meeting. Travel outside the continental United States requires approval from the Program Director and/or Chair. If external funding can be obtained, travel to relevant international meetings may be allowed with written approval from the Program Director and Chair prior to submission of the research. Each resident will be allowed to attend one meeting per year unless specific approval is given by the Program Director and Chair.
XIV. Computers/Web Access
   A. Each resident will have a dedicated computer at his or her desk. The computer is strictly to be used for work related issues. Access to the web is provided and literature searches can be conducted through the Eccles Library. Eccles Library conducts classes on how to do literature searches. Residents should sign up for this course and will be excused from clinic duties during the course. Residents will correct dictations electronically and an electronic signature will be affixed to each H and P, follow-up or treatment summary.