

QIBA Quantitative CT Group 1C Subcommittee Update

Wednesday, December 22, 2010; 2 PM CST

Call Summary

In attendance

Charles Fenimore, PhD, (Chair)

Baiyu Chen

Marios Gavrielides, PhD

David Gustafson, PhD

Philip F. Judy, PhD

Hyun Grace Kim, PhD

Kevin O'Donnell

Ganesh Saiprasad, PhD

Ying Tang, PhD

RSNA

Joe Koudelik

Julie Lisiecki

I. Updates to tables – inter-scanner study imaging protocol instructions

- Dr. Fenimore to revise scanner settings table based on today's suggestions and send to all participants for review
- Added pitch to scanner parameters (may vary from site to site)
 - Dr. Gavrielides recommended using 1.0 for all sites (pitch)
- Two tables for review:
 - T1: ACRIN 6678 guidelines
 - T2: performance-based criteria
- Added: voltage, display FOV (instead of voxel size), pitch
- Positioning of thorax phantom
 - Try NOT to move once in place; leave in place for reconstructions, additional scans
 - Additional details will be sent by Dr. Fenimore in an email to the group

II. Imaging Protocol

- Need to provide generic description/ directions for different labs to achieve similar results
- Consider specifying fiducial markings/ measurement system for phantom
- Determine whether or not table height is a factor
- Consider other items to specify
- Dr. Gavrielides to send Dr. Fenimore specific details concerning phantom positioning done at FDA

III. Scans and series

- 6 series from 2 scans, repeat 5 times – 30 series total
- Only 2 will be read due to limited resources; remaining data will be archived for future study
- 8 lesions: 5 sites to scan 2 series each – a total of 80 nodules to be sized

IV. Noise

- Question was raised about the best way to gather noise data
- Mr. O'Donnell suggested that the best way to measure this data was centrally
- Another possibility is to do one noise measurement per site as a basic QA check, i.e., "if noise is outside the expected range, something may be incorrect."

V. Estimated time to complete the necessary scanning per site

- Dr. Gavrielides estimates that it should take 4-5 hours for the entire process per site
- Plan to have at least one full day per site for scheduling purposes

Next steps:

1. Revise table and distribute to everyone for review by January 1st.
2. Consider target dates for each location for scheduling the imaging with the FDA phantom.
3. Determine if Dr. McNitt-Gray or Dr. Samei can be present for imaging at different sites
4. Discuss inter-scanner study; Dr. Fenimore to send information to Dr. Kim for study design development
5. Dr. Gavrielides to send Dr. Fenimore specific details concerning phantom positioning done at FDA

Next call: Wednesday, January 5, 2011, 2 pm CST, 3 pm ET.