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Investigation of 3D dosimetry for an anthropomorphic spine phantom

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Abstract

A new dosimetry insert for the Radiological Physics Center's spine phantom was designed to hold a specially molded dosimeter. The phantom was irradiated with the traditional insert loaded with radiochromic film and TLD, and then with the new 3D dosimetry

insert. A comparison with the calculated dose distribution showed that PRESAGE® dosimeter, as well as the film and TLD system, agreed to within $\pm 2\text{mm}$. Further analysis of the 3D dosimeter, including a measured dose volume histogram, demonstrated the advantages of 3D dosimetry in a clinical environment.

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