

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

19 December 2023 at 12 PM CT

Call Summary

Additional notes provided by Dr. Mulshine

In attendance

Artit Jirapatnakul, PhD (Co-Chair)

James Mulshine, MD (Co-Chair)

Kyle J. Myers, PhD (Co-Chair)

Rick Avila, MS

Kirsten L. Boedeker, PhD

Timothy J. Hall, PhD

Ella Kazerooni, MD

Mathis Konrad, MSc

Nancy Obuchowski, PhD

Kevin O'Donnell, MASc

J.C. Ramirez-Giraldo, PhD

Anthony Reeves, PhD

David Yankelevitz, MD

Lifeng Yu, PhD

Gudrun Zahlmann, PhD

RSNA

Joe Koudelik

Julie Lisiecki

Moderator: Dr. Mulshine

[Update on subcommittee new draft Profile review – Dr. Myers](#)

- Comments from the September marathon session are being consolidated to complete by end of year
- There will be a sub-committee meeting in the new year to review revised version once distributed
- After the sub-committee meeting, there will be a larger Profile Writing Group meeting in February
- Dr. Myers will review current wording to ensure it is not perceived as prescriptive to one phantom source or one method of making measurements as that was never intended.

[Revision to MTF/PSF equation – Mr. Avila](#)

- Lines 751 – 755 in the original Profile contained a calculation error for the MTF to PSF conversion
- The equation has been corrected. A clarification will be included to reinforce that edge-enhancing kernels are excluded from this Profile. Further, the Profile text was modified by Mr. Avila during the call to include the word Gaussian to describe the term PSF model.
- Once received, another updated version will be posted to the wiki
- What is most important is how well users can predict performance
- Dr. Myers to provide updated Profile with a relevant note

[Discussion of future SLN Profile plans – Dr. Mulshine](#)

- The [American Lung Association \(ALA\)](#) has expressed a willingness to provide administrative support to the CT SLN Profile Writing Group
- There will be a renewed emphasis on supporting the existing, second Profile Claim regarding change over time. This claim is fundamental in establishing the value of quantitative imaging in informing clinical decision-making in the future for serial screening inherent in that process and remains challenging.
- The ALA will host calls to enable the continued evolution of the Small Lung Nodule Profile to address the quantitative imaging processes for thoracic CT based screening on a monthly call, starting February 20th, the 3rd Tuesday of the month at 12 noon CT (same time). Will continue to use QIBA processes to maintain scientific rigor.
- The Profile group will work to develop tools which need to be as fully automated as possible, either in the cloud or on enterprise hospital systems for efficient and accessible conformant thoracic imaging in the thoracic screening setting.

[Measurement metrics – Dr. Kazerooni](#)

- Lung-RADS uses mean diameter – *not* volumetric imaging
- There is no reimbursement for 3D volumetric imaging in the U.S.
- Need innovations in screening processes, efficiencies, etc.
- Working toward a tool for the future that will use volumetry though working with limitations in the present
- Europe is ahead of the U.S. in this regard with lung cancer screening efforts
- The CT SLN Profile Writing Group is considering providing guidance for both diametric (current) and volumetric (future) measurements

Thank you

- QIBA CT SLN BC Leadership expressed their thanks and sincere appreciation for the dedication of all volunteers, RSNA staff, and especially Dr. Obuchowski for her assistance to all QIBA biomarker committees with metrology efforts

Action items (ongoing)

- Dr. Myers to include revision for updated Gaussian model for current Profile to be re-posted to wiki
- Drs. Zahlmann and Mulshine to reach out to clinical contacts for lung cancer screening
- Mr. Avila to provide data regarding validation modeling and clinical data to support Profile robustness.

Wiki Updates for the Clinically Feasible Stage (formerly Technical Confirmation) (ongoing)

- The “shalls” in the [Profile](#) needed to be translated to the checklist and vice versa for document alignment subject to the judgement of the BC committee
 - Mr. Avila to draft checklists based on prior call discussions to ensure compliance
 - Should any area of complexity emerge, topics will be brought back to the Profile chairs and/or the BC
 - Track change versions of Profile updating will be shared with the Committee prior to finalizing.

Next call: *February 20, 2024, 12 pm CT, supported by the ALA*
