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

21 February 2019 at 1 PM CT

Call Summary

In attendance:		**RSNA:**
David S. Gierada, MD (Co-Chair)	Nancy Obuchowski, PhD	Joe Koudelik
James L. Mulshine, MD (Co-Chair)	Mario Silva, MD	Julie Lisiecki
Rick Avila, MS		

Moderator: Dr. Mulshine

Phantom Scanning Update (Dr. Silva):

- Dr. Silva discussed Eurosafe technology, which encourages use of lower doses and is safer for patients
- Siemens has a new reconstruction kernel coding system on all its machines, which Dr. Silva systematically tested using the Accumetra phantom with the new "tin filter"
- Approximately 70+ scans were provided to quantitatively assess changes in the Siemens protocol
- Mr. Avila provided Dr. Silva with a spreadsheet of the quantitative data for comparison with approximately 250 results via a .csv file and zip files
- The recommended slice thickness for the calcium scan was 3 mm
- Siemens does not allow calcium scoring if not ECG-related
- Dr. Silva is working on obtaining the calcium score using visual scoring on a 3 mm reconstruction
- Siemens now has a CTLX1 Accumetra phantom, though data are yet to be analyzed
- Mr. Avila to follow up with Drs. Silva and Mulshine offline
- Dr. Silva to follow up with Dr. Hoelzer, our Siemens contact
- This experiment with scanning illustrates the complexity and uncertainty of changing protocols
- Additional details regarding the use of the tin filter and conversion to new Siemens reconstruction codes will be discussed on the next call
- New conformance parameters need to be defined for these new scanners to address the kernel issue

Ellipsoid Phantom

- Mr. Avila will send Dr. Silva an ellipsoid phantom which allows the user to add mass via water tubes
- The ellipsoid phantom will also be sent to sixteen imaging sites in Poland for the rollout of national lung cancer screening efforts
- Requirements for scanning these ellipsoid phantoms will be different for different types of nodules and should inform the Profile
- Key issues need to be resolved to reach technical confirmation of the Profile
    - One of these issues is that PACS systems may not be connected to the internet, making it difficult to run data on the Accumetra site
    - Participants can choose to send a disc as a workaround
- Data has been obtained from the following sites using the ellipsoid phantom:
    - Washington University in St. Louis
    - University of Chicago
    - Rush University Medical Center
- Mr. Avila will set up a Google spreadsheet to share with the group to help track tasks that are in progress
- He will also clean up data prior to sending it to Dr. Obuchowski for review
- Two additional sites are needed to achieve technical confirmation
- Mr. Avila will provide updates once additional phantom testing is completed following the conformance steps

ELIC Pilot Project Update (Dr. Mulshine)

- A subset of the IASLC, the Early Lung Imaging Confederation, (ELIC), is supporting a pilot project for an open-source quantitative lung volume experiment project aimed at validating drug and tool evaluation in a non-competitive space
- The group is working on a plan to get external FDA validation for the Profile and this will be discussed on the next call

Next Steps:

- Sites to be contacted regarding details for the field tests to achieve the Technically Confirmed Stage
  - Some suggested contacts were:
    - Dr. Heidi Schmidt, U-Toronto
    - Dr. Eliot Siegel, U-Maryland
      - Mr. Avila and Dr. Mulshine to follow up

Next call: *tentatively scheduled* for March 21st at 1 pm CT