# QIBA Dynamic Contrasted Enhanced (DCE) MRI Biomarker Committee (BC) Call

Monday, March 18, 2019 at 11 AM (CT)

Call Summary

**Participants**

| | | | **RSNA** |
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| *Caroline Chung, MD (Co-Chair)* | Wei Huang, PhD | Susan Noworolski, PhD | Joe Koudelik |
| *Hendrik Laue, PhD (Co-Chair)* | Harrison Kim, PhD, MBA | Nancy Obuchowski, PhD | Susan Stanfa |
| Dena Flamini, RT | Chen Lin, PhD | Kyunghyun Sung, PhD | |

## DCE Profile Update (Dr. Chung)

- DCE BC members were encouraged to review and comment on the updated Profile at:
  https://docs.google.com/document/d/1ytAuSsRtL2mgAlY1wq6PkVGleWvWSTdx0HGdgUu1mrA/edit?usp=sharing
- DCE BC members were thanked for the many edits that were submitted since the March 4 call
- The goal is to finalize Section 3 and discuss Section 4 (Assessment Procedures) offline
- Dr. Kim added several comments in Section 3.13: Image Analysis
- Dr. Obuchowski reviewed and made adjustments to Section 2.1 Clinical Interpretation; text has been finalized
- Early parts of Section 3 were discussed during the March 4 call; specification tables vs. general discussion content were reviewed
- Section 3.5: Periodic QA
    - High-level T1/R1 Phantom scanning precision text remains in 3.5.1 discussion section; it describes what users need to do to be QA conformant with the Profile
    - Specifics regarding T1 or R1 reference values or ranges were moved to Section 4.1: Assessment Procedure: R1/T1 Mapping accuracy

- Section 3.6: Protocol Design
    - Signal linearity (SI) and variability between scanners to be noted in Section 4: "While published guidelines on the allowed deviation from linearity do not exist, a linear correlation coefficient between SI and R1 of 0.9 or higher is required for the Claims in this Profile"

- Dr. Chung to reach out to Dr. Shiroishi re: 3.8 clinical text/subject selection
- Discussion regarding how often a scanner should be calibrated using a phantom; recommendation to do this following a software/hardware upgrade or change in protocol
- References regarding Arterial Input Function (AIF) were added to Section 3.13: Image Analysis
- Section 3.14: Image Interpretation to be kept brief
    - Suggestion to use DRO data
    - Recommendation to identify all possible sources of measurement variability and determine the underlying Actors responsible, e.g. scanner, software, etc.
    - Have a test and set limits for amount of acceptable variability for each Actor/factor so the user will know how much precision can be expected

- Dr. Obuchowski sent signal linearity details to staff to be forwarded to Drs. Chung & Laue
- Additional text needed regarding the frequency of repeated phantom QA scanning
- Analysis section to be cleaned up regarding conformance procedures, e.g., suggested use of open-source analysis software and testing against a QIBA DRO, etc.
- Dr. Laue to send article to staff for circulation

**Next DCE BC Call:** Monday, April 1, 2019 at 11 AM CT

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