

As more and more ultrasound facilities apply for ACR accreditation, demands will be made on imaging medical physicists to establish a quality control program. While not required for the preliminary accreditation, renewal applications will expect a quality control program to be in place. Medical physicists who do not wish to perform these tests themselves must be able to teach technologists to perform the tests and must be able to interpret the results.

This course will offer medical physicists an opportunity to refresh their skills in ultrasound quality control using less expensive ultrasound equipment. The emphasis will be on supervised hands on learning, rather than a didactic lecture. Participants can arrive at any time and practice on any available equipment. Because only three instructors will be available, physicists with no training in ultrasound are encouraged to arrive early so they can have more individual instruction.

Quality control tests which have been recommended by various groups include: penetration depth, uniformity, ring down, lateral and axial resolution, vertical and horizontal caliper accuracy, display monitor setup and fidelity, and correspondence of the ultrasound monitor and film multiformat camera. Except for the last test, all the above can be tested during this refresher course with a variety of commercially available phantoms.

Since each transducer frequency will determine the expected results for penetration depth, ring down, and lateral and axial resolution, acceptable values for these parameters at the various transducer frequencies will be given.

Educational objectives: Review of routine ultrasound QC procedures. Ability to perform these procedures on ultrasound equipment. Knowledge of the expected results when performing these QC tests.