

## QIBA Dynamic Susceptibility Contrast (DSC) Biomarker Committee (BC) Call

Wednesday, October 10, 2018 at 11 AM (CT)

Call Summary

### Participants

*Bradley Erickson, MD, PhD (Co-Chair)*

Edward Jackson, PhD

Mark Shiroishi, MD

### RSNA

Joe Koudelik

*Ona Wu, PhD (Co-Chair)*

Nancy Obuchowski, PhD

Susan Stanfa

*Moderator: Dr. Wu*

### DSC Profile Update

- RSNA staff to email Profile Google link to all DSC BC members:  
<https://drive.google.com/open?id=0B9fMpfGBABYMfnY5UG83bXJKUnc0dGNBTVFnXOMxclg0LWRsVkxueFRWU3RSFI1VWIZN0k>
- Dr. Wu provided an update on the DSC Profile Claim development process
- The Claims are based on estimates of perfusion AUC-TN coefficient of variation (wCV) for regions of interest in this size range located in enhancing tumor or normal tissue
- Discussion occurred regarding the soundness of the phantom study test-retest data
- During the scanning process, it was discovered that a couple of days is needed between scans
- Suggestion to request results from authors of the paper upon which the Claims are based; subsequently, the Coefficient of Variation (wCV) and repeatability variation can be calculated
- Sample size:
  - 33 participants with double data acquisition
  - Dr. Obuchowski confirmed that the sample size was statistically adequate
- Discussion on confidence interval occurred:
  - Profile currently indicates reproducibility coefficient within enhancing tumor of less than 86%
  - Currently, clinical performance target indicated in the Profile is to achieve a 95% confidence interval for the AUC-TN true change in enhancing tumor tissue if the measured change is 86% or more and in normal tissue if the measured change is 111% or more
  - It was recommended that the group decide which value is the most appropriate; while 86% is acceptable, choosing a middle value is not required and providing a range may be considered
  - A confidence interval was determined as 1.44 – 2.34; any value within this range was deemed appropriate by Dr. Obuchowski for this Profile
- Dr. Wu to send three references describing study analysis approaches to Dr. Shiroishi for cross-checking
- To make sure the recommended sequence is appropriate, the Profile user may scan a phantom to determine whether there is linear correlation with the planned protocol (linearity assessment)
  - Ideally, the slope should be “1,” but it is not necessary
  - It was advised that this should not be a Claim, but rather an assessment procedure the Profile user needs to perform: “Shall perform periodic system QA using QIBA-NIST DSC phantom which includes assessment of temporal SNR and linearity”
  - Once the assessment has been performed, the patient would be ready to be scanned
  - Dr. Wu will work on this section

- Dr. Erickson to work on Section 2: Clinical Context and Claims
- Dr. Shiroishi to review the referenced articles and ensure consistency of data sets
- Volunteers were requested to proofread Sections 1 - 3 for errors prior to next call
- Dr. Erickson to use reproducibility of data results from his paper to complete Table 1 in Section 2.2: Clinical Interpretation Discussion
- Discussion on “tumor size” in Section 3.11.1: Image QA Discussion; Dr. Wu to make text modifications based on “enhancing tumor area”
- “Image reconstruction” bullet in 3.12: Image Distribution to be removed
- Dr. Erickson to make edits to Section 3.14: Image Interpretation

### **QIBA Working Meeting and Meet-the-Experts Sessions at RSNA 2018**

- All are encouraged to RSVP for the [QIBA Working Meeting](#) on Wednesday, November 28<sup>th</sup>.
- All are invited to volunteer for the poster [Meet-the-Expert](#) session times

### **Poster Preparation for RSNA 2018**

- DSC-MRI will be sharing a poster with the DCE-MRI Biomarker Committee
- Due to the growing number of BCs, 5 posters have been allocated among the 8 MR BCs for 2018

**Next DSC BC Call:** Wednesday, November 21, 2018 at 11 AM CT

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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](mailto:QIBA@RSNA.org) if their attendance is not reflected on the call summaries.