

NUCLETRON SIMPLICITY SIMULATOR DAILY WARM-UP/BIWEEKLY QA

PURPOSE: To test the system for normal function, to minimize the risk of damaging the tube or transformer in the event of a component failure, and to verify precision of treatment parameters.

DAILY PROCEDURE WARM-UP/LASER ALIGNMENT

Upon initial start-up or following two or more hours of shut-down, exposures should be made at a medium power level before actual patient simulation.

- 1) Select tube warm-up, 70 KV, 200 mA 200 mAs should appear. Take three exposures 15 seconds apart.
- 2) Do not select the maximum mA unless necessary to minimize motion/blurring.
- 3) Do not leave a high mA station selected for extended periods of time.
- 4) Select a technique with a small focal spot whenever possible.
- 5) Verify sagittal and lateral laser alignment with the alignment verification box set to 100 SSD. Adjust if necessary. Tolerance within 2 mm.

Any deviation in normal operation must be reported promptly to the Physicist and documented in the Nucletron Simplicity systems log.

WEEKLY PROCEDURE QA CHECKS

- 1) Set a field size of 10 x 10 cm.
- 2) Set the alignment verification box on the tabletop.
- 3) Visually verify the leveling bubble indicator.
- 4) Set the CAX to 100 SSD on the box. Verify with the mechanical indicator.
- 5) Verify field size within 2 mm.
- 6) Verify laser intersection at the isocentric points on the box. Adjust if necessary.
- 7) Rotate gantry to 90° to 270°. Verify coincidence of CAX to crosshair on box.
- 8) Test the collision ring with gantry in motion. All movement should stop.
- 9) Once a week test the Emergency Motor Stop on the console control or table control.
- 10) The Emergency Off will be tested by the Physicist or designee each month.