

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

Wednesday, September 13, 2017 at 11 AM (CT)

Call Summary

Participants

Daniel Barboriak, MD (Co-Chair)

Michael Boss, PhD (Co-Chair)

David Bennett, PhD

Mark Brown, PhD

Caroline Chung, MD

Daniel Gembris, PhD

Wei Huang, PhD

Edward Jackson, PhD

Claudia Kirsch, PhD

Hendrik Laue, PhD

Chen Lin, PhD

Dariya Malyarenko, PhD

Elizabeth Mirowski, PhD

Nancy Obuchowski, PhD

Savannah Partridge, PhD

James Provenzale, MD

Mark Rosen, MD, PhD

Ying Tang, PhD

Ona Wu, PhD

Junqian (Gordon) Xu, PhD

Robert Young, MD

RSNA

Joe Koudelik

Susan Weinmann

Moderator: Dr. Boss

RSNA 2017 Annual Meeting Posters

- Staff sent out poster focus, format guidelines, and options for printing and installation to QIBA BC Co-Chairs following the 8/17 QIBA SC meeting
- General information to include activities over the past year related to:
 - Organizational structure updates, e.g., formation of the ASL TF
 - Profile development status
 - Profile impact / implications for clinical trials and patient care
 - Conformance procedure update (if applicable)
 - Groundwork project status/results
- Suggestion to include posters as an agenda item on upcoming calls
- Poster guidelines were forwarded to TF leaders along with a request for poster content
 - ASL TF leaders to present on Profile-writing progress
 - DTI TF leaders to provide information on phantom study
 - DCE TF to include a summary of literature search results and an update on Dr. Nayak's Round-6 groundwork project
 - TF leaders encouraged to provide outline of content & graphics to BC leaders prior so that poster framework can be formed
- Poster content expected to be collected by mid-September with poster creation and review by October 25th, and submission to RSNA staff no later than October 31

DTI TF Update (Dr. Provenzale)

- 1. Literature search update
 - Goal is to understand the extent to which DTI is clinically robust
 - Literature search of the topic of DTI reproducibility began in February and is now complete
 - The literature search yielded 100 articles on DTI reproducibility
 - Two articles per month were assigned to each of the three TF members
 - Clinical Review of Literature subgroup, led by Dr. Provenzale, reviewed each article and performed a systematic assessment
 - To date, 20-25 articles have been reviewed and deemed useful for inclusion in the literature review

- Members recorded the following information about each article on a scoresheet:
 - Study findings and study limitations
 - Methodology
 - Actual Claims about DTI reproducibility
 - Usefulness for purposes of the Profile
- 2. Quantitative Measurements subgroup led by Dr. Schneider
 - Update provided on Dr. Schneider’s QIBA Round-6 Project titled, “Measurements of Reproducibility of DTI Metrics on Clinical MR Scanners Using a DTI Phantom”
 - This DTI phantom-scanning project will be the most up-to-date and comprehensive assessment conducted
 - Phantoms are being scanned on five Siemens and two GE scanners at Duke
 - Phantom to be used to quantify and correct systematic bias across multiple vendor platforms
 - Capabilities of scanners at across and within sites vary quite a bit
 - Ways to design a phantom protocol that is representative, or generalizable, to multiple scanners that maintains a high performance bar (i.e., not at the level of lowest common denominator) were investigated (e.g., 12 directions)
 - Solution to include two types of phantom protocols (1) can be run on every Duke scanner [12 directions = a generalizable, or universal protocol] and (2) can be run on 30 or more directions = for powerful academic centers)
 - The “universal” protocol can be run on many different scanners, but requirements will not be met by every scanner within test
 - Reminder for clinical environment to be considered when developing protocol

DWI TF Update

- The public comment period started in late April and closed in late August
- This Profile is currently in comment resolution stage
- It was strongly recommended to incorporate line numbers into Profiles sent out for public comment review; suggestion to use “Line Numbers for Google Docs” app
- RSNA staff transitioned all public comments received to a Google Sheet in efforts to facilitate effective review and discussion; subsequently, ownership of the Google document was ceded to Dr. Boss
 - Comments were sorted by line numbers (i.e., topic) and volunteer reviewers were assigned to focus on specific areas of the Profile
 - Feedback received identified two major areas for modifications
 - To maintain a standard format across all QIBA Profiles, material to be relocated from the appendices to their associated sections within the Profile
 - Need to better align the DWI prostate image acquisition protocols used in the DWI Profile and with that of the PIRADS version
 - Prostate Protocol in the DWI Profile was based on four papers that list specific technical parameters found in the literature review
 - Prostate Imaging – Reporting and Data System (PI-RADS) version 2: <https://www.acr.org/~media/ACR/Documents/PDF/QualitySafety/Resources/PIRADS/PIRADS%20V2.pdf> suggested protocols, or technical specifications
 - The main challenge is the dearth of data on prostate
 - A way to establish alignment between QIBA (what is in literature) and of PIRADS document is being determined

- It was estimated that 4 - 6 weeks are needed to address comments
- Parallel effort underway to implement resolutions collaboratively in the next Profile draft via Google Docs
- Profile edits to be completed by the November 2017 RSNA Annual Meeting
- Dr. Boss emphasized the efficiency of working with online (cloud) tools for Profile efforts:
 - Version control
 - No need to email a document around or save on thumb drive
 - Ability to translate back and forth between Google & MS Office, based upon needs (cloud for working documents and MS Office for finished products)

➤ **If you plan to attend the 2017 RSNA Annual Meeting, the QIBA Working Meeting will be held on Wednesday, November 29, 2017, 2:30 – 6 PM**

Next PDF-MRI BC Call: Wednesday, September 27, 2017 at 11 AM CT [DTI Profile-Writing efforts to be discussed]

RSNA Staff attempt to identify and capture all committee members participating on WebEx calls. However, **if multiple callers join simultaneously or call in without logging on to the WebEx, identification is not possible.** Call participants are welcome to contact RSNA staff at QIBA@RSNA.org if their attendance is not reflected on the call summaries.