

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

Monday, October 10, 2022, at 9 am CT

Call Summary

In attendance

Rob deKemp, PhD (Co-Chair)
Jonathan B. Moody, PhD (Co-Chair)
Nancy Obuchowski, PhD

RSNA Staff

Julie Lisiecki

Moderator: Dr. Moody

The following topics were discussed:

- Profile claims based on tracers
- Kinetic models and tracer issues
- Different methods to measure O² tracers
- Technical factors that can introduce bias for the tracers

Decisions / Action items:

- Include additional tracers besides rubidium; protocol design will be needed for each tracer
- Check linearity to determine if there is constant proportional bias
- Start with ¹⁵O-water tracer
- Ammonia (¹³N) and ¹⁵O-water would both be used as unbiased reference standards for rubidium
- Minimally-biased ammonia require metabolite correction
- Dr. Hans Harms found that cluster analysis was better for ¹⁵O-water for factor-to-factor analysis
 - This method was good for finding the shape but made it difficult to quantify the scale
 - Quantum mechanics indicate shape or scale but not both
- There may be unknown bias that is potentially affecting reference standard flows
- Blood spillover correction is needed to address partial bias
- FlowQuant - only program that is addressing bias, but not commercially available
 - Standard needed for commercial programs
- Consideration of possible water-ammonia study with dual spillover correction enabled
- Factors to review that may cause bias:
 - Metabolites
 - Recovery
 - Spillover

Ongoing action items: (please strike if complete)

- [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 K¹ vs. flow values
- [Dr. Moody](#) to distribute Gould article and share RFIT manual
- [Dr. deKemp](#) and [Dr. Lodge](#) to review materials provided by [Dr. Moody](#) regarding GitHub and [Manubot](#)
- [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: [November 14, 2022](#), 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>

Process Committee

- **QIBA Process Committee Leaders:** [Kevin O'Donnell, MASC](#) (Chair) | [Michael Boss, PhD](#) (Co-Chair) <mailto:mbooss@acr.org>
- **Wiki Resources:** [Dashboard](#) | [Profiles](#) | [QIBA Profile template](#) | http://qibawiki.rsna.org/index.php/QIBA_Profile_Template | [How to Write a QIBA Profile](http://qibawiki.rsna.org/index.php/How_to_Write_a_Profile) | [Claim Guidance](http://qibawiki.rsna.org/index.php/How_to_Write_a_Profile)
- **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.