QIBA PET Myocardial Blood Flow (MBF) Biomarker Committee (BC)
Monday, April 24, 2023, at 9 am CT
Call Summary

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

Moderator: Dr. Moody

The following topics were discussed:
- Review of Dr. Armstrong's comments from last meeting
- Periodic QA requirements (3.4)
- Protocol Design requirements (3.5)
    - QA procedures for dynamic PET
        - LV blood ROI placement requirements

Discussion
Required characteristics of dynamic PET dataset:
- **Image Acquisition**
    - Correct timing of bolus and scan start
    - Count accuracy in blood pool phase (LV peak)
    - Adequate count density in late frames
- **Image Reconstruction**
    - CT-PET alignment for attenuation correction
    - Time-frame sampling, post-reconstruction smoothing
- **Image QA**
    - CT-PET alignment verification
    - LV myocardial segmentation
    - LV blood ROI, TAC
    - Motion assessment / correction
- **Image Analysis**
    - Goodness-of-fit (R-squared, chi-squared)

Other topics
- Different sites have different practices – Profile will not specify CT attenuation correction for this reason but will try to demonstrate common QC practices
- Will not specify motion correction but will look at motion assessment
    - Need to know if motion is negatively affecting blood flow
- Consider additional QC by physician who reads the images to verify
    - Minimize variability
    - Make certain only to add steps that are based on empirical data
- Include stress and rest flow as part of claim
    - Provide guidance for a more standardized assessment procedure
- Link to article mentioned: https://link.springer.com/article/10.1007/s12350-019-01888-5

New action items:
- 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

Ongoing action items: (please strike if complete)

- Dr. deKemp to provide names and email addresses of new members to be added
- Mr. Hayden to provide some comments in a marked-up version to Drs. Moody and deKemp
- 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 8, 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.