

**QIBA Ultrasound Shear Wave Speed (SWS)
Phantom-System Measurement Testing**
Monday, December 10, 2012; 1 PM CT
(amended 1.14.2013 with updated information)
Call Summary

In attendance

RSNA

Brian Garra, MD (Co-Chair)	Shigao Chen, PhD	Nicolas Rognin, MSc, PhD	Joe Koudelik
Timothy J. Hall, PhD (Co-Chair)	Steven E. Fick, PhD	Cedric Schmitt, PhD	Julie Lisiecki
S. Kaisar Alam, PhD	Jennifer Kugel, MS (RT)	Bob Spaulding	
Jeremy Bercoff, PhD	Ted Lynch, PhD	Keith Wear, PhD	
Paul Carson, PhD	Andrew Milkowski, MS	Shiwei Zhou, PhD	

Agenda: QIBA US SWS Phantom System Measurement Testing Subcommittee
Monday, December 10, 2012, 1 PM CT

1. Review and approval of minutes of prior meeting – B. Garra and group
2. Review of mechanical testing of phantom materials meeting prior to phantom meeting – T. Hall
3. Discussion regarding elastic phantom production—size of phantoms, schedule for production update – T. Lynch and group
4. Discussion of list of measurements to be made in phantom test protocol distributed by Andy Milkowski – A. Milkowski and group
5. Discussion of any proposed revisions to phantom test protocol. – group
6. Mailing address list—completed? -- J. Lisiecki and B. Garra
7. Other business and discussion

Approval of last call summary, 11/5/2012

Proposed Phantom criteria:

- Dr. Hall proposed mechanical testing of phantoms as an added quality control step
- Requirements, e.g., making measurements, how to convey results to others, etc., must be outlined
- Dr. Lynch has agreed to make prototypes of the phantoms (all participants are sending molds with generic test materials) for this pre-study test to see if all are communicating necessary measurements correctly
- This dry run will delay everything about a week and should prevent any future potential problems.
 - More details are needed from Dr. Sandrin regarding lossy materials.

Inter-laboratory Comparisons

- *Drs. Madsen and Wear to measure all phantoms to characterize any possible phantom-to-phantom variance prior to site distribution (as of 12/10/2012).*
- *On the 1/7/2013 Technical Committee call, it was agreed that Duke University (Drs. Palmeri and Nightingale) would be the first to measure ALL of the phantoms, including the MRE phantoms, prior to shipping them to their individual sites. Funding for shipments is TBD.*
- After the preliminary measurement, a second measurement will be taking to make sure there are no changes or variability; only one site will measure all 12 phantoms for this modest spatial sampling.
- A volunteer is needed to test ALL of the phantoms before *and* after testing. If no one volunteers, the co-chairs will appoint someone.
- Please email either Dr. Garra: (Brian.Garra@fda.hhs.gov or bgarra@gmail.com) or Dr. Hall (tjhall@wisc.edu) to volunteer.
- Two phantoms will be used for this initial experiment:
 1. Shear modulus of 2kPa – mimicking normal liver
 2. Shear modulus of 8 kPa – mimicking advanced liver fibrosis
- Mr. Milkowski is drafting a protocol for this US SWS phantom experiment, i.e., the “verification report form”
- The current list of measurands has been distilled down from 12 items to 8 items:
 1. Depth info
 2. Error bars
 3. Inter-operator variability
 4. Spectral content of shear wave

5. Reporting how measurements are reduced to a single value
 6. $T_1 - M_1$
 7. $Isppa - Ispta$
 8. **Record:** Platform, build, transducer, and software version number.
- **Action item:** Tally of available equipment by site has been suggested

Next Steps:

- Dr. Lynch to perform a single sample run for the larger MRE phantom prototype
- For the next t-con, consider questions that may need to be answered by phantom manufacturers.
- **Action item:** Tally of available equipment by site has been suggested

Next call for QIBA US SWS Phantom-System Msmt Testing Subcommittee: *Monday, January 14, 2013 at 1 pm CT.*

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Upcoming QIBA US SWS Calls – January 2013

Date	Time (CT)	Day	Committee/ Subcommittee	Moderator
1/07/2013	1:00 pm CT	Monday	US SWS Technical Committee	Mr. Milkowski
1/14/2013	1:00 pm CT	Monday	Phantom System Testing & Measurement Subcommittee	Dr. Hall
1/18/2013	11:00 am CT	Friday	System Dependencies Subcommittee	Dr. Palmeri
1/21/2013	1:00 pm CT	Monday	Clinical Applications & Biological Targets Subcommittee	Dr. Cosgrove