

Measurement of IMRT Dose Distribution in Rando Head and Neck Phantom using EBT3 Film

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Abstract : Cancer is one of the leading causes of death in the world. Radiation therapy is one of the main choices for cancer treatment. Intensity-modulated radiation therapy is a new type of radiation therapy technique available for vital structures such as the parathyroid glands. It is very important to check the accuracy of the delivered IMRT treatment because any mistake may lead to more complications for the patient. This paper describes an experiment to determine the accuracy of a dose measured by EBT3 film. To test this method, the EBT3 film on the head and neck of the Rando phantom was irradiated by an IMRT device and the irradiation was repeated twice. Finally, the dose designed by the irradiation system was compared with the dose measured by the EBT3 film. Using this criterion, the accuracy of the EBT3 film was evaluated. When using this criterion, a 95% agreement was reached between the planned treatment and the measured values.

Keywords : EBT3, phantom, accuracy, cancer, IMRT

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