

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

Friday, November 6, 2015; 11 AM CT

Call Summary provided by Dr. Garra

In attendance

Tim J. Hall, PhD (Co-Chair)

Brian Garra, MD (Co-Chair)

Andy Milkowski, MS (Co-Chair)

S. Kaisar Alam, PhD

Michael André, PhD

Richard Barr, MD, PhD

Paul Carson, PhD

Jun Chen, PhD

Wui Chong, MD

Elaine Collins, RDMS

Mathieu Couade, PhD

Manish Dhyani, MD

Joel Gay, MSc

Albert Gee

Gilles Guenette, RDMS, RDCS, RVT

Alpana Harisinghani, MD

Adrian Lim, MD

Mike MacDonald, PhD

Stephen McAleavey, PhD

Yasuo Miyajima, MS

Kathy Nightingale, PhD

Svetoslav Nikolov, PhD

Mark Palmeri, MD, PhD

Eric Perlman, MD

Nicolas Rognin, MSc, PhD

Stephen Rosenzweig, PhD

Remi Souchon, PhD

Marijean Trew

Michael Wang, PhD, MASc

Keith Wear, PhD

James Zagzebski, PhD

RSNA

Joe Koudelik

Julie Lisiecki

Moderator: Dr. Garra

1. Review of notes from prior meeting.

Approved without modifications

2. Update on poster and presentation for IEEE conference in Taipei---Palmeri and Wear

Mark Palmeri reported that the meeting was held approximately 2 weeks ago and that version of both the poster and a related four page proceeding paper were distributed for comments prior to the meeting. Julie Lisiecki will post the [poster to the QIBA WIKI](#).

3. Extended Phase II study with new vendors update – Tim Hall, Mark Palmeri

Mark noted as part of his report on item #2 above that companies have shown special interest in getting phase II phantom scan data for their respective machine back for further internal study. He is preparing to send the manufacturers site data. Additionally, four new sites wish to scan the phantoms. These are: Hitachi, SSI, Echosens, and INSERM (Remi Souchon).

Tim Hall mentioned that although he was officially managing the phantom locations and transport, Dr. Palmeri currently knew the whereabouts of the phantoms better. Mark and Tim reported that the phantoms were currently with Hitachi and that from there they were going to Europe to be scanned by SSI, Echosens and INSERM. The data in the RSNA poster will have data from all sites except the four newest ones whose data will not be included on the poster or paper since their data will not be blinded. After Europe, the phantoms will return to Univ of Wisconsin for testing their temperature dependence. After UW, the phantoms will return to Duke for storage and further stability testing over time.

A lengthy discussion on temperature dependence of phantoms and tissue then ensued. Brian Garra asked Tim Hall why the temperature dependence study was being done and Tim replied saying that phantoms were scanned at a fairly wide range of ambient temperatures ranging and that the temperature dependence study would span a range of approximately 60-85°C. Richard Barr raised the question of whether phantom results at body temp would be useful. Concerns about phantom durability at those temperatures were raised and the phantoms are designed to simulate tissue properties at body temperature when scanned at room temperature. Brian Garra asked about tissue stiffness dependence on temperature. Keith Wear mentioned recent work by Kevin Parker on that subject and displayed a slide. Kathy Nightingale showed results from a recent publication and Steve McAleavey presented some of his own work. The data all seemed to be in reasonable agreement: decreasing stiffness with increasing temperature when temp was low (10-20°C), little change with increasing temp from 20-45°C and rising stiffness above 45 °C due to cooking/denaturing of protein.

4. **Analysis of Phase II results.** Statistics needed for Profile Claim – Mark Palmeri showed a preliminary comparison of SWE and MRE (from Mayo) demonstrating that MRE values at 200Hz (at 20 °C were similar to SWE values. MRE values at 60Hz were lower as expected. Jun Chen discussed additional results from Mayo where values were obtained at 60 and 200Hz and a multiple temperatures. He stated that there was a significant decrease in stiffness with increasing temperature (approx. 1kPa/4 °C at 200Hz). Questioned about changes in storage vs. loss modulus, he stated that both components decreased with increased temperature, but he has not yet analyzed the relative magnitudes of the changes.
5. **Update on Simulation Data Use/ Activity / Enhancements - Mark Palmeri and Manufacturers**
Mark noted that not much had changed since his last report. Feedback from the manufacturers on the existing simulated data set has been obtained. The run time on the simulated data was not long enough to cover the entire recovery time. The simulation will be re-run over a longer period to cover the entire recovery period. For the next round of funded projects between Duke and Mayo, plans for how to conduct the studies and analysis between the two institutions are being formulated.
6. **RSNA SWS Poster and kiosk sign-up report—Dhyani Samir and Alam**
The poster was delayed slightly in graphics. A version was sent out for comment and B Garra and K Alam both made comments. A new version incorporating those comments will be sent out for broader review early next week.
7. **Profile writing team report – Garra, Dhyani**
Additional revisions to version 2 of the profile template were discussed on the Wednesday QIBA Process Committee meeting. A new version incorporating changes in the Profile Claims section suggested by Nancy Obuchowski will be released next week at which time the Profile writing group will begin crafting the next version of the SWS profile.
8. Other business
None
9. Adjourn—meeting adjourned at 1:02 PM ET.



A [QIBA Working Meeting](#) will be held at the RSNA Annual Meeting:

- Wednesday, December 2nd from 2:30 – 5 pm. (Rooms will be available until 6 pm.)
- If you have not yet done so, please RSVP for the [QIBA Working Meeting](#).

Upcoming QIBA Calls (Fridays, 11 am CT):

- Nov 13: Systems/ Phantom Task Force
- Nov 20: Clinical Task Force

[RSNA 2015: November 29th – December 4th](#)

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- Dec 11: US SWS BC