

QIBA Ultrasound Shear Wave Speed (SWS) Technical Committee

Friday, August 15, 2014; 11 AM CT

Call Summary

In attendance

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|-------------------------------|-----------------------------------|--------------------------|-----------------|
| Brian Garra, MD (Co-Chair) | David Cosgrove, MD | Mark Palmeri, MD, PhD | RSNA |
| Tim J. Hall, PhD (Co-Chair) | Steven Fick, PhD | Nicolas Rognin, MSc, PhD | Fiona Miller |
| Andy Milkowski, MS (Co-Chair) | Gilles Guennette, RDMS, RDCS, RVT | Michael Wang, PhD, MASc | Julie Lisiecki |
| Michael André, PhD | Ted Lynch, PhD | Keith Wear, PhD | Madeleine McCoy |
| Paul Carson, PhD | Mike MacDonald, PhD | Hua Xie, PhD | |
| Jun Chen, PhD | Yasuo Miyajima, MS | Jim Zagzebski, PhD | |
| Shigao Chen, PhD | Kathy Nightingale, PhD | | |

Moderators: Dr. Garra

Agenda:

1. Review of previous notes/minutes (ALL)
2. Current Project Status
 - a. CIRS phantom testing (Palmeri)
 - b. UW Phantoms (Hall Palmeri, Nightingale)
 - c. Clinical Study (Samir)
3. Further Discussion on Calls in Increase Vendor Engagement with QIBA (Carson, Garra)
 - a. Define purpose?
 - b. NDAs and Protection--should one person be the point person for these documents?
 - c. Who should be contacted?
 - Which Companies?
 - Who in Each Company?
 - Assignment of person in charge of efforts for each company? Get volunteers?
4. Draft Profile (Garra) --- Gathering materials needed: protocol, condensed results from first phantom trial
5. VA participation in QIBA testing? (Garra)
6. RSNA posters, other upcoming presentations (ALL, RSNA Staff) {Poster deadline will be Friday, October 31st.}
7. Other (ALL)

Protocol for the Phantom Study, Phase II

- A protocol including transducer specifications is needed for the Phantom Study, Phase II; users must be blinded
 - Dr. Hall is working on a generic protocol, adaptable for specific systems
 - A provision must be added to the data collection sheet to note that focal depths may vary
 - A 4 ½ cm depth will be specified across all systems, as this is near the focal zone of liver transducers
 - Goal is to make the measurement process robust, replicable and efficient
- Testing is being done on the latest 9 CIRS phantoms sent to Duke last week
 - 3 different recipes have been created to match phase velocity in efforts to simulate a range of liver disease
 - An issue regarding surface discoloration of the phantoms was discussed.
 - A photo of the existing surface discoloration should be taken when the phantom is received and in one week to compare results over time
 - Possible options discussed to best determine sound speed included: de-ionized water, cow's milk, and saline
 - Dr. Hall to follow up with a recommendation
 - Dr. MacDonald cautioned against using isopropyl alcohol due to possible damage to probes
- Next steps will include validation of a measurement range
 - Sites with both human and raw data will be consulted
 - Identical algorithms and sequences will be used.
- Shipping schedule, sites and systems to be finalized
 - Dr. Hall to consider how best to handle shipping charges
 - Shipments will be limited to the continental US

- Initial tests will be performed at Duke to benchmark the phantoms prior to the round-robin shipping
 - At the end of the circuit, tests will again be conducted at Duke to assess stability
 - *Current sites under consideration include:*
 - Massachusetts General – Drs. Samir and Dhyani
 - Southwoods Imaging Center in Youngstown, Ohio - Dr. Barr
 - University of Rochester (NY) – Dr. McAleavey
 - Mayo Clinic – Drs. Chen, Ehman, and Urban
 - Washington DC VA Medical Center – Dr. Garra
 - UW, Madison – Dr. Hall
 - Manufacturers will need to provide sites with a brief written protocol
 - Goal is to calibrate the transducer, decide on which is best to use, and to provide clarity.

Update from Dr. Samir on Clinical Subcommittee Progress

- The clinical study has exceeded its target recruitment
- The UPICT web-based reporting form is set up and available for use via REDCap
- A meeting with manufacturer vendors to clarify platform capabilities is in the works for late September
 - Assistance in locating contacts would be appreciated by Dr. Samir: asamir@mg.harvard.edu

Profile

- Dr. Garra is working on a QIBA Draft Profile for Ultrasound SWS; He will get the UPICT protocol from Dr. Samir's efforts

Radiology Publication Under Consideration

- The group was invited to submit a manuscript to *Radiology* for the Phantom Study: Phase I
 - *Radiology* has very strict guidelines for author involvement, and the group wishes to credit all who volunteered
 - Dr. Hall to follow up with the Deputy Editor of *Radiology*
 - If an alternate acknowledgement procedure is considered, potential authors will need to submit a letter agreeing to be acknowledged.
 - For future publications, the group will consider alternate journals

Action Items:

- Dr. Hall to circulate list of tasks and proposed timelines to all participating site investigators.
- Mr. Milkowski to update and distribute Excel spreadsheets to sites
- Dr. Palmeri to take a few photos of phantom discoloration and send them to Dr. Lynch for reference
- Dr. Samir to work toward scheduling a conference call with vendor manufacturers in late September

Upcoming calls – Friday at 11 am CT:

- Friday, **August 22, 2014:** Systems/ Phantom SC – Dr. Nightingale to moderate in Dr. Palmeri's absence
- Friday, **August 29, 2014:** No call

Proposed September Schedule:

- Friday, **September 5, 2014:** No call
- Friday, **September 12, 2014:** Technical Committee – Mr. Milkowski
- Friday, **September 19, 2014:** Systems/ Phantom SC – Dr. Wear
- Friday, **September 26, 2014:** Clinical SC – Dr. Samir

Conferences for Ultrasound on QIBA Wiki have been updated (as known) for 2014 – 2015. Updates welcome.

Conferences in September:

- [September 3 – 6, 2014: 2014 IEEE International Ultrasonics Symposium – Chicago, IL](#)
- [September 7-10, 2014: International Tissue Elasticity Conference \(ITEC\), Snowbird, UT](#)
- [September 17-19, 2014: 29th Annual Advances in Contrast Ultrasound – International Contrast Ultrasound Society \(ICUS\) Bubble Conference, Chicago, IL](#)