

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

Monday, May 8, 2023, at 9 am CT

Call Summary

*Notes derived from Dr. Moody's slides*

### In attendance

*Robert deKemp, PhD (Co-Chair)*

*Jonathan B. Moody, PhD (Co-Chair)*

*Charles Hayden, BS, MSEE*

*Martin Lodge, PhD*

*Nancy Obuchowski, PhD*

### RSNA Staff

*Julie Lisiecki*

**Moderator:** *Dr. Moody*

### The following topics were discussed:

- Outstanding Profile questions
- Periodic QA requirements (3.4)
- Discuss Protocol Design requirements (3.5)

### Discussion

*Periodic QA requirements (section 3.4)*

### Physicist / Technologist

- Routine PET/CT QA (job description)

### Radiopharm Infusion System

- Linearity
- Accuracy
- Calibrator requirements for N-13 ammonia and F-18 Flurpiridaz

### Image Data Acquisition Device

- Scanner characteristics important for MBF
  - Follow manufacturer recommended daily QC
  - Follow manufacturer recommended preventative maintenance
  - Calibration – agreed it was not necessary for kinetic modeling
  - CT uniformity (daily or weekly)
- PET dynamic scan count rate performance, cardiac uniformity
  - NEMA count rate test or OHI dynamic cardiac phantom (Rb-82, O-15)
  - Tracer specific
  - Initial qualification for specific protocol and at protocol change (software, recon settings, etc.)

*Protocol Design Activity (section 3.5)*

### Nuclear Cardiologist / Physician

- Define consistent patient state prior to scan, e.g.,
  - 4-hour fast
  - 24-hour caffeine abstinence
- Define acceptable late image quality
  - Recon filters, settings
  - Metrics

### Physicist / Technologist

- Define conditions to achieve acceptable image quality
  - Define prompt rate saturation limit
  - Define dynamic time sampling
  - Define image reconstruction for dynamic series, recon filters, settings

- “Early accuracy – late quality”

**Ongoing action items: (please strike if complete)**

- [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:** [May 22, 2023](#), at [9 am CT](#) (2<sup>nd</sup> and 4<sup>th</sup> Mondays) at 9 am CT

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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](mailto:sstanfa@rsna.org).