

QIBA Dynamic Contrast-Enhanced (DCE) MRI Biomarker Committee (BC) Call

Monday, May 11, 2020 at 11 am (CT)

Call Summary

In attendance

Hendrik Laue, PhD (Co-Chair)

Michael Boss, PhD

John Carrino, MD, MPH

Wolter de Graaf, PhD

Cristina Lavini, PhD

Nancy Obuchowski, PhD

RSNA staff

Joe Koudelik

Susan Stanfa

Moderators: Dr. Laue

Profile Progress

General

- Following a very comprehensive literature review, extensive feedback and deliberation, the Profile is almost ready for a vote to release for public comment
- At this stage of Profile development, the purpose of BC calls is to prepare the document for public comment and not to revisit all the outstanding physics details

Section 3.6. Protocol and Reconstruction Design

Image Acquisition Considerations: Signal saturation and non-linearity specification table 3.6.2

- A reference was added for brain protocol at 3T
- 3T specifications that were incorporated into the tables for DCE-MRI Protocol for brain and prostate were discussed

Section 4.1 Assessment Procedures: R1/T1 Mapping accuracy and signal saturation

- “Signal saturation,” was added to the title of this section
- Recommendation to include only information necessary to meet the Claim in the body of the document; other details should be relocated to the appendices
- Due to the dearth of literature and lack of access to vendor-specific B1-mapping sequences, the Claim will not include B1 correction as a requirement
 - An appropriate, measured solution was to provide explanatory text and guidelines in the discussion for those who want to use B1 correction
 - In the B1 Mapping subsection of 4.1.3 Testing sequence for signal quantization errors, Dr. Boss recommended to rephrase “it is important to perform...” to “it may be valuable to perform a B1 mapping sequence”
 - If test-retest data are published in the future, Profile requirements will be revisited
 - Dr. Lavini shared a plot of averaged B1 values in the ROIs for phantom, brain, and knee, using four different sequences
- Detail associated with the testing sequence for signal saturation and intensity was moved to the Appendices
- DCE-MRI BC members were reminded that public comment will provide an opportunity to receive a wider perspective on details that have been the source of recurring discussion; the group was urged to conclude the first draft by the end of June
- Suggestion to reach out to Mr. O'Donnell for input on specific areas of the Profile that present obstacles

Section 3.14.1. Image Interpretation

Discussion Section

- Clinician input was needed re: the discussion on, “Determination of suitable tumor lesions,” and “Selection of target lesion during image acquisition” subsections
- A corresponding specification table was added

Next Steps

- Dr. Laue to work on his software and improve its usability

Next call: Monday, June 8, 2020 at 11 a.m. CT [RSNA closed for Memorial Day on May 25]

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