

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

Monday, May 22, 2023, at 9 am CT

Call Summary

Notes derived in part from Dr. Moody's slides

In attendance

Jonathan B. Moody, PhD (Co-Chair)

Hendrik Johannes (Hans) Harms, MSc, PhD

Martin Lodge, PhD

Nancy Obuchowski, PhD

RSNA Staff

Julie Lisiecki

Moderator: Dr. Moody

The following topics were discussed:

- Review of changes to sections 3.4 and 3.5 discussed on 5/8
- Periodic QA requirements (3.4)

Discussion

Periodic QA requirements (section 3.4) review

- Dynamic acquisition is essential for accurate MBF measurement
- Include a cardiac specific scan that allows determination of threshold count rate and prompt rate threshold for saturation
- PET CT uniformity and sensitivity is the responsibility of the physicists
- Technology is the responsibility of the technologists, and they should utilize manufacturer recommended data for QC
- Daily QC as recommended per specific scanner manufacturer in conjunction with annual physics inspection
- Adjustments may need to be made if the hardware software is upgraded for proper characterization and measurement of short-lived tracers, as this could affect variable count rate performance
 - These data should be recorded
- 'Count rate performance' should be renamed 'prompt rate threshold'
- For items that are not required but still important, perhaps include as 'recommended,' e.g., time synchronization
- Sites may vary in terms of due diligence on initial scanner set-up testing; some minimal requirements may be helpful

Subject handling (Section 3.6)

- Actors: Nuclear Cardiologist, Physician, Technologist
- Radiopharm administration
 - Catheter placement
- Vasodilator administration
 - Catheter placement
- Image data acquisition
 - Patient restraint system
 - 'arms-up' was cited as most common
 - Vasodilator may be used to counteract caffeine consumption, if needed

Continue discussion on next call

- Protocol design requirements (3.5)
 - QA for radiopharm infusion systems
 - QA for clocks
- Subject handling requirements (3.6)
 - To determine who is responsible for defining and documenting
- Radiopharm administration requirements (3.7)

Reference shared by Dr. Harms: <https://link.springer.com/article/10.1007/s12350-020-02266-2>

Ongoing action items: (please strike if complete)

- **Dr. Moody** to try to find a technologist willing to join the call to discuss certain requirements, e.g., patient motion, etc.
- **Dr Armstrong** – Review QA requirements before next call and work on section 3.4.2 (table specifications)
 - Consider adding another row for general PET scanner QA
- **All** – consider other papers that may have supportive data
- **Dr. deKemp** to provide names and email addresses of new members to be added
- **Dr. Moody** to draft publication based on Dr. Obuchowski’s meta-analysis on MBF repeatability
- **Dr. Moody** to start drafting the Radiologist (Actor) checklist per the [streamlined Profile template](#)
- **Dr. Moody** to work on protocol design tables and share papers to shared drive
- **Dr. deKemp** to craft a bias table and review the linearity plot, looking at K^1 vs. flow values
- **Dr. Moody** to work on a DRO model; will look at QIBA work with DCE-MRI
- Review needed for 3.3 Product Validation, 3.4 Periodic QA, and 3.7 Pharmaceutical Administration
- Dynamic phantom scan protocol in Section 4 Assessment Procedures to be fine-tuned by Dr. Moody

Next Call: **June 12, 2023**, at **9 am CT** (2nd and 4th Mondays) at 9 am CT

Parties interested in joining the [QIBA LinkedIn](#) page for QIBA updates should visit: <https://www.linkedin.com/company/rsna-qiba>

QIBA Process Committee Resources

- **Process Committee Leaders:** [Kevin O’Donnell, MASC](#) (Chair) | [Michael Boss, PhD](#) (Co-Chair)
- **Wiki Resources:** [Dashboard](#) | [Profiles](#) | [QIBA Profile template](#) | [How to Write a QIBA Profile](#) | [Claim Guidance](#) | [Vetting requirements](#)
- **Inventory of QIBA tools:** [QIBA LinkedIn page](#) (please join / follow) | [QIBA News](#) | [QIBA Community](#)
- **Other:** [QIBA Webpage](#) | [QIBA Wiki](#) | [QIBA Biomarker Committees](#) | [QIBA Organization Chart](#) | [Dropbox](#)
- **EndNote:** To obtain access to the RSNA EndNote citations, please email: sstanfa@rsna.org.