

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

Monday, July 12, 2021, at 11 a.m. (CT)

Call Summary

In attendance

Caroline Chung, MD (Co-Chair)

Hendrik Laue, PhD (Co-Chair)

Nancy Obuchowski, PhD

RSNA staff

Joe Koudelik

Susan Stanfa

Update on DCE-MRI Profile

- The [Public Comment Resolutions Sheet](#) was referenced to address comments; details on resolutions reached through committee discussion and consensus are included
- DCE-MRI BC members are welcome to work on edits to the [Profile](#)

The following comments submitted during the public comment period were addressed:

Michael Kin Kuok Lam | Siemens Healthineers

- After running scans on various Siemens scanners, Mr. Lam found no significant difference between phantom and patient dynamics could be observed on the T1 maps
- If two dynamics are not really necessary for building up steady state in Variable Flip Angle (VFA) series, Mr. Lam suggested conducting B1 correction inline on Siemens scanners as this workflow could be easily implemented in non-academic centers
 - Possible implications were examined, and it was determined that additional discussion is needed
 - The time zone difference prevents Mr. Lam from attending DCE-MRI BC calls (12 a.m. Hong Kong time); suggestion to invite another Siemens representative to an upcoming DCE-MRI BC call
 - Drs. Boss, Lavini and Nayak to be asked to attend the next call and Drs. Chung and Laue to follow up with Mr. Lam offline

Jinnan Wang, PhD | Siemens Healthineers

- Dr. Laue to reach out to Dr. Barboriak to verify which of the DCE DROs in the QIDW should be used, as none of the dataset titles match the description in the Profile; he will then update Section 4.2 Assessment Procedure: Image Analysis Software accordingly
- The Assessment section will be updated to instruct Profile user to turn off any co-registration options in the analysis software, as it could introduce undesired deformations with synthetic data
- Name of analysis software download link to be updated from "QDET" to "QIBA evaluation tool"

Richard J Martin, JD | AAPM

- "Watchful waiting," to be replaced by "active surveillance" or "active monitoring"
- Regarding Tofts modeling: For a VIF extracted from MR images, time delays between vascular input function (VIF) and tissue DCE curves likely exist and impact perfusion estimation
 - Identifying and handling time delay has already been addressed, but additional methods will be explored and supporting literature will be referenced
- Dr. Laue to invite Mr. Martin to an upcoming call to clarify his comment re: using the Profile for voxel-by-voxel perfusion modeling and his proposal to specify how perfusion-mapping techniques that incorporate spatial regularization to enforce perfusion image smoothness can be clinically evaluated and used
- It was recommended that the use of "MR Scientist" within this document echo the definition and [General Personnel Requirements: Medical Physicists/MR Scientists for CT, MRI, Nuclear Medicine and PET](#) as outlined by the ACR
 - Dr. Chung to review the ACR definition and requirements

- It will be clarified that phantom scanning conducted by a technologist would need to be overseen by a physicist; phantom data evaluation to be conducted by only the physicist

Next call: Monday, July 26, 2021, at 11 a.m. (CT) [2nd & 4th Mondays of each month]

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