

**HACKETTSTOWN REGIONAL MEDICAL CENTER
JOAN KNECHEL CANCER CENTER
CT SIMULATION PLANNING**

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Effective Date: January 2005

Policy No: ROC PET 10

Cross Referenced:

Origin: Radiation Oncology

Reviewed Date: 6/09, 12/11, 8/13

Authority: Executive Director

Revised Date: 6/09, 12/11, 8/13

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SCOPE:

All patients receiving radiation treatment in the Joan Knechel Cancer Center.

DEFINITIONS:

N/A

PURPOSE

To provide a framework for the radiation therapy staff to do the CT simulation of patients for the development of the Treatment Plan.

POLICY

The CT simulation is the foundation for the development of the patient's Radiation Treatment Plan developed by the Dosimetrist and approved by the Radiation Oncologist and the Medical Physicist.

PROCEDURE

PRE-SIMULATION

1. Patient consent form for radiation treatment must be signed, dated with time and witnessed.
2. The Simulation/CT directive must be ordered as per order form in Aria, by the Radiation Oncologist.
3. The Radiation Oncologist's CT request is ordered in Cerner by the Radiation Therapist.
4. The Radiation Therapist takes an identification face photo of the patient and scans it into the patient's electronic medical record.

SIMULATION PLANNING

1. The patient is positioned according to the area being treated and the appropriate immobilization device is constructed.
2. Axial CT images are obtained and transferred to the Advantage Workstation
3. On the Advantage Workstation, the Radiation Therapist sets an isocenter and saves the plan. The Structure Set, Saved Plan and Axial Images are transferred to Eclipse for treatment planning.
4. Skin markings are also saved and transferred to the Lap Laser which are then downloaded and the patient is marked accordingly.
5. Digital photographs of the patient's setup and skin markings are obtained and transferred to Aria for documentation.
6. Based on the consent, the patient is tattooed with a needle or given skin markings with a sharpie. (See Patient Tattoos in Preparation for Treatment, TECH 26)

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7. Radiation treatment appointment times are discussed with patient and or family member/representative. The exact start date will be determined after the treatment plan is completed. The patient will be notified within a week of the simulation.

POST SIMULATION:

1. The CT Order submitted in Cerner in the Pre-Simulation phrase is completed and scanned into PACS by the Radiation Therapist.
2. The CT images are transferred to PACS and the Cerner Order is scanned into PACS.
3. The CT Simulation Document is completed by the Radiation Therapist in Aria and the digital photographs of the patient's setup and skin markings are electronically documented in Aria.
4. The Dosimetrist transfers the images to the treatment planning system (Eclipse) for the Radiation Oncologist to draw volumes, contours, etc.
5. When the Treatment Plan is completed by the Dosimetrist, it is sent to the Radiation Oncologist for approval.
6. The Treatment Plan and the Radiation Calculations are merged by the Radiation Therapist and electronically signed by the Radiation Oncologist and the Medical Physicist.
7. For IMRT plans, IMRT QA is required and must be performed by the medical physicist. The Radiation Oncologist and the medical physicist must sign off on the QA. The documents must be scanned into Aria for electronic documentation in the patient's record.
8. Initial Chart Check is completed by the Radiation Therapists and separately by the medical physicist prior to the start of treatment.
9. All charges for the Simulation are submitted for billing.