

QIBA fMRI Bias Work Group Call
Tuesday, January 22, 2013 at 10 AM CT
Call Summary

Participants

James Voyvodic, PhD (Chair)
Paul Carson, PhD
Barbara Croft, PhD
Ted DeYoe, PhD

Erich Huang, PhD
Feroze Mohamed, PhD
Laura Rigolo, MS
Domenico Zaca, PhD

RSNA

Joe Koudelik
Julie Lisiecki

Discussion

- Discussion regarding what is known about “truth,” using BOLD to assess brain activity
 - Additional exploration of the Blicher paper considered
 - Relationship between cerebral blood flow and BOLD signal discussed
 - Relationship between blood flow and blood volume may be another avenue for investigation
 - A volunteer is needed to lead the literature review; Dr. Pillai is a possibility
- Dr. Voyvodic suggested that Noam Harel, PhD, an expert on neurovascular mechanisms and BOLD at the University of Minnesota, might be a good resource for the group
 - Dr. Harel works with 7 Tesla which is research oriented but may provide useful insights for 3T
- Additional discussion is needed regarding the relationship between neuronal function and BOLD
- Group focus not yet determined
 - How to define and measure bias with regard to making measurements in the brain, and variability in coupling?
 - Quantitative aspects of neuro-vascular coupling (i.e. neural effect on vessels)
 - Quantitative aspects of vascular response and BOLD (i.e. CBF, CBV, BOLD)
 - Comparison of location of fMRI signal with interoperative mapping
 - There is a need to focus on vasculature issues as well as spatial aspects and modular structure

Resources/ Next steps

- Dr. DeYoe to provide an article on hemodynamic response in the visual cortex
- Dr. Zaca to provide an article on calibrated fMRI.
- Dr. Voyvodic to circulate a list of papers / articles for discussion, on the next call

Next calls:

- QIBA fMRI Bias Working Group, ***Tuesday, February 5, 2013 at 10 am CT***
- QIBA fMRI Technical Committee, ***Wednesday, February 13, 2013 at 11 am CT***