

## Procedural Steps Prior to Initiation of Treatment

### Policy:

To provide guidelines to ensure that all clinical steps are carried out prior to the initiation of treatment.

### Procedure:

1. Patient is referred to the Radiation Oncology Department.
2. Patient is seen under consultation by Radiation Oncologist.
3. Physician will make decision to treat with radiation, not treat at this time, or not treat at all.
4. CT Simulation is performed for treatment planning. Physician sets isocenter.
5. Physics opens CT images from the Pinnacle Treatment Planning system for treatment planning.
6. For 2D Planning: Radiation Oncologist set beams and ports and/or GTV (Gross Tumor Volume), CTV (Clinical Tumor Volume), PTV (Planning Target Volume), and OAR (Organs at Risk). With these drawings a Dose Volume Histogram can be obtained.  
For 3D CRT (Conformal Radiation Therapy) or IMRT (Intensity Modulated Radiation Therapy): Radiation Oncologist has to draw at least PTV (Planning Target Volume), and OAR (Organs at Risk) or he/she can draw GTV and CTV to obtain PTV.
7. Physician enters and approves prescription for treatment course. Physics constructs plan for area treated based on beams and ports for 2D Planning or tumor volume and critical organs for 3D CRT & IMRT decided upon by physician.
8. Dosimetry plans fields to be treated.
9. Physician approves treatment plan.
10. Dosimetrist exports plan from Pinnacle Treatment Planning System to MOSAIQ. MU Check calculation is completed. Plan, MU check and DRR's are verified by Dosimetrist.

11. Physicist verifies and approves the treatment plan, MU calculation, DRR's, physician orders, imported plan and fields in IMPAC prior to initiating the therapist's quality checklist.
12. Physicist approves the plan and MU calculation in MOSAIQ.
13. Physicist performs QA and generates Special Physics Report.
14. Therapists check for prescription approval in MOSAIQ.
15. Therapists verify MOSAIQ prescription and the treatment field(s) versus approved treatment plan and DRRs sent from Physics.
16. The therapist operating the Linac treatment machine opens fields to be treated in MOSAIQ and verifies treatment parameters. Treatment is performed in QA mode by therapists prior to patient being on treatment table.
17. Therapists index patient on treatment table.
18. Therapists perform time out verification in MOSAIQ.
19. Therapists make shifts to fields as directed by plan from the reference isocenter set at the time of the CT simulation, using digital readouts on treatment machine to move shifts. Therapists are to document shift coordinate numbers in MOSAIQ.
20. 2<sup>nd</sup> therapist to verify set-up after 1<sup>st</sup> therapist, and the initials of both therapists should be entered into MOSAIQ.
21. Vertical, Horizontal, and Longitudinal parameters are entered into MOSAIQ by therapists.
22. Pre-port films are to be taken initially and before each course.
23. Therapist at the treatment machine compares DRR films to port films.
24. Therapist at IVIEW to also verify port films to treatment plan from Physics. If port films do not match field DRRs, set up reference isocenter fields and port. Verify that reference isocenter fields set up properly and match port films or DRRs.
25. Therapists make shifts to fields as directed by plan from reference isocenter, using digital readouts on treatment machine to move shifts. Therapists' document shift coordinates in MOSAIQ.
26. If shifted ports do not match at this point, contact Physics for a review of the plan and fields.

27. Clinical set up will be reviewed for possible changes. After review and recommendations, new films will be taken.
28. Films are sent to physician to review and for approval.
29. Physician should compare set-up reference field DRRs and treatment field DRRs to port films.
30. Physician either approves the film or rejects film.
31. If the physician approves the film:
  - a. Therapists check for prescription approval in MOSAIQ. This is a 2<sup>nd</sup> check for this step.
  - b. Therapists at IVIEW and therapist at treatment machine both verify MOSAIQ treatment plan verses MOSAIQ prescription and treatment fields by stating the patient name, field name, distance, MU, and dose of field to be treated.
  - c. Patient receives treatment. Port films to be taken every five days and sent to physician for approval.

If the physician rejects the film:

- a. Physician should make notations of changes to be made.
- b. Therapists to review shifts, DRRs, treatment plan, port films.
- c. Therapists re-film with changes.
- d. Therapists send port films back to physician for approval.
- e. Film is approved by physician.
- f. Therapists check for prescription approval in IMPAC.
- g. Patient receives treatment.
- h. Port films are to be taken every 5 days and sent to physician for approval.