

AbstractID: 14382 Title: QA/QC for Endorectal Ultrasound Imaging In Prostate Brachytherapy

The AAPM Task Group 128 report provides guidance for quality assurance of ultrasound units used in prostate brachytherapy. Accurate imaging guidance and dosimetry calculation for prostate brachytherapy depend upon the quality and accuracy of the ultrasound image. Therefore, a robust quality assurance program for the ultrasound system is essential. Completion of the TG-128 tests requires use of a specialized ultrasound phantom, a water bath, and other equipment. Some care and creativity is needed to complete these tests. Quality assurance should include each link in the process from ultrasound image acquisition to visualization on the treatment planning system. The recommended tests include grayscale visibility, depth of penetration, axial and lateral resolution, distance measurement, area measurement, volume measurement, needle template/electronic grid alignment, and geometric consistency with the treatment planning computer.

Educational Objectives:

1. To describe the methods of TG-128: Quality assurance tests for prostate brachytherapy ultrasound systems
2. To highlight special techniques which may be used to accomplish the tests described in TG-128.
3. To assess the relative likelihoods and significance of potential QA findings.
4. To review the materials and time needed to complete the TG-128 tests.