AbstractID: 12034 Title: Practical Considerations for Respiratory Correlated CT Imaging and Target Volume Delineation

Accurate and conformal treatment of tumors in abdomen and thorax is challenging due to respiratory related motion. Respiratory correlated CT imaging combined with gated treatment delivery can improve both accuracy and conformity of delivered dose distributions. Implementation of respiratory correlated imaging and treatment delivery can be performed in multiple ways and understanding of different techniques and technical challenges is critical for efficient and safe clinical implementation. Formal recommendations for commissioning and clinical use of this technology is scarce. Inadequate evaluation and understanding of these systems can lead to significant treatment errors. This presentation deals with practical issues of respiratory correlated CT imaging and commissioning. Examples of some commonly seen image artifacts are also discussed. Furthermore, contouring based on respiratory correlated images is discussed, again with examples of some of potential pitfalls and artifacts. Education Objectives:1. Commissioning process for respiratory correlated CT imaging and delivery techniques.2. Use of respiratory correlated images for target delineation.3. Common image artifacts and contouring errors seen with respiratory correlated imaging.