

Dosimetry Diagnostics for VITA BNCT Clinical Trials

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Ahead of the imminent commencement of clinical trials of Boron Neutron Capture Therapy (BNCT) at the VITA facility in the Blokhin Cancer Center, radiation dosimetry techniques during treatment become critically important. This presentation outlines the methodologies planned for use in the clinical trials, specifically: a 3D water phantom with a compact diamond gamma detector and a compact neutron counter based on a scintillator. A second key diagnostic tool is Prompt Gamma (based on a semiconductor gamma spectrometer), a method that has also been trialed in the treatment of domestic animals. This approach has yielded not only information on the dose delivered during therapy but, what is even more important, data on the change in boron-10 concentration within the detector's field of view during the treatment session.