

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

Monday, June 22, 2020 at 11 am (CT)

Call Summary

In attendance

Hendrik Laue, PhD (Co-Chair)

Ryan Bosca, PhD

John Carrino, MD, MPH

Cristina Lavini, PhD

Nancy Obuchowski, PhD

RSNA staff

Joe Koudelik

Susan Stanfa

Moderator: Dr. Laue

Profile Progress: review of the [DCE-MRI Profile](#) continued

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

- Dr. Lavini working on study manuscript re: this T1 thresholding topic; she has received feedback from her co-author and will submit it soon
- There were concerns re: setting limits on T1 mapping
 - Dr. Laue to send compiled T1 mapping data to Dr. Bosca (i.e., results of the Round 4 funded parallel imaging study)
 - Dr. Bosca to update Profile with values

Section 4.1.1 Testing T1 mapping sequence and algorithm validity and accuracy

- Per the requirements from Section 3.5: Periodic QA, a static T1 phantom should be used; an evaluation software and a manual is available on the QIDW
 - MATLAB code may require update to work with Macs
 - Dr. Laue to send the location/link to Dr. Lavini

4.2: Assessment Procedure: Image Analysis Software

- Significantly shortened and moved details to Appendix G

Appendices

- Appendix B: Claim definition details - references were added for brain and prostate
- Appendix C: Detailed description of Image Analysis – Methods to be used
 - Text in “A. Apply time-series motion correction to the dynamic data” to be reworked in terms of motion correction; organ/site-specific recommendations for motion correction for DCE-MRI to be included
 - “B. Generate a native tissue T1 map using the VFA data” to be simplified
 - Equations in “C. Convert tissue DCE-MRI signal intensity time-course data” to be rewritten
 - It was noted that while there is more than one method planned in “D. Determine a vascular input function,” only one is described; the text will be updated
- A correction was made re: duplicate Appendix Gs
 - Appendix G = Acquisition Protocol
 - Appendix H G: = Vendor specific B1 Mapping information for 3 Tesla (and higher)
 - There was consideration re: the length of Appendix H

Next steps

- Additional discussion needed re: whether the next call will be one or two hours long
- DCE-MRI BC members were asked to review Appendix C and make comments in the [Google Doc](#)
- Dr. Laue to continue cleaning up Appendices

Next call: Monday, July 6, 2020 at 11 a.m. CT

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