

QIBA Lung Nodule Assessment in CT Screening Writing Group

17 May 2013 at 10 AM CDT

Call Summary

In attendance:

Samuel G. Armato III, PhD (Co-chair)
James L. Mulshine, MD (Co-chair)
Rick Avila, MS
Andrew J. Buckler, MS
Kavita Garg, MD

Jenifer Siegelman, MD, MPH
Daniel C. Sullivan, MD
David F. Yankelevitz, MD

RSNA:
Joe Koudelik
Madeleine McCoy

Discussion Topics

- Dr. Sullivan and Mr. Buckler gave an overview of the QIBA Annual Meeting.
 - QIBA is gaining more recognition and credibility.
 - The Metrology Group efforts were recognized as being helpful in defining terminology and clarification of technical performance.
 - Other topics discussed were clinical trials, profile development and groundwork efforts.
- Mr. Avila discussed the *CT Lung Nodule CT Image Quantification Recommendations* slides in more detail.
 - Goal: Visualize: ≥ 3 mm diameter solid nodules
 Measure Volumetric Change: ≥ 5 mm diameter solid nodules
 - Focus:
 - CT Scan
 - CT Slice Thickness & Spacing
 - Tube Current (mAs)
 - Tube Power (kVp)
 - Pitch
 - Reconstruction Kernel
 - Field of View
 - Calibration Devices
 - Best quality of measure, points of convergence and vendor based differences were discussed.
 - Use of NLST lung data proposed, but filtered specifically for quantitative image sets
 - Dr. Mulshine and Mr. Avila will have further conversations offline regarding use of a calibration phantom for addressing variability.
- Technical Notes from Dr. Armato:
 - Iterative reconstruction should be used.
 - 64-slice (or higher) scanners should be used. Perhaps a "back-up" profile could be created for 16-slice scanners
 - The profile needs to somehow control for "technical drift"; accommodation for technical developments could become a service provided by QIBA.
 - Low-dose scouts are recommended; however, the automatic exposure control could be negatively impacted. The use of AEC was debated with arguments both for and against.

Next steps

- The next t-con will be Friday, May 31st at 10 AM (CDT)