

# QIBA fMRI Biomarker Committee (BC) Call

Wednesday, October 3, 2018 at 11 AM CT

Call Summary

## In attendance

Jay J. Pillai, MD (Co-chair)

David Soltysik, PhD (Co-chair)

Cathy Elsinger, PhD

Andrew Kalnin, MD

Ho-Ling (Anthony) Liu, PhD

Nancy Obuchowski, PhD

Flavius Raslau, MD

Yuxiang Zhou, PhD, DABR

## RSNA staff

Joe Koudelik

Susan Stanfa

## Review of Previous Call Summary

- The 09.19.18 call summary was approved as presented

## Checklist

- The purpose of the internal circulation (to core fMRI BC members) of the checklist is to determine what is and is not feasible in terms of implementation within the guidelines of the fMRI v1.0 Profile

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**The following supplemental notes have been submitted by Dr. Soltysik:**

## Started going over QIBA fMRI Checklist Summary

- Responses were tabulated from four clinical centers, with additional responses expected prior to the 10/15/18 deadline.

## Site Conformance Checklist

- For these items, every site responded either “Already routinely done” or “Feasible, will do to conform”
- Comments included:
  - Mislabeled Section Headings in Acquisition Hardware
  - With the exception of the paradigm design in Technologists
  - Please see notes in Radiologist/Scientist
  - Change radiologists to physicists in Physicist

## Acquisition Hardware Checklist

- Scanner Performance
  - 3 “Already routinely done”
  - Discussion ensued
  - Consider changing parameter to “General Scanner Performance” since this was not felt to be fMRI-specific
- Synchronization of MRI scan and task
  - 4 “Already routine done”
  - Discussion ensued
  - Precision of 100 ms may be too limiting for block design clinical applications. A precision of 1 TR may be sufficient

- Reconstruction Protocol and Image Header
  - These do not seem necessary for MR
  - They may be leftover from the CT checklist
  - Consider removing from the checklist

### Image Analysis Software Checklist

- Image motion assessment
  - Discussion ensued
  - David suggested removing assessment based on DRO work
  - David briefly presented some of his motion DRO work to explain the rationale for this
  - Could change to making a quantitative assessment of head motion without including any threshold
- Spatial smoothing
  - 2 “Already routinely done,” 1 “Feasible, will do to conform,” 1 “Feasible, but not going to do it”
  - Discussion ensued
  - FWHM of twice the voxel size may be too much for single subject clinical application
  - Consider changing to a range. E.g., FWHM of between 1× and 2× voxel dimension or making smoothing optional
  - May be more important with language activation than motor or visual activation

**We intend to continue reviewing the checklist on the next QIBA BC call**

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### QIBA Working Meeting and Meet-the-Experts Sessions at RSNA 2018

- All are encouraged to RSVP for the [QIBA Working Meeting](#) on Wednesday, November 28<sup>th</sup>
- All are invited to volunteer for the poster [Meet-the-Expert](#) session times

### Next calls:

- QIBA fMRI Bias TF call – Tuesday, October 9, 2018 at 1 PM CT
- QIBA fMRI Biomarker Committee call – Wednesday, October 31, 2018 at 11am CT

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