

QIBA MRE Biomarker Committee Call

Monday, November 7, 2016 at 3 PM CT

Call Summary

Participants

Patricia Cole, PhD, MD (Co-Chair)

Ninad Mantri, MS

Kay Pepin, PhD

RSNA

Joe Koudelik

Richard Ehman, MD (Co-Chair)

Nancy Obuchowski, PhD

Suraj Serai, PhD

Susan Weinmann

Thomas Chenevert, PhD

Moderator: Dr. Ehman

Profile Review

- Profile revisions made as a result on Oct. 31 MRE Profile-Writing TF call
- Open issues:
 - The longitudinal claim presented in this Profile requires that the MRE stiffness measurements (magnitude of the complex shear modulus) have a linear relationship with true stiffness – discussion on whether this can be confirmed with phantom testing
 - The working group noted that existing technology does not provide a way to fabricate elastography phantoms with stiffness values that are precisely defined in advance by the composition and process
 - Existing dynamic mechanical testing devices used in laboratories have significant limitations for estimating the complex shear modulus of semi-solid material
 - Therefore, no currently-accepted test procedure can be recommended to confirm the assumption of linearity
 - However, based on the physical principles of the MRE measurement process and published comparisons with benchtop mechanical testing (refs), the working group concludes that linearity is a reasonable assumption at this time
 - This issue may need to be revisited in the future
 - Linear relationship appears in the literature
 - Dr. Pepin to draft text for the Profile
 - Discussion on whether the Profile should attempt to identify commercial suppliers of MRE phantoms in this first edition
 - At this time, commercial products are limited, have not been widely tested, and may only be available from some of the MRE OEM's
 - The draft Profile describes the use of an MRE phantom to aid training and as an optional tool for generally confirming proper system operation (not to test accuracy)
 - Accordingly, it may be appropriate to defer attempting to identify commercial MRE phantoms to the second edition of the Profile, when there may be more experience to confirm availability and usability.
 - Phantom status to be revisited in the future and Profile to be updated accordingly

- References to be added
- The Executive Summary was updated
- Minor revisions were made in Sections 2 & 3
- Section 4.: “Assessment Procedures”
 - Drs. Ehman & Pepin to draft test-retest protocol
 - Information to be added to Section 4 to help the users meet Claim/Profile conformance

- Claim to be adjusted

- Revised Profile to be distributed to all MRE BC members
- MRE to hold a joint call with Dr. Garra and US-SWS BC members in early 2017

The next MRE BC Call is scheduled for: TBD