

QIBA Perfusion, Diffusion and Flow – MRI Biomarker Committee (BC) Call

Wednesday, January 18, 2017 at 11:00 AM (CT)

Call Summary

Participants

Michael Boss, PhD (Co-Chair)

David Bennett, PhD

Mark Brown, PhD

Thomas Chenevert, PhD

Caroline Chung, MD

Amita Dave, PhD

Timothy Dondlinger

Bradley Erickson, MD, PhD

Andrey Fedorov, PhD

Daniel Gembris, PhD

Xavier Golay, PhD

Ivan Jambor

Kathryn Keenan, PhD

Daniel Krainak, PhD

Hendrik Laue, PhD

Eleni Liapi, MD, ScM

Chen Lin, PhD

Dariya Malyarenko, PhD

Elizabeth Mirowski, PhD

Nancy Obuchowski, PhD

Chad Quarles, PhD

Samir Sharma, PhD

Jason Stafford, PhD

Ying Tang, PhD

Brian Taylor, PhD

Aradhana Venkatesan, MD

Elisabeth Wilde, PhD

Ona Wu, PhD

Gudrun Zahlmann, PhD

RSNA

Joe Koudelik

Susan Weinmann

Moderator: Dr. Boss

DSC TF Update (Drs. Erickson and Wu)

- Literature review is complete
 - Only four articles that include K-2 were found: this does not provide sufficient data for K-2 to remain a component of the DSC Profile v.1.0
 - Due to considerable K-2 variation upon pre-loading, specifications will be needed if K-2 is addressed in next DSC Profile v2.0
- Rnd-5 and -6 Groundwork Projects
 - QIBA DSC Phantom: Progress as of January 2017 (Dr. Wu)
 - Results were shared by Dr. Keenan at NIST
 - Ongoing issues with stability of nanoparticles persist
 - Long-term stability tests with difference contract-mimicking solutions continue
 - Stability to be monitored for one month after concentrations are revised; goal is a 1+ year stability
 - Phantom to be distributed to additional scanning sites when stable solution is identified
 - Web-based tool for creating DSC Digital Reference Objects (Dr. Erickson)
 - This project will create a web-based interface/software to select input image parameters and select a DRO to mimic DSC acquisition simulations
 - Three open source packages for creating DROs to simulate DSC perfusion image acquisition were collected
 - The user interface into which parameters can be entered is currently being created
 - Demo of the user interface is scheduled for the next DSC TF update on the March 15 PDF-MRI BC call

DWI Profile Update (Drs. Boss & Chenevert)

- There has been greater success of establishing ground truth with polyvinylpyrrolidone (PVP) phantom fill solutions
 - Some numbers may appear in appendices of DWI Profile
 - Calibration of temperature probe to a reference object (i.e. water) with a known diffusion coefficient has been completed
 - Status of Profile review and numbers to be reported at the next DWI TF update on the March 1 PDF-MRI BC call
- Table of Contents updated
- Open and closed issues are listed in the change log
 - Drs. Boss, Chenevert and Dave to address issues as they are raised
 - “Floating comments” have been addressed
- Clean-up, formatting and consistency check to be completed
- A third Claim and third organ (prostate) was added based on 3T; expanding to 1.5T to be determined
- RSNA staff provided an author list of PDF-MRI BC members for Appendix B; Dr. Boss to add any additional individuals who have contributed to the DWI Profile
- Outstanding references and link to literature review database to be added
- Internal review by PDF-MRI BC to begin, with all feedback due by next PDF-MRI BC call on February 1
- Review process described on the QIBA Wiki at: http://qibawiki.rsna.org/index.php/Review_Process
 - Subject Matter Experts (SMEs) to focus on specific sections
 - Others to review overall document for consistency
 - Drs. Rosen, Kirsch, Obuchowski, Shiroishi and Taylor to assist
 - Mr. O’Donnell to be invited to provide feedback and process/format insight
- Profile was transferred to Google docs for an efficient review process
 - Feedback to be provided in “suggesting mode”
 - Editing to be restricted to Dr. Boss
- Next steps to follow PDF-MRI SME review:
 - PDF-BC members vote by e-ballot to approve release for public comment after review period of 2 – 4 weeks
 - MR Coordinating Committee voting members to complete a ballot to approve the Profile for public comment
 - Details on the voting process can be found on the QIBA wiki at: http://qibawiki.rsna.org/index.php/Voting_Process

General

- Those who called in but did not log-into the WebEx were asked to notify RSNA staff of their attendance in order to be included in the notes
- Dr. Chenevert to add publications, posters to dashboard

Upcoming PDF Task Force Updates:

- February 1 – DCE Task Force
- February 15 – DTI Task Force
- March 1 – DWI Task Force
- March 15 – DSC Task Force

Next PDF-MRI Biomarker Committee Call: February 1, 2017 at 11 AM CT