

QIBA Ultrasound Shear Wave Speed (SWS) Biomarker Committee (BC)

Friday, March 19, 2021; 11 AM CT

Call Summary

In attendance

David Fetzer, MD (Co-Chair)
Stephen McAleavey, PhD (Co-Chair)
Stephen Rosenzweig, PhD (Co-Chair)
S. Kaisar Alam, PhD
Karen Alton, BS, RDMS, RVT
Michael André, PhD
Jeff Bamber, PhD

Paul Barbone, PhD
Richard Barr, MD, PhD
Anil Chauhan, MD
J. Brian Fowlkes, PhD
Timothy J. Hall, PhD
Reinhard Kubale, MD
Viksit Kumar, PhD

Nancy Obuchowski, PhD
Kevin O'Donnell, MASc
Arinc Ozturk, MD
Mark Palmeri, MD, PhD
Michelle Robbin, MD
Heiko Tzschätzsch, PhD
Keith Wear, PhD

RSNA

Joe Koudelik
Julie Lisiecki

Moderator: Dr. Rosenzweig

- The call summary notes from January 22, 2021 were approved as presented

SWS BC Leadership Changes:

- Dr. Hall announced that Mr. Milkowski and Dr. Garra had stepped down as co-chairs and thanked them for their many years of dedicated service
- He then introduced three new co-chairs with differing and complementary expertise:
 - Dr. David Fetzer, MD, *UT Southwestern Medical Center*
 - Dr. Stephen McAleavey, PhD, *University of Rochester*
 - Dr. Stephen Rosenzweig, PhD, *Siemens*

Guest speaker: Heiko Tzschätzsch, PhD, *Charité-Universitätsmedizin Berlin*

- Dr. Tzschätzsch presented his work on viscoelastic phantoms
- His lab has developed a stable polyacrylamide gel phantom which mimics the viscoelastic properties of a healthy liver over a wide range of shear wave frequencies making it suitable for fibro scan, ultrasound elastography, and MRE system calibration
- Dr. Tzschätzsch kindly agreed to share his slide presentation with the BC members

Consensus Voting Update:

- The QIBA SWS Profile has been slightly revised since the BC vote was halted due to text discrepancies
- The BC will resume the Consensus voting procedure at the BC and CC levels
- For people who have not voted yet, the clean document will be provided
- For people who previously voted, the change tracked document will be provided to help identify text revisions and determine whether they want to keep or change their original vote
- [Voting eligibility](#) is based on attendance per the QIBA Process Committee
- Mr. O'Donnell mentioned that Dr. Garra introduced a new idea in the Profile of point-based conformance, and he asked that voters pay particular attention to this in Section 5 and provide feedback
- This is considered a process change because conformance typically cannot be partial for technical performance
 - The Process Committee advocates against using point-based conformance
- It was suggested that core checklist items be required for conformance first, and that additional checklist items could be aspired to for better performance, but not required for conformance

DICOM request: (Mr. O'Donnell)

- Mr. O'Donnell asked if he could circulate a DICOM request to SWS BC members regarding Structured Reporting (SR) measures, which are not yet standardized
- Dr. Fetzer relies heavily on these measurements and agreed that standardizing them would be helpful
- Dr. Hall suggested that this also be shared with the PEQUS BC; Mr. O'Donnell to follow up with Dr. Erpelding

Non-Invasive Biomarkers of Metabolic Liver Disease (NIMBLE) Study: (Dr. Ozturk)

- Dr. Ozturk's team is testing the Profile in a prospective study with modified components of the NIMBLE study
- There are 2 sites which will allow for 20 patients each; MGH and UCSD are ready for patient enrollment
- CIRS provided the phantoms for testing prior to enrollment
- 6 ultrasound systems and Fibroscan will be tested in the NIMBLE study
- Dr. Ozturk to provide updates from initial testing at the next SWS BC meeting

UW Longitudinal Study of Nonalcoholic Fatty Liver Disease (NAFLD): (Dr. Hall)

- The UW is conducting a longitudinal study of NAFLD on a multi-site weight loss surgery group with 100 subjects at 5 different timepoints
- Twelve have been scanned so far, utilizing elements from the SWS, MRE and PDFF Profiles
- These respective studies may help the Profile attain technically confirmed and claim confirmed status

Journal of Ultrasound in Medicine (JUM) QIBA article citation:

- Palmeri, M.L., Milkowski, A., Barr, R., Carson, P., Couade, M., Chen, J., Chen, S., Dhyani, M., Ehman, R., Garra, B., Gee, A., Guenette, G., Hah, Z., Lynch, T., Macdonald, M., Managuli, R., Miette, V., Nightingale, K.R., Obuchowski, N., Rouze, N.C., Morris, D.C., Fielding, S., Deng, Y., Chan, D., Choudhury, K., Yang, S., Samir, A.E., Shamdasani, V., Urban, M., Wear, K., Xie, H., Ozturk, A., Qiang, B., Song, P., McAleavey, S., Rosenzweig, S., Wang, M., Okamura, Y., McLaughlin, G., Chen, Y., Napolitano, D., Carlson, L., Erpelding, T. and Hall, T.J. (2021), **Radiological Society of North America/Quantitative Imaging Biomarker Alliance Shear Wave Speed Bias Quantification in Elastic and Viscoelastic Phantoms**. *J Ultrasound Med*, 40: 569-581. <https://doi.org/10.1002/jum.15609>
- Congratulations to all contributors to this QIBA publication!

Technical Confirmation Suggestion from 1/22/2021 notes:

- Mr. O'Donnell suggested that in parallel with the Consensus vote, the BC should send the Profile to at least 3 sites to conduct feasibility testing; this would speed up advancement to Stage 3 (Technical Confirmation)

Profile Approval Process: See voting and balloting process links: <http://qibawiki.rsna.org/index.php/Process>

QIBA US Schedule: *next call – Friday, April 23rd at 11 am CT*

4/23	SWS BC
5/21	SWS BC
May	US Coordinating Committee – <i>Thursday, May 13th @ 1 pm CT</i>