Radiotherapy Board

International Commission on Radiological Protection (ICRP): Radiological Protection in Ion Beam Therapy

RESPONSE FROM THE RADIOTHERAPY BOARD[i]

This ICRP draft report *Radiological Protection in Ion Beam Radiotherapy* provides a comprehensive overview of the current state-of–the-art ion beam radiotherapy techniques and technology, describing the physical and radiobiological issues of proton and carbon ion beams.

The report describes in some details the sources of in-field and out-of-field radiation, citing work done to measure and model this, and to assess secondary cancer risk in patients. Issues of exposure from medical imaging, occupational exposure, and public exposure are described, and methods for mitigating and managing such exposure given.

The report concludes with a concise and logical list of recommendations.

This is a very well written and timely report that will become an extremely important resource as the use of ion beam radiotherapy continues to grow globally.

The report may need revision in time, however, as the majority of future ion beam facilities will likely be pencil beam scanning only facilities. As such, much of the beam shaping hardware that contributes significantly to secondary radiation during plan delivery, and contributes to occupational exposure through activation, will not be used. It may be worth emphasizing this more clearly in this report.

Throughout the draft, minor spelling mistakes and grammatical errors exist. We assume that a final proof reading would identify these prior to publication.

[i]The Radiotherapy Board provides guidance, oversight and support for the continuing development of radiotherapy services in the UK. It was established in April 2013 by The Royal College of Radiologists, the Society and College of Radiographers, and the Institute of Physics and Engineering in Medicine following the closure of the National Radiotherapy Implementation Group and National Cancer Action Team. Its membership includes (inter alia) the Chair of the Radiotherapy Clinical Reference Group.