

QIBA Diffusion-Weighted Imaging MR Biomarker Committee (BC) Call

Thursday, March 25, 2021 at 2 pm (CT)

Call Summary

Participants

Michael Boss, PhD (Co-chair)

Dariya Malyarenko, PhD (Co-chair)

Trevor Andrews, PhD

Muhammad Abubakar Ayub, MBBS

Thomas Chenevert, PhD

Gloria Guzmán, MD, MSc, MPH

Wen Li, PhD

Daniel Margolis, MD

Kevin Miller

Felipe Nascimento, MD

Nancy Obuchowski, PhD

Savannah Partridge, PhD

Jacob (Bram) Stolk, PhD, MBA

RSNA

Joe Koudelik

Susan Stanfa

Review of Previous Call Summary

- The notes from the February 18, 2021 DWI BC t-con were approved as presented

Achieving Stage 3: Technical Confirmation (TC) for DWI Profile

- Two sites to participate in a test-retest study of DWI in head & neck squamous cell carcinoma, to inform an ADC Claim for the DWI Profile
 - Conformance-testing will be conducted by the two sites
 - Dr. Margolis has already scanned the ice-water phantom and shared results
 - Dr. Guzmán to scan the PVP phantom as outlined in the Profile for comparison
 - Dr. Guzmán noted that the clinical scanners at Washington University School of Medicine / Mallinckrodt Institute of Radiology are so heavily occupied that scanning can be done only during very limited hours
 - Because Dr. Dave (Memorial Sloan-Kettering Cancer Center), has been so closely involved in the DWI Profile-writing process, she will not be scanning the phantom
- Dr. Nascimento, et al., to share Deep Vein Thrombosis (DVT) phantom data retrospectively
 - Phantom data from two different institutions were used, encompassing eight imaging sites, 18 MR systems from three different vendors, and two magnetic fields (1.5 and 3.0 T)
 - The Brazil team, Drs. Amaro and Nascimento to provide for additional feedback on their experience implementing the DWI Profile; input to be used to refine the TC version of the DWI Profile
- Dr. Boss noted that data from one-two systems across at least three sites are enough to meet TC requirements
- Sites must complete a TC feedback form as well as a self-attestation checklist
- Staff added the current version of the DWI Profile that included protocol for PVP phantom to the [Conformance Profile page](#) of the QIBA Wiki
- TC requires that sites perform Profile checklist requirements, implementing scan protocol and all other Actor parameters; this is the last QIBA Profile stage involving the solicitation of feedback and revising a Profile in response to it
 - Brain data collected by the Brazil team should be applicable to other disease sites
 - Consistency across QIBA biomarkers is needed, but it is important that QIBA sets a standard for phantom work that can translate into a clinical setting
 - Scanning a DWI phantom is the first essential step with either the ice water or PVP versions
- An update was provided on the VERDICT study, which will result in prostate test-retest data
 - Dr. Margolis confirmed that the team adhered to procedures in the DWI Profile and completely implemented all requirements; he stated that it should be feasible for most imaging sites
 - Dr. Dave had provided the ice water phantom to Dr. Margolis for additional scanning and data acquisition
- It was suggested that a QIBA certification would help sites justify dedicated scanning time for conformance-testing with their administration

- Dr. Boss to discuss QIBA/ACR joint accreditation with the appropriate individuals
 - Suggestion to provide details re: the “value-add,” to both ACR and participating sites
 - Quality assurance would be one benefit, as uniformity across scanners would be useful for sites

Profile Structure Discussion: Condensing/Reordering

- Process Cmte leaders have been revising the Profile template based on a reorganization of section content; the CT Advanced Disease Profile is being used as a pilot
- This careful repackaging of Profile information does not eliminate any critical information, it simply moves the most pertinent information for end users/actors to the front for easier reference, rather than having it scattered throughout a lengthy document
- While the Executive Summary will be relatable to both clinicians and non-clinicians, it will be condensed and more boilerplate in language
- With this new format, the Executive Summary, Clinical Context (application of Profile), Claims and Disclaimers would all fit on a single page
- Checklists to be moved from the end of QIBA Profile documents to the beginning (Section 3) and arranged by actor to facilitate the implementation process for the end user
- Supporting scientific details to be moved to the appendices (for a deeper dive into the scientific rigor)
- The DWI Profile will be evaluated to ensure that it includes only information needed to achieve Claims; details/specifications to be moved to the Appendices
- DWI BC members were assured that the DWI Profile will be simplified without sacrificing details

Next DWI-MR BC Call: Thursday, April 15, 2021 at 2 pm (CT)

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