

## QIBA Dynamic Contrast Enhanced (DCE) Biomarker Committee (BC) Call

Thursday, June 7, 2018 at 11 AM (CT)

### Call Summary

#### Participants

Hendrik Laue, PhD (Co-Chair)

Amita Dave, PhD

Wei Huang, PhD

Edward Jackson, PhD

Dariya Malyarenko, PhD

Nancy Obuchowski, PhD

#### RSNA

Joe Koudelik

Susan Stanfa

Moderator: Dr. Laue

#### ISMRRM

- Available DCE BC members attending the ISMRM annual meeting in Paris were encouraged to attend a meeting regarding the floating point DICOM conversion freeware initiative from the ISMRM perfusion group
- A high-level agenda for this meeting was shared:
  - Welcome and background
  - Introduction: problem statement and aim of this initiative
  - Standardization of data - DICOM for Quantitative Imaging (DCQMI): what DCMQI is, what it does and how it works
  - Demo of DCMQI as a command line tool and implementation example as a library
  - Discussion: what would deter you from using it, what is missing and next steps on a global scale
- Dr. Laue to forward location, date and time details
- For continued discussion in Paris, Dr. Malyarenko to forward a paper on this topic

#### DCE Profile Update

- Caution voiced against allowing the Profile to become too long and burdensome to use
- Profiles and checklists should contain only information that is essential for quantitative Claims being made; all other supporting details can be placed in the Appendix
- Sections from other QIBA group Profiles are being used as templates and are being adapted as applicable to DCE
- Section 3: Image Interpretation
  - 3.13.1 Image Analysis: Discussion on tumor ROI definition
    - “The extraction of quantitative DCE-MRI parameters requires a suitable software package”
      - There is some software (third party as well as vendor) for brain, prostate and breast but none for head and neck
    - Dr. Laue to find out whether extended Tofts’ model (ETM) is available as a DRO
  - Section 3.13.1 Image Analysis Discussion on Tumor ROI definition
    - Guide by auxiliary data then mark/delineate on parameter map (as done in DWI Profile)
    - General suggestions to be included in a preamble with ensuing organ-specific subsections
    - Artifacts to be taken into account with the DCE Profile; need sample images for Profile
  - Section 4: Suggestions for Conformance sections
    - Paragraph on DROs to be adapted to DCE in more detail, as there are DROs for VFA, GKM and eGKM
    - 4.1. Assessment Procedure: MRI Equipment Specifications and Performance

- 4.2. Assessment Procedure: Technologist – almost identical for fMRI and DWI
  - 4.3 Assessment Procedure: Radiologist – clarification on Europe vs. US standards needed
  - 4.4. Assessment Procedure: Image Analyst / Physicist / Scientist – translation for DCE needed
  - 4.5. Assessment Procedure: Image Analysis Software – DRO; Method evaluation with developer
- Dr. Dave to send the latest version of the white paper on reproducibility study needs (including Dr. Jackson's edits) to Dr. Laue for reference
  - Dr. Jackson to be consulted regarding the conformance and assessment procedure section details

**Next DCE BC Call:** Thursday, July 5, 2018 at 11 AM CT [June 21 call being skipped due to ISMRM]

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