QIBA PET Myocardial Blood Flow (MBF) Biomarker Committee (BC)

Monday, November 13, 2023, at 10 am CT

Call Summary

Notes derived in part from Dr. Moody's slides

In attendance		**RSNA Staff**
Rob deKemp, PhD (Co-Chair)	Nancy Obuchowski, PhD	Julie Lisiecki
Jonathan B. Moody, PhD (Co-Chair)	John O. Prior, MD, PhD	
Ian S. Armstrong, MPhys, MSc, PhD	Jennifer Renaud, MSc, BEng	
Charles Hayden, BS, MSEE		

***Moderator**: Dr. Moody*

Discussion

- Reviewed updates to sections 3.8 - 3.13

Profile updates

- Section 3 is complete - Dr. Moody asked for all to review and comment
- Make certain rationale is covered for all three tracers: rubidium (^{82}RB), ^{13}N ammonia, and ^{15}O-water
- It was decided that a subsection (section 3.13) for image interpretation is not needed
- Appendix D will include recommendations for PET scanner-specific models and protocols for image acquisition and reconstruction
    - Include general best practices, such as recommended scatter correction settings, etc.
- Discussed QA assessment procedure for the test scanner using the MBF measurement
    - Some text formatting and streamlining are needed
    - The original document was prescriptive for the JDI system, and needs to be generalized to include other systems
    - Ms. Renaud to write first draft and provide saturation threshold details, etc.
    - Dr. Moody to draft tables from recommended protocols, including software versions
- Concept of a digital reference object (DRO) was introduced – more discussion needed
- Proposed inclusion of summary table of known standards values for reference to save time for users
- Consider assessment of like software capabilities for fitting a kinetic model
    - Could potentially be generating MBF estimates from dynamic data
- Consider using the polar map of MBF to derive the global and regional values for flow estimation

Continue discussion on next call

- O^{15} water radiopharmaceutical recommendations needed from Dr. Harms
- Minimum requirements to meet the claim and best practices

Paper

- BC members plan to draft a paper primarily on metanalysis of test-retest data
- Dr. Obuchowski will be asked to review statistical aspects

New / ongoing action items: (please strike if complete)

- All – consider other papers that may have supportive data
- Dr. deKemp to draft a checklist for multi-center trial in Canada to see if sites can conform to the Profile
- Dr. Moody to draft publication based on Dr. Obuchowski's meta-analysis on MBF repeatability
- Dr. deKemp to craft a bias table and review the linearity plot, looking at K^1 vs. flow values
- Dr. deKemp to approach ASNC regarding future administrative support
- Dr. Moody to work on a DRO model; will look at QIBA work with DCE-MRI
- Dynamic phantom scan protocol in Section 4 Assessment Procedures to be fine-tuned by Dr. Moody

Next call: Nov. 20, 2023, at 10 am CT (2nd & 4th Mondays) | **Future calls**: 12/11, 12/18 (?)

QI Sessions and Activities at RSNA 2023 (McCormick Place, Chicago)

- *Building a Quantitative Imaging Research Study*, Tues., Nov. 28, 2023, from 11 am to 12pm CT. Room S405. (T4-RCP19)
- *2023 QI Symposium: Sponsored by QIBA: Quantitative Imaging in the Era of Artificial Intelligence: Opportunities and Needs,* Wed., Nov. 29, 2023, from 2 to 4 pm CT. Room E253AB.

QIBA Process Committee Resources

- **Process Committee Leaders**: Kevin O'Donnell, MASc (Chair) | Michael Boss, PhD (Co-Chair)
- **Wiki**: Dashboard | Profiles | QIBA Profile template | How to Write a QIBA Profile | Claim Guidance Vetting requirements
- **EndNote**: To obtain access to the RSNA EndNote citations, please email: sstanfa@rsna.org.