

FOREWORD

In recent years the technology of radiation oncology has been advancing at a very rapid rate. It is well recognized that the sophistication of technology available in individual radiation therapy centres varies dramatically throughout the world. Treatment capabilities with planar imaging and limited cross-sectional imaging support have been labeled as “2-Dimensional Radiation Therapy” (2-D RT). With increased use of more advanced cross-sectional imaging, the introduction of more complex dose calculation capabilities for treatment planning and more sophisticated treatment delivery procedures, “3-Dimensional Conformal Radiation Therapy” (3-D CRT) can be provided. Further sophistication in treatment planning and treatment delivery capabilities allows for “Intensity Modulated Radiation Therapy” (IMRT). Recognizing that huge disparities exist across the world and in an attempt to aid in advancing institutional capabilities, IAEA-TECDOC-1588 was published in May 2008 with the title of *Transition from 2-D Radiotherapy to 3-D Conformal and Intensity Modulated Radiotherapy* [1]. This report is divided into two parts: *Conformal Radiotherapy* and *Intensity Modulated Radiotherapy* and provides guidelines for the transition from 2-D RT through 3-D CRT to IMRT. It is recognized that 3-D CRT is standard of care in most radiation treatment processes and IMRT technologies are still evolving. The report provides clear guidelines and highlights the milestones that are to be achieved in transitioning from 2-D RT to 3-D CRT and IMRT. While the report is very comprehensive in providing guidelines and milestones, what remained to be done was the development of training materials that will aid professionals in the continuing education required for implementation of more advanced treatment capabilities, especially 3-D CRT. Two consultants’ meeting were organized by the IAEA in 2009 and 2010 with a primary focus on providing guidance on what training materials were available or needed to be developed, with a special emphasis on transitioning from 2-D RT to 3-D CRT and a secondary emphasis on transitioning to IMRT.

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