

AbstractID: 6011 Title: Mega-Voltage Cone-Beam Computerized Tomography

Mega-Voltage Cone-Beam Computed Tomography (MVCBCT) systems have been in clinical use at UCSF since February 2005. This lecture will provide a general description of the MVCBCT system, image acquisition, reconstruction and registration. The practical clinical applications as well as the guidance strategies will be presented through a number case studies including the following anatomical sites; head&neck, lung, spine, prostate and pelvic sites.

Educational objectives

1. Understand the basics concepts of MV Cone-Beam CT imaging
2. Understand the range of clinical applications made possible by MVCBCT in the following categories:
 - Patient and organ positioning
 - Monitoring of anatomical changes and tumor dose response
 - Tomosynthesis
 - Dosimetric impact
 - Dose planning in presence of CT non-compatible objects
 - Brachytherapy
 - Dose-guided radiation therapy (DGRT).

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