

Use of Diodes in Patient Dosimetry

Policy:

To provide guidelines for using diodes in clinical situations wherein there is an important need for dose determination in patients who are or will be receiving radiotherapy at LSUHSC-Shreveport Radiation Therapy Center.

Procedure:

- A. Indications for use
 - 1. Physics will inform the therapists when a physician requests diode readings for a treatment field.
 - 2. The min/max diode readings will be highlighted in yellow on the MU calc sheet under the physics sections in the patient's chart. There will be a red dot located on the field image that will tell the therapist where to place the diode on the patient's skin. The location point may not be exact.
 - 3. QA of the Diode Dosimetry monitor is to be done by the physicist.
- B. Use and documentation of diodes
 - 1. Press the "on" button on the Diode Dosimetry monitor located by the beam analyzer in the treatment control room. The A1 switch is for 6MV, the A2 switch is for 18MV and the B1 switch is for electrons. Select the appropriate button on the monitor for what energy the diode reading will be taken on. Then, connect the cable plug on the back of the monitor to the appropriate outlet (A1, A2 or B1). Reset the monitor to 0.
 - 2. In the treatment room, select the appropriate diode detector cable for what energy is being used. Attach the detector cable to the diode cable located next to the beam analyzer cable in the treatment. Tape the detector (it is white) directly to the patients skin, where indicated by the red dot on the MU calc sheet. The diode readings should be taken as the patient's treatment is given.
 - 3. Multiply the reading number listed on the Diode Dosimetry monitor by the appropriate calibration factor (according to energy used.) The calibration factors are on the wall next to the monitor. The number you get is to be recorded along with the date taken on the MU calc sheet. The number should be between the min/max readings listed on the MU calc sheet. Notify physics of any variance.

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Reviewed:

Revised: