

AbstractID: 14625 Title: Stereotactic Breast Biopsy

Suggested methodologies for performing the eleven required tests on a Stereotactic Breast Biopsy (SBB) System as required for accreditation by the American College of Radiology or American College of Surgeons will be covered in this presentation. A discussion of the results of these measurements of the past ten years will cover the differences and improvements achieved with the newer equipment in terms of image quality and consistency. Techniques for securing the test equipment in these lateral mammography units will be illustrated and discussed for the various types of test equipment currently available for use by the physicist. Accuracy results for kVp meters on these units can be a challenge for equipment that is designed to expect a beam hardness consistent with a screening mammography unit with a compression paddle in the beam as these SBB units have a softer x-ray beam spectrum without the compression paddle. Determination of the accuracy of the biopsy needle and tissue sample location will be covered for a variety of biopsy phantoms. Both SBB units with and without Automatic Exposure Control(AEC) will be covered with suggested techniques given for those units without AEC systems.

Educational Objectives:

1. Understand the techniques and expected results for KVP and Half-Value Layer measurements on Stereotactic Breast Biopsy Systems.
2. Understand the image quality expected and required for meeting accreditation requirements of SBB units using the mini-phantom designed specifically for these units.
3. Understand the requirements for needle location accuracy and testing methods to be used with various phantoms to demonstrate this accuracy.