

QIBA Lung Density Technical Committee

September 10, 2014 at 2 PM CT
Call Summary

In attendance

Philip F. Judy, PhD (Chair)

Heather Chen-Mayer, PhD

Sean Fain, PhD

Matthew Fuld, PhD

Bernice Hoppel, PhD

Songtao Liu, MD

David Lynch, MB

Nancy Obuchowski, PhD

RSNA

Joe Koudelik

Julie Lisiecki

Agenda 9/10/2014: Lung Density Technical Committee

1. RSNA Meeting Poster plans
2. Discussion of Claims and Volume Correction Report
3. Status of AEC and IR Project
4. Acquisition and reconstruction specifications
 - a. Report from Vendor Working Group
5. Plan to analysis sections of Profile

Next call: Wednesday, September 24, 2014 at 2 pm CT

Discussion:

- An RSNA 2014 poster was discussed, to focus on Profile development for both airway and lung density measurements
 - Dr. Fain to include some of the work done by Dr. Alfonso Rodriguez on Automatic Exposure Control
- Proposed revisions to claim language were discussed based on the continuing investigation of volume correction issues by Drs. Chen-Mayer and Fain
 - Claim language regarding performance criteria remains challenging due to the limited supporting literature
- A **moderate approach** may be possible by combining conservative and liberal approaches:
 - **Part 1:** if the change in perc 15 ("X") is greater than 17.2 HU, then there is a 95% chance that this change is disease progression. (conservative)
 - **Part 2:** The actual change in perc 15 falls between $X \pm 7$ HU with 95% confidence, where 7 is derived from $1.96 * SE$ and $SE = \pm 3.5$ HU as before. (liberal)
 - This approach encompasses recommendations made by the QIBA Metrology Group
- Expert opinions from clinical staff would be helpful in evaluating this approach
 - Dr. Fain to send four studies for review to Dr. Lynch
 - Dr. Lynch volunteered to ask his colleagues whether or not unpublished data may be available to support the claims
- Drs. Chen-Mayer and Fain to continue to review unpublished data that may support the draft claims
- Drs. Fuld and Hoppel are working with partner vendors in a parallel effort to determine what bearing these measurements might have for scanner acquisition protocols
 - Making measurements independent of vendor scanners is the goal for QIBA efforts, so that scans completed on different vendor scanners will generate the same output
 - Vendors are trying to determine the best way to test their systems for key acquisition parameters
 - Not all vendors have COPDGene phantoms; some may ask to borrow these from academic partners
 - Patient size is still an important adaptation for consideration

Action items:

- Dr. Fain to send four studies for review to Dr. Lynch
- Dr. Lynch volunteered to ask his colleagues whether or not unpublished data may be available to support the claims
- Drs. Chen-Mayer and Fain to send citations to Dr. Judy for inclusion in his EndNote program:
philipfjudy@philipfjudy.com.

Next call after 9/24: 10/08/2014 at 2:00 PM (CT)