

QIBA CT Small Lung Nodule (SLN) Biomarker Ctte (BC) Call

05 April 2018 at 1 PM CT

Call Summary

In attendance:

Samuel G. Armato, III, PhD (Co-Chair)

James L. Mulshine, MD (Co-Chair)

Rick Avila, MS

Charles Fenimore, PhD

Philipp Hoelzer, PhD

Edward Jackson, PhD

Artit Jirapatnakul, PhD

Nancy Obuchowski, PhD

Kevin O'Donnell, MASc

Anthony Reeves, PhD

RSNA:

Joe Koudelik

Julie Lisiecki

Moderator: Dr. Mulshine

Profile Updates:

- Dr. Obuchowski has provided some additional feedback to the Profile regarding confidence intervals and modifications pertaining to linearity (to address the longitudinal claim)

Software Conformance Updates:

- Two additional cylindrical inserts have been added to the phantom design for a total of 5 cylinders/modules; these two inserts contain 16 ellipsoid structures
 - An updated diagram will be added to the Profile for visualization of the design
 - These cylinders/modules will test for 5 characteristics which will assess linearity measurements
 - These new phantoms have been modified in efforts to test both cylinder and ellipsoid scanner performance
- Use of a Profile conformance checklist is planned for site feasibility testing to capture user feedback regarding real-world Profile implementation
 - Mr. O'Donnell suggested cutting and pasting from the QIBA CT Volumetry checklist or turning the requirements table from the Profile into a checklist for this purpose, similar to the checklist used by the QIBA FDG-PET BC, with categories that included the following:
 - Already standard
 - Not standard – will perform
 - Not standard – will not perform
 - Not standard – not feasible
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- Significantly large amounts of data are being collected and may require some time for processing, as the software tools are not fully automated for version 1.1
- Development is planned for batch testing for conformance
- More lung cancer screening sites are needed; it is hoped that at least 100 phantoms will be distributed to various sites to obtain additional data for 4 to 8 different parameters
 - Drs. Armato and Supanich (Univ Chicago/RUSH) have agreed to test some of the new phantoms (with 5 cylinders) in order to obtain some additional data
 - Drs. Silva (University of Parma) and Yankelevitz (Mt. Sinai) have also agreed to conduct testing of these phantoms

- From recent testing, considerable variation has been noted in technologists' knowledge of CT scanners, making the need for uniform procedures even more important
- One of the goals for testing is to try to demonstrate that high CT doses are not needed for good image quality; unfortunately, there has been some loss of resolution on some scanners when lowering dose
- Also, there has been surprising non-uniformity among scanners
- CTLX1 phantoms are now available; additional screening sites are needed and always welcome for this collaborative international effort
- In particular, it would be desirable to have additional representation from the following geographical areas:
 - Europe (e.g. Germany, Spain, The Netherlands, etc.)
 - South Korea
 - South America

Volunteers needed:

- Volunteers are needed for a scanner vendor / site testing which will include DOE scanning and the analysis process
- Volunteers are asked to please contact Mr. [Avila](#) or any of the co-chairs: Drs. [Armato](#), [Gierada](#) and [Mulshine](#)

International Association for the Study of Lung Cancer (IASLC)

- Dr. Mulshine is trying to get collaborative interaction with the IASLC in hopes that they may also use the conformance technique for lung cancer screening; a potential MOU between RSNA/IASLC was suggested to develop a robust collaboration
- An endorsement from the IASLC would be very helpful in working with the National Cancer Institute (NCI) to build a cloud database resource for cancer imaging data
- BC members to consider ways to partner with these organizations

Next call: Thursday, **April 19th** at 1 pm CT

Calls will be scheduled bimonthly in the near future and will eventually be scheduled monthly