

QIBA SPECT Biomarker Committee (BC)

Friday, April 22, 2016, 9 AM (CT)

Call Summary

In attendance:

Yuni Dewaraja, PhD (Co-Chair)

P. David Mozley, MD (Co-Chair)

John Seibyl, MD (Co-Chair)

John Dickson, PhD

S. Cheenu Kappadath, PhD

Robert Miyaoka, PhD

Eric Perlman, MD

Anne Smith, PhD

Pierre Tervé, MS

Johannes Zeintl, PhD

Brian Zimmerman, PhD

RSNA

Fiona Miller

Joe Koudelik

Julie Lisiecki

Moderator: Dr. Mozley

Dropbox / Profile Work:

- A [Dropbox](#) folder has been set up to assist the SPECT team members working on the Profile.
- If two people open and edit a file in a shared folder simultaneously, Dropbox will save both of their changes, but in separate files.
- Notifications appear on your computer's desktop, not via email
- If anyone would like to be added to the Dropbox, please email Julie at jlisiecki@rsna.org

SPECT I-123 Task Forces:

- Dr. Mozley commended the SPECT I-123 Task Force chairs on their well-prepared agendas and leadership skills for the rotating Tuesday afternoon meetings
- Reference slide sets have been posted to the [QIBA wiki](#)

QIBA SPECT BC Profile Progress:

- Profile writing speed for I-123 Parkinson's disease has exceeded expectations, with approximately 85% complete
- An initial draft completed Profile is anticipated for 4Q2016
- Once this first draft is complete, the group plans to pursue parallel Profiles regarding theranostics and radiotherapy

Profile Writing Guidance (Dr. Miyaoka):

- Two key insights regarding Profile writing:
 - Maintain brevity to avoid actor pushback
 - Plan for field testing for compliance
- The QIBA FDG-PET Profile, a 75-page document, was condensed down to a 2-page checklist presented by Dr. Turkington (Duke University) et al for use by technologists
- While historical background and explanations can be useful, Profiles become unusable if they are too long
 - It was recommended to cut unnecessary detail with abandon
 - Essential details should relate directly to the Profile claims
 - Suggestion to leave unresolved issues to resolve during public review phase, and keep writing to maintain momentum
 - Profiles do not have to be perfect – they must be applicable to what is practical / “real-world”
- With regard to field testing, Dr. Smith explained how the field test for FDG-PET was conducted in two phases, using the checklist for the test
 - Phase I included smaller community hospitals and large academic centers
 - Phase II included input from manufacturers as well
- Dr. Dewaraja explained that for the SPECT Profile, the group might be underestimating bias by as much as 50%. Working to reduce bias remains an important goal.
- Bias numbers can be improved by using larger regions of interest (ROIs), and partial volume corrections, but the cost is that the caudate and putamen cannot be separated as well.
- Topics for further exploration include:
 - hottest slices

- PVC (partial volume corrections)
- possible use of a weaker claim, e.g., only specify the confidence interval around the SBR. May not need to include true SBR in the claim as it may not be clinically useful
- bias in the SBR may be different in patients than controls
- signal size
- Discussion to continue via emails among Profile team and via a dedicated call, to be set up by Dr. Mozley for some expert clinical input on the claim.
 - Dr. Mozley plans to host a call independently at 7 am CT / 8 am ET to provide an opportunity for participants in Japan and Europe to join (TBD)

Groundwork Projects Submitted for Consideration:

1. DRO construction: Drs. Miyaoka and Kinahan – *I-123 DAT Scan Digital Reference Object Development*
2. Phantom/DRO use to optimize precision and bias: Drs. Dewaraja and Dickson – *Multi-Center Phantom Study to Characterize Bias and Precision of Quantitative ¹²³I SPECT*

Suggestions for improving the way meetings are conducted remain welcome: mozley@gmail.com ; yuni@umich.edu; jseibyl@mnimaging.com

May

Nuclear Medicine BC Calls:

- **May 02:** *QIBA NM Coordinating Ctte WebEx (Monday, May 2nd, 1 pm CT)*
- May 06: FDG-PET BC
- May 13: Amyloid BC
- May 20: SPECT BC
- May 27: **Combined NM BCs - TBD**

SPECT Task Forces: (Tuesdays at 2 pm CT) –

- May 03: Image Acquisition and Image Processing for DaTscan – Dr. Dewaraja
- May 10: Quantitative / Image Analysis – Drs. Miyaoka and Seibyl
- May 17: Phantoms / DRO Group – Drs. Dickson and Zimmerman
- May 24: Clinical / Literature Review – Dr. Seibyl

RSNA Staff attempt to identify and capture all committee members participating on WebEx calls. However, if multiple callers join simultaneously or call in without logging on to the WebEx, identification is not possible Call participants are welcome to contact RSNA staff at QIBA@RSNA.org if their attendance is not reflected on the call summaries. [QIBA wiki](#)