

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

Wednesday, December 12, 2018 at 11 AM (CT)

### Call Summary

#### Participants

Bradley Erickson, MD, PhD (Co-Chair)

Ona Wu, PhD (Co-Chair)

Nancy Obuchowski, PhD

Mark Shiroishi, MD

#### RSNA

Joe Koudelik

Susan Stanfa

Moderator: Dr. Wu

#### DSC Profile Update

- Profile available to all DSC BC members through Google Drive:  
<https://drive.google.com/open?id=0B9fMpfGBABYMfnY5UG83bXJKUnc0dGNBTVFnX0Mxclg0LWRsVxkueFRWU3RRSF11VWIZN0k>
- Latest Profile updates were reviewed and remaining tasks were discussed
- Section 2: Clinical Context and Claims
  - Dr. Shiroishi cross-checked the three references describing study analysis approaches sent to him by Dr. Wu and provided feedback
  - Discussion on confidence interval:
    - References were used to develop Claims 1 & 2, which have very large within-subject COVs
    - Claim 1: “A true change in Area Under the Curve-Tissue Normalized (AUC-TN) in enhancing tumor tissue has occurred with 95% confidence if the measured change is 86% or more”
    - Claim 2: “A true change in Area Under the Curve-Tissue Normalized (AUC-TN) in normal brain tissue has occurred with 95% confidence if the measured change is 111% or more”
  - Brief discussion regarding the selection of the highest intensity region if there is adequate tumor (the ‘hotspot method’); this is used clinically, but was not used in the three references/supporting papers
  - Caution voiced not to limit Profile users to specific software packages, but only 1-2 companies produce “better” software that could lead to more precise results
    - Suggestion to include two different Claims, one based on using any SW package, the other based on using a “high-performing” software identified in the Profile
    - Add guidance in Section 2.2: Clinical Interpretation Discussion on making post-processing corrections
  - Dr. Shiroishi to ask Dr. Jerrold Boxerman (Rhode Island Medical Imaging-RIMI) about references regarding the utility of contrast and make updates to Section 2.1: Clinical Interpretation
  - The Profile is for both clinical trials and clinical practice; it needs to be rigorous enough for clinical trials, as they tend to drive clinical practice
  - Dr. Erickson to use reproducibility of data results from his paper to complete Table 1: “Expected Precision for Alternate Scenarios,” in Section 2.2: Clinical Interpretation Discussion
  - Dr. Wu to make final, direct edits to the Profile technical specifications and remove her comments
  - Dr. Wu to continue trying to incorporate references into the Google Doc; this has not been straightforward
  - DSC BC members were encouraged to make updates to Appendix F: Conformance Checklists

**Next DSC BC Call:** Wednesday, January 9, 2019 at 11 AM CT

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