

QIBA Lung Density Biomarker Committee (BC)

October 7, 2015 at 2 PM CT

Call Summary

In attendance

Sean Fain, PhD (Co-Chair)
David Lynch, MD (Co-Chair)
Andrew Buckler, MS

Heather Chen-Mayer, PhD
Bernice Hoppel, PhD
Philip Judy, PhD

Greg Kinney, MPH, PhD
Karen Procknow, RT (R)
Jered Sieren, BSRT (R) MR CT

RSNA

Joe Koudelik
Julie Lisiecki

Phantom Scanning, Round II:

- Progress of the analysis of the phantom scans with respect to two main issues was discussed:
 1. Establishing correction factors to harmonize HU measures across vendor platforms for conventional scans.
 - This correction will be based on 5 points for a new histogram, utilizing the NIST calibrated foams
 - COPD Gene lung data may be “back-corrected”, focusing on the offset of the data between scanner models using the COPD Gene 1 phantom.
 - It is hoped that the more general approach developed by Dr. Chen-Mayer and Dr. Fuld may become a QIBA reference for corrections, to be integrated into a standard for clinical research studies moving forward
 - Dr. Lynch to provide parameters to Dr. Chen-Mayer to aid with baseline scan corrections
 2. AEC settings and conversion curves for a wider number of vendor platforms and models are needed, which will be addressed by a second round of phantom tests in collaboration with the vendors using the Alderson 2 phantom.
- Drs. Fain and Hoppel have arranged for Marshfield Clinic (WI) to provide access to a Toshiba system the week of November 9th to refine AEC conversions using the Alderson 2 phantom with NIST calibrated foams.
 - Mr. Jered Sieren will participate, if his schedule allows.
- All 4 vendors have completed scanning and are now collaborating on a group recommendation for correction methods
 - NIST calibrated foams with known densities will be used as a reference and phantoms will be scanned again with the NIST foams
 - Some tweaking of the analysis software may be necessary to aid in this correction process
 - Also, 6-month licenses for the software have expired; a refresher license will be pursued
- Any decisions on the Profile will be tabled until more data is available from Round II of the phantom scanning project

Poster for QIBA Kiosk at RSNA 2015

- The BC poster is **due to RSNA QIBA Staff by Oct. 30th** for printing and delivery to be organized by RSNA Staff.
- A draft of the poster will be circulated for review prior to the 10/21 BC call.
- Dr. Fain has agreed to coordinate production of the poster to ensure it is completed, and welcomes feedback.
 - Mr. Sieren has volunteered to aid with drafting the poster and suggested organizing content into 3 columns:
 1. Round-1 Phantom Scanning Results
 2. Profile Status
 3. Next Steps, e.g., Dose Modulations/ Iterative Reconstruction

Action items:

- Dr. Fuld to follow up on round robin phantom scan issues with Drs. Fain and Hoppel
- Dr. Fain to follow up with Alfonso Rodriguez, a graduate student in his group, to see if he would be willing to take on the preparation of the poster.
- Mr. Sieren to follow up offline with Dr. Chen-Mayer and U-Iowa software developers
- A draft of the poster for the QIBA Kiosk will be distributed for review prior to the 10/21 call

Next call: Wednesday, October 21, 2015 at 2 pm CT

Reference provided with permission from Jered Sieren, BSRT(R) MR CT:

