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Worldâ??s first CT images of biological tissues produced

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Detailed three-dimensional images of a patient's anatomy can now be created using protons rather than x-rays, and this will make Proton Therapy a more viable option for millions of cancer patients.

An international team of scientists at the University of Lincoln, UK has produced the world's first computerized tomography (CT) images of biological tissue using protons - a momentous step towards improving the quality and feasibility of Proton Therapy for cancer sufferers around the world.

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Proton Therapy is a new form of radiotherapy which is rapidly growing in importance as a means to treat difficult tumors and provide treatment for children and young people who have cancer. In the UK, two NHS Proton Therapy Centers are set to open within the next two years, in London and Manchester.

Currently, in Proton Therapy, there is a significant degree of uncertainty in the range and accuracy of protons during treatment. If planned using x-ray CT images, there could be a discrepancy of 3-5% in terms of where the proton beam hits and releases its energy, destroying cells. With proton CT images, this uncertainty is reduced to less than 1%.