Diagnostic Ultrasound Imaging Quality Control & High Intensity Focused Ultrasound Therapy Hands-on Workshop
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Supported by
Best Medical
Cobion Medical BV
Computerized Imaging Reference Systems (CIRS)
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Zonare Medical Systems

Goals
• To demonstrate advancements in high intensity focused ultrasound (HIFU)
• To demonstrate quality control (QC) testing in diagnostic ultrasound and ultrasound-guided systems

Podium
High Intensity Focused Ultrasound
Diagnostic Ultrasound QC
High Intensity Focused Ultrasound
Diagnostic Ultrasound QC
Ultrasound QC for US-guided Brachytherapy
Automated Ultrasound QC
ACR Ultrasound QC Tests

1. Physical and Mechanical Inspection
2. Image Uniformity and Artifact Survey
3. Geometric Accuracy (optional)
4. System Sensitivity
5. Ultrasound Scanner Electronic Image Display Performance
6. Primary Interpretation Display Performance
7. Contrast Resolution (Optional)
8. Spatial Resolution (Optional)
9. Evaluation of QC Program (if applicable)

Ultrasound Doppler QC Testing

Doppler QC tests may include
– Doppler signal sensitivity;
– Doppler angle accuracy;
– Color display and Gray-scale image congruency;
– Range-gate accuracy;
– Flow readout accuracy.

Ultrasound Phantom Demo
Ultrasound QC for Prostate Brachytherapy Systems
AAPM Report No. 128

Ultrasound QC tests:
  Needle Template Alignment
  Distance, Area and Volume Accuracy
  Maximum Depth of Penetration
  Image Uniformity and Artifacts
  Spatial Resolution

Automated Ultrasound QC Method Demo