

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

Wednesday, August 16, 2017 at 11 AM (CT)

Call Summary

Participants

Michael Boss, PhD (Co-Chair)

Mark Brown, PhD

Thomas Chenevert, PhD

Caroline Chung, MD

Timothy Dondlinger,

Bradley Erickson, MD, PhD

Daniel Gembris, PhD

Gloria Guzman, MD, MSc

Edward Jackson, PhD

Harrison Kim, PhD, MBA

Daniel Krainak, PhD

Hendrik Laue, PhD

Eleni Liapi, MD, MSc

Dariya Malyarenko, PhD

Elizabeth Mirowski, PhD

Nancy Obuchowski, PhD

James Provenzale, MD

Walter Schneider, PhD

Samir Sharma, PhD

Jason Stafford, PhD

Junqian (Gordon) Xu, PhD

Dewen Yang, MD, PhD

Robert Young, MD

RSNA

Joe Koudelik

Susan Weinmann

Moderator: Dr. Boss

RSNA 2017 Annual Meeting Posters

- Staff to send out poster focus and specific 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
 - Profile development
 - Conformance procedure update (if applicable)
 - Groundwork project status/results
- Suggestion to include posters as agenda item on upcoming calls
- Poster content expected by mid-September with submission no later than October 31

DCE TF Update (Drs. Laue & Chung)

[Some details taken from Dr. Laue's TF update presentation]

- Profile writing: PDF-MRI BC members are encouraged to review the DCE Profile Google Doc and add comments by contacting [Dr. Laue](#) or [Chung](#) for the link
- Literature search status
 - Literature review process tracked in Google Sheets (contact [Dr. Laue](#) or [Chung](#) for the link)
 - In order to avoid omitting articles, recommendations are requested
 - Literature review of brain, head and neck articles have been completed
 - Update on literature review for prostate
 - Search strategy shared
 - 395 total papers found
 - 193 excluded for irrelevance
 - 202 papers reviewed for Profile content
 - 180 papers relevant to DCE
 - Most studies: comparison to biopsy results (e.g., Gleason score)
 - Some treatment monitoring: radiation therapy, recurrences

- Intent is to include prostate in Profile, but only 2 viable sources for citation in DCE Profile were found:
 - 2 publications with test-retest found:
 - Kershaw et al, 2009:
 - 13 patients
 - AATH model
 - Individual AIF
 - Not tumor
 - Yang et al, 2009:
 - 16 patients
 - eGKM
 - Comparison for different AIFS
 - Strong variation of methods:
 - Different MR parameters
 - Different model
 - Motivation of Prostate MRI
 - Grade malignancy
 - Therapy follow up (Radiation, ...)
 - Watchful waiting
- Suggestion made to request input from prostate subject matter experts for articles and assistance with prostate Claim statement
- While the DCE TF has prostate contacts, more are always welcome
- To address the paucity of test-retest data on brain, a white paper is being written to encourage PIs to submit/publish test-retest data; details of white paper may be included in the DCE Profile
- Dr. Nayak has been able to reach Philips & Toshiba and will be able to resolve issues with his Round-6 Project; update to be provided on a future call

“Importance of Test-Retest Studies in Quantitative Imaging” – White Paper on Reproducibility Study Needs

- This effort, led by Dr. Amita Dave, is motivated by the dearth of papers that are able to support DCE and DWI claim statements
- There is paucity in published test-retest data and inconsistency in how the data are collected and presented, especially in some sub-modalities like DCE and DWI
- The white paper is to communicate the need for more published test-retest data, especially patent data, with a proper statistical approach to address the literature gaps across organs and sub-modalities
- The goal is to standardize how the data are collected, analyzed and reported to be most useful for Claim development across various QIBA Profiles
- Enough similarity exists across modalities regarding data reporting to render this useful for developing Profile Claims
- Document draft is being circulated among authors

- Drs. Boss & Obuchowski have made edits and will provide an update on a future call; several other individuals have made contributions to the paper as well
- Discussion on techniques that involve use of contrast agents and older data; ways to overcome barriers with literature that contains test-retest data but hasn't been published or may now be outdated
 - Older technologies and scanner protocols to be addressed in white paper (relevance to today and to address reproducibility)
 - Revolution in contrast data today from 20 years ago (differences across classes of agents)
 - If there is newer data, we may not be aware of it (this is one of the purposes for the white paper)
 - Those interested in these topics are encouraged to contact [Dr. Amita Dave](#) to join the mailing list for the paper-drafting calls

DTI+ TF – Brief Update

- Literature review of 1,000+ papers is underway
- Issues with substantial systematic error in an extremely dynamic environment are being encountered
- Low attendance estimated for next DTI TF call due to August 21 total solar eclipse; DTI TF Co-Chairs to follow-up with RSNA Staff to reschedule

Upcoming PDF Task Force Updates:

- August 30: ASL Task Force
- September 13: TBD
- September 27: TBD

➤ **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, August 30, 2017 at 11 AM CT

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