

AbstractID:9858 Title :Acceptance Testing, Commissioning, Data Entry, and QA for Brachytherapy Treatment Planning Systems

Clinical medical physicists are compelled to concern with accuracy of brachytherapy treatment planning systems as the basis for treatment delivery. The role of the medical physicist in brachytherapy is key – close interactions with physicians are needed, and often a radiation therapist may not be present. In comparison to external beam, dose gradients are steeper, record-and-verify is not typically used, and treatment fraction dose is usually higher. Thus, the importance of our input. The role of brachytherapy for cancer treatment has expanded in recent years. Many of these new modalities push the limits of the conventional brachytherapy treatment planning dose calculation algorithm. A solid understanding of these systems and their clinical role is crucial towards ensuring success. This tenet holds true for both the newer modalities and the more established brachytherapy procedures.

This continuing education lecture will provide a quasi-chronological overview of these sources and actions required of a clinical medical physicist. The following Educational Objectives will be covered:

1. Acceptance Testing and Commissioning recommendations
2. Data Entry of brachytherapy dosimetry parameters based on AAPM-, manufacturer-, and user-provided data
3. Quality Assurance, including startup and on-going efforts, towards ensuring a safe and accurate environment