

## QIBA Ultrasound Shear Wave Speed (SWS) Technical Committee

Monday, October 29, 2012; 1 PM CT

Draft Call Summary

### In attendance

**Tim J. Hall, PhD (Co-Chair)**

**Brian Garra, MD (Co-Chair)**

**Andy Milkowski, MS (Co-Chair)**

Michael Andre, PhD

John Benson

Paul Carson, PhD

Shigao Chen, PhD

Claude Cohen-Bacrie, MS

David Cosgrove, MD

Gilles Guennette, RDMS, RDCS, RVT

Alpana Harisinghani, MD

Christopher Hazard, PhD

Ted Lynch, PhD

Steve Metz, PhD

Thomas Nelson, PhD

Kathy Nightingale, PhD

Mark Palmeri, MD, PhD

Keith Wear, PhD

Zheng Zhang, PhD

### RSNA

Joe Koudelik

Julie Lisiecki

**Moderator:** Dr. Hall

- 10.12.2012 QIBA US SWS Technical Committee call summary was approved as written

**RSNA 2012 Poster for Ultrasound** - copy of poster **due to RSNA by November 1<sup>st</sup>**

- Final draft was distributed for review – for comments, please email: [claudio.cohen-bacrie@supersonicimagine.fr](mailto:claudio.cohen-bacrie@supersonicimagine.fr)

### Common Phantom Design

- The Phantom Subcommittee is discussing experiment design, test sites, phantom materials and geometry
- Goal: A common reference system to compare different technologies and the frequency ranges
  - Investigation of any differences will explain why they exist
- Measurements will be made in large, uniform blocks – not attempting to resolve different SWS
  - Trying to assess measurement bias across different systems by using phantom materials of extreme (low and high) stiffness characteristics
    - Lower kPa phantom to mimic “normal” liver – high kPa phantom to mimic advanced fibrosis or cirrhosis
    - A shear modulus range of 0.5 – 8 kPa was agreed upon
      - Additional measurements to be provided by Dr. Hall
      - Dr. Hall to contact FibroScan and ask what types of membranes would be adequate
- Material properties were discussed
  - Phantom diameter must be large enough to keep acoustic beams away from the lateral edges of boxes
  - 10 cm diameter x 10 cm height (with absorbing layer) – suggested as nominal values
  - Dr. Lynch proposed 20 cm height to eliminate the need for an absorbing layer and simplify fabrication
- Protocol for procedure will need to be developed: Sites would measure material properties to demonstrate stability
  - FDA has pilot study examples that may be useful
  - Dr. Andre to provide link to FDA tools which will be distributed to the group
- Dr. Lynch to manufacture 20 phantoms, 10 of each material
- Mr. Milkowski volunteered to draft the experiment design with Drs. Garra and Hall
  - Suggested that place-holders be left blank for parameters that may change, e.g. transducers, etc.
- Dr. Wear initiated discussion of test conditions with the System Dependencies group. He and Dr. Palmeri are compiling responses and will forward them to the Phantom Subcommittee for protocol design.

### Volunteer Systems for Phantom study as of 10/29/12:

1. Echosens
2. Siemens
3. SuperSonic Imagine (SSI)
4. Philips
5. GE – in cooperation with University of Rochester
6. University of Wisconsin, Madison
7. Duke University
8. University of Michigan
9. Institut Langevin
10. UCSD – University of California, San Diego
11. Mayo Clinic

**Subcommittee Updates:** Detailed project updates may be found on each subcommittee’s page: [QIBA wiki](#)

### Next steps:

- RSNA staff distributed a link to FDA tools provided by Dr. Andre for use in the study design
- Phantom Subcommittee to agree on first elastic phantom for a system comparison.
- Clinical Applications and Biological Targets Subcommittee to discuss measurement comparison issues.

**RSNA 2012: The QIBA working meeting is Wednesday, Nov 28th, from 3 pm – 5 pm**

- Please respond regarding attendance at Wednesday's QIBA meeting: <http://www.doodle.com/kssb47q8up4446c6>

#### Upcoming QIBA US SWS Calls

Date	Time (CT)	Day	Committee/ Subcommittee	Moderator
11/05/2012	1:00 pm CT	Monday	Phantom System Testing & Measurement SC	Dr. Hall
11/09/2012	11:00 am CT	Friday	Clinical Applications & Biological Targets Subcommittee	Dr. Samir
11/12/2012	1:00 pm CT	Monday	System Dependencies Subcommittee	Dr. Palmeri

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