

## QIBA Volumetric CT Tech Committee Update

Monday, August 01, 2011 at 11 am CDT

### Call Summary

#### In attendance

P. David Mozley, MD (Co-chair)  
Maria Athelougou, PhD  
Hubert Beaumont, PhD  
Devyani Bedekar  
Andrew Buckler, MS  
Kavita Garg, MD  
Paul Garrett, MD  
Luna Hilaire, PhD  
Alec J. Megibow, MD, MPH  
David Miller, PhD  
James Mulshine, MD  
Kevin O'Donnell

Guillaume Orioux  
Nicholas Petrick, PhD  
Anthony Reeves, PhD  
Yuanxin Rong, MD, MPH  
Ann Sherzinger, PhD  
Neil Steinmetz, MD. JD  
Daniel C. Sullivan, MD  
David J. Vining, MD

#### RSNA

Fiona Miller  
Joe Koudelik

#### Discussion

- Round-1 project updates
  - Dr. Kavita Garg (Colorado Project): Qualifying Variability in Measurement of Pulmonary Nodule (Solid, Part-solid and Ground Glass) Volume, Longest Diameter and CT Attenuation Resulting from Differences in Reconstruction Thickness, Reconstruction Plane, and Reconstruction Algorithm.
    - Goal: To compare reads done with software to those done on PACS: Is there a difference in variability and reproducibility between the two reads?
    - Intra- and Intra-reader study using three readers to evaluate ten nodules (primary focus is nodule measurement)
    - LDCT/NLST protocol used
    - Each reader measuring each lesion twice, using Siemens software and directly on PACS
    - Reader threshold vs semi-automated software differences discussed
    - Axial vs sagittal vs coronal scan planes discussed
    - Next steps for Colorado Group:
      - Study design needed; Dr Kim's statistical assistance requested
      - T-con between Drs Fenimore, Garg, McNitt-Gray, and Petrick proposed for brainstorming this study design
      - Comparing additional vendor software proposed
      - Additional manual reads using Siemens software suggested
  - Dr. Maria Athelougou (Group 3A)
    - Goal: Characterizing the variability of phantom lesion measurements (absolute volumes) attributed to algorithms.
    - Proposed algorithm "Challenge" to utilize VoICT Group 1A data (1B clinical data later) to characterize the performance of absolute volume estimates when ground truth is known, i.e., how far do algorithm results differ from ground truth?
    - NIST to act as registrar to handle challenge logistics
    - Study design has been developed including use of descriptive statistics including bias and variance
    - Study design posted on QIBA Wiki:  
[http://qibawiki.rsna.org/index.php?title=VoICT\\_-\\_Group\\_3A](http://qibawiki.rsna.org/index.php?title=VoICT_-_Group_3A)

**Next Steps**

- T-con to be coordinated to discuss study design of the Colorado project, inviting full team so that interested people can join
- Next VolCT Tech Ctte call schedule for Monday, August 8<sup>th</sup>, 2011 at 11 am CDT