AbstractID: 2218 Title: Overview of Clinical Implementation of IMRT

Intensity modulated radiation therapy (IMRT) with photons uses beams with patient-specific fluences that are designed to optimize the complete dose pattern. There are a variety of delivery methods for IMRT beams - physical modulators (compensators), serial tomotherapy with tertiary binary collimator (NOMOS MIMiC), segmented MLC fields (sMLC), dynamic MLC fields (dMLC), dynamic arc fields (IMAT), and helical tomotherapy (TomoTherapy). The details of clinical implementation vary with each delivery system. However, the major issues that must be addressed include selection of equipment (delivery equipment, treatment planning system, QA devices), space planning, evaluation of treatment room shielding, installation and commissioning of equipment, establishment of QA processes, implementation/improvement of patient immobilization, implementation of new treatment planning paradigms, increased staffing needs, training, systems integration, and billing. Examples from the IMRT experience at the University of Texas M. D. Anderson Cancer Center will be presented to highlight important points.

Educational objectives:
1. Define IMRT
2. Describe various delivery methods
3. Identify clinical implementation issues

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