

QIBA COPD/Asthma Technical Committee

August 22, 2012 at 2 PM CT

Draft Call Summary

In attendance

Philip F. Judy, PhD (Chair)

Paul Carson, PhD

Heather Chen-Mayer, PhD

Martin Connell, BSc

Harvey Coxson, PhD

Barbara Croft, MD

Bernice Hoppel, PhD

Jong Hyo Kim, PhD

Joshua Levy

John D. Newell, Jr, MD

Rohit Sood, MD, PhD

Daniel C. Sullivan, MD

RSNA

Joe Koudelik

Julie Lisiecki

General Calibration Issues - Review

- Dr. Judy reviewed and emphasized reconstruction software changes which have impacted multi-institutional studies:
 1. Multi-institutional studies need quality assurance programs that will identify software changes that could impact quantitative CT measurements. (For COPD studies, the COPDGene Phantom will be particularly useful.)
 2. Liaisons between imaging sites and vendors suggested to coordinate these QC efforts

QIBA COPD/Asthma Technical Committee Poster for RSNA 2012

- Call for volunteers to develop content and prepare/format poster
- The hard copy of the poster will be **due to RSNA by November 1st**.
- Topic suggestions included:
 - Axial edge artifact
 - Effect of dose reduction protocol
 - Use of COPDGene Phantom to deal with scanner inconsistencies

QIBA participation in 2013 International Workshop for Pulmonary Functional Imaging

- Dr. Judy to submit proposal regarding QIBA participation with request for support
- Dr. Judy to follow up with Drs. Sullivan and Mark Schiebler (University of Wisconsin)

Application of CT Lung Density beyond Emphysema

- Dr. Newell led a discussion of the literature for QCT of the lung.
- There was discussion regarding expanding the application of a lung density Profile.
 - Interstitial lung disease, cystic fibrosis, radiation therapy – possibilities for consideration
 - Lung density is a more useful metric in these potential applications of QCT as compared to emphysema evaluations, which use a fraction of the lung less than -950 HU.
 - The precision requirements will vary from application to application.
 - Need to consider magnitude of clinical impact, drug development, i.e., what studies are being done using QCT
- For now, we will focus on the emphysema application in Profile #1, and use low dose CT project results from Dr. Fain and recent publications evaluating emphysema in lung cancer screening cases to further develop the Claim language
- The intent is to select something that would work toward a more fundamentally defined quantitative biomarker
 - To introduce quantitative imaging that is more closely linked to a physical attribute

Claim language

- Based on measured reproducibility; to be associated with a single clinical measure
- Consider one Profile focusing on emphysema and air trapping and a second Profile evaluating airway dimensions.

Next Steps

- Seek alternate sources of funding for RFP for computer program to analyze COPDGene Phantom images
- Review and evaluate low-dose reconstruction protocols
- Plan a comparison of airway-size image analysis algorithms
- Discuss Profile claims and next steps

For discussion on the September 5th call:

- (1) QIBA COPD/Asthma Technical Committee Poster for RSNA 2012 (hard copy due to RSNA by Nov 1st)
- (2) QCT Workshop Planning 2013
- (3) COPDGene Phantom Calibration Results

Next call: QIBA COPD/Asthma Update Call, **Wednesday, September 5, 2012, 2 pm CT**

Other: COPD Genetics Conference **9/27/2012- 9/28/2012 AMSTERDAM**

9/19/2012 - Wednesday 3 PM Regular Conference Call - TBD