

QIBA CT Lung Density Technical Committee

May 7, 2014 at 2 PM CT

Draft Call Summary

In attendance

Philip F. Judy, PhD (Chair)

Andrew Buckler, PhD

Heather Chen-Mayer, PhD

Sean Fain, PhD

Matthew Fuld, PhD

Bernice Hoppel, PhD

Joshua Levy

David Lynch, MB

Berend Stoel, PhD

Daniel Sullivan, MD

RSNA

Joe Koudelik

Julie Lisiecki

Agenda 5/7/2014:

CT Lung Density Technical Committee

1. Standardize Evaluation AEC for Quantitation
Status of revision of proposal
2. Status of 2015 Lung QCT Conference
Meeting - time and location SPIE Medical Imaging
February 21-26, 2015
Renaissance Orlando at SeaWorld
3. Lung density profile claims
Benefits and consequences of volume correction
4. TC Report at QIBA Annual Meeting
5. Citations to Profile
 - a) Include alpha 1 investigations
 - b) Exclude lung reduction investigations
6. Plan to finalize Acquisition and Reconstruction Sections of Profile.

Next call: Wednesday, May 28, 2014 at 2 pm CT

Discussion topics included:

- Dr. Fuld gave an update regarding manufacturers willing to collaborate on acquisition and reconstruction parameters
 - Siemens, Philips, and Toshiba intend to proceed with the project
 - Dr. Fain to approach his GE contact in hopes of securing another manufacturer
- Dr. Fain is creating precision tables for addition to the Profile
 - Focus for metrics will be Relative Area (RA) and PERC15.
 - The -950 Hounsfield unit measurement will not be used
 - Dr. Fain is also addressing suggested edits for his Round-4 (2014-2015) QIBA project proposal
- Dr. Stoel presented his publication regarding "Effect of Volume Correction – Phantom Study" to aid the examination of bias and precision volume corrections
 - The purpose of his study was to assess the impact of volume correction on the reproducibility of lung density.
 - Toshiba Aquilion 4 scanners were used, following the SPREAD protocol
 - He concluded that most of the original variation could be resolved by volume correction with this phantom
 - More experiments are needed where large luminal differences are explored, due to the challenges they pose for volume correction
- Dr. Chen-Mayer consulted with Dr. Stoel re: efforts to reconcile the phantom study with patient data
 - Other areas of focus include:
 - Recreating dependence as described in Park's paper
 - Looking at the phantom / mechanical effect vs. real biological effect
 - It is unclear how the phantom data will be used in the Profile claim at this time
 - Additional vendor systems needed for cross-comparison

- **Status of 2015 Lung QCT Conference**
 - SPIE in Orlando, FL from February 21-26, 2015 is being considered as a QIBA Lung qCT conference partner in hopes of encouraging additional collaboration with the lung density projects
 - A staff contact within SPIE or a QIBA member who is knowledgeable and involved with both SPIE and QIBA lung density projects, would be very helpful for coordination purposes
- **QIBA Annual Meeting Update**
 - Dr. Judy previewed his Tech Ctte summary of activities to be presented at the QIBA Annual Meeting
 - Modeling, progress on the claim, efforts to standardize AEC and plans for effective collaboration with CT vendors to be addressed
- **Change in name of QIBA technical committee**
 - Dr. Judy proposed that the group be called the *CT Lung Density Technical Committee*, instead of the QIBA COPD/Asthma Technical Committee, to more accurately reflect current efforts.

Action items:

- Dr. Judy to draft a QIBA meeting support proposal form for an ad-hoc meeting for qCT of the Lung at a 2015 conference

QIBA CT Lung Density Tech Ctte next call: 5/28/2014