

QIBA Perfusion, Diffusion and Flow – MRI Technical Committee Update Call

Wednesday, 11-December-2013 at 11 AM CST

Call Summary

Participants

Marko Ivancevic, PhD (Co-Chair)

Edward F. Jackson, PhD (Co-Chair)

Daniel P. Barboriak, MD

Orest B. Boyko, MD

Martin Buechert, PhD

Thomas L. Chenevert, PhD

Patricia E. Cole, PhD, MD

Greg O. Cron, PhD

Amita Shukla Dave, PhD

James R. Ewing, PhD

Daniel Gembris, PhD

Alexander Guimaraes, MD, PhD

Martha Heckel

John Kirsch, PhD

Hendrik Laue, PhD

Chen Lin, PhD

Thorsten Persigehl, MD

Daniel Sullivan, MD

Ying Tang, PhD

Brian A. Taylor, PhD

Zhiyue Jerry Wang, PhD

Yuxiang Zhou, PhD

RSNA

Joe Koudelik

Madeleine McCoy

PDF-MRI Breakout Session at the RSNA 2013 Annual Meeting (Dr. Jackson)

- Dr. Jackson will forward the summary from the face-to-face meeting to RSNA Staff for distribution.
- Compliance discussions will resume at the next PDF-MRI Tech Ctte t-con on January 8th. Dr. Guimaraes is leading the compliance Working Group of the PDF TC. The other members of the WG are Drs. Zahlmann, Rosen, Barboriak, and Jackson.

ADC Phantom Update (Dr. Jackson)

- QIBA PDF–MRI (DWI) and IMI QuIC-ConCePT collaborators recently discussed next steps re the EORTC utilizing the ADC phantom for a multiple center clinical trial.
- The EORTC offered to purchase 6-10 phantoms (one for each site involved in the clinical trial); fabrication expected by mid-late February 2014, allowing for an early Profile field test opportunity.
- Dr. Boss to provide the information for the 3D printing, the PVP material, and the final assembly of the phantoms.
- A scanning protocol guidance document must be developed for use with the phantom and will ultimately be incorporated in the DWI Profile.
- Phantom acquisition protocols will be developed for GE, Philips, and Siemens scanners.
 - Drs. Chenevert and Ivancevic to provide a protocol for the Philips scanner. Dr. Chenevert agreed to distribute a recommended Philips protocol template based on his prior phantom acquisitions and that template will be modified, as necessary, for scanners from other vendors.
 - Dr. Kirsch to provide the protocol for Siemens scanners.
 - Drs. Jackson and Dave will draft the protocol for GE scanners
 - Dr. Scott Hinks may be contacted by Dr. Jackson for a vendor perspective for the GE scanner platform protocol.
- Dr. Boyko spoke of obtaining data from additional vendors, such as Toshiba and Hitachi
 - A wider range of data for the QIDW would be welcomed
 - The EORTC collaboration, for the clinical trial being discussed, will involve only GE, Siemens and Philips scanners; testing of systems from other vendors will, of course, be welcomed in the future
- System testing recommendations, *e.g.*, *b*-values and scan planes, were discussed. The consensus of PDF TC members on the call was: *b*-values of ~0, 500, 900, and 2000 s/mm² should be acquired (the latter added to more thoroughly test the system and to aid in the characterization of the high-PVP concentration compartments in the DWI Phantom), and all three orthogonal scan planes should be assessed.
- The frequency of phantom scans was also discussed. The consensus was that the phantom should be scanned every 6 months and following any gradient subsystem modification or major software revision.

- Dr. Barboriak encouraged the harmonizing of efforts with other groups, *e.g.*, ACRIN, QIN, IROC, NCI/CIP, *etc.* Individual contacts who were specifically mentioned were:
 - Dr. Michael Knopp - The Imaging and Radiation Oncology Core (IROC) Group
 - Dr. Lalitha Shankar - National Cancer Institute (NCI) Cancer Imaging Program
 - Dr. Tom Chenevert - American College of Radiology Imaging Network (ACRIN) and others

It was suggested to have this as a topic at the QIBA May Meeting

DWI Profile

- Dr. Dave volunteered to draft the currently missing head and neck section of the Profile.
- Additions to, and recommended edits of, the draft DWI Profile are always welcome and should be directed to Drs. Boss and Guimaraes.

Next t-con: Wednesday, January 8th at 11AM (CDT)