

AbstractID: 1375 Title: Acceptance testing of a computer tomography scanner using normoxic polymer gel dosimetry

Computer tomography dose index (CTDI) is a routine measurement undertaken during acceptance testing of diagnostic CT scanners for the determination of patient dose. Effective whole body dose from various diagnostic scanner protocols is determined from a CTDI measurement using a calibrated 100 mm ionization chamber. Normoxic polymer gel dosimeters<sup>1,2</sup> have been used for the first time to measure CTDI during acceptance testing of a Philips ACQSIM CT scanner and compared with the conventional ionization chamber measurement for a range of imaging protocols. The polymer gel dosimeter was additionally used to simultaneously determine both dose uniformity and dose profiles, the measurements of which are usually determined with other methods. The resulting CTDI for both polymer gel dosimeter and ionization chamber was within 2%. Uniformity of dose and the dose profiles measured at the same time with the same polymer gel dosimeter were within specifications of the equipment manufacturer. The use of normoxic polymer gel dosimeters have been shown to be a suitable device for determining absorbed dose measurements during the acceptance testing of equipment and provides additional information not possible with just the use of an ionization chamber.

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2. DOSGEL 2001 *Proceedings of DOSGEL 2001 - 2nd International Conference on Radiotherapy Gel Dosimetry*. Eds. C Baldock and Y De Deene (Queensland University of Technology, Brisbane, Australia).