

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

Friday, April 22, 2016; 11 AM CT

### Call Summary

#### In attendance

Tim J. Hall, PhD (Co-Chair)	Manish Dhyani, MD	Nicolas Rognin, MSc, PhD
Andy Milkowski, MS (Co-chair)	Richard Ehman, MD	Stephen Rosenzweig, PhD
S. Kaisar Alam, PhD	Joel Gay, MSc	Anthony Samir, MD
Ajay Anand, PhD	Al Gee	Remi Souchon, PhD
Michael André, PhD	Gilles Guenette, RDMS, RDCS, RVT	Marijean Trew
Richard Barr, MD, PhD	Alpana Harisinghani, MD	Michael Wang, PhD, MASc
Paul Carson, PhD	Mike MacDonald, PhD	Keith Wear, PhD
Jun Chen, PhD	Kathy Nightingale, PhD	Hua Xie, PhD
David Cosgrove, MD	Mark Palmeri, MD, PhD	

#### RSNA

Joe Koudelik  
Julie Lisiecki

**Moderator:** Dr. Hall

#### Review of March 25<sup>th</sup> US SWS BC call notes

- Notes were approved as written

#### Clinical Task Force/ Profile Update

- The US SWS Profile has been distributed for review and comment by BC members
- The editors are working to get the document ready for public comment
- A divide and conquer approach was recommended, where all could review sections that best suit their expertise
- Dr. Dhyani requested special attention be paid to acquisition protocols that are common across all vendors
- Vendor-specific comments would be appreciated by the end of April to **Drs. Dhyani and Garra:**
  - [Dhyani.Manish@mgh.harvard.edu](mailto:Dhyani.Manish@mgh.harvard.edu); [bgarra@gmail.com](mailto:bgarra@gmail.com)

#### Standardized Color Scale

- Shear wave elastography (SWE) provides quantitative data as tissue elasticity can be measured in kilopascals (kPa) or m/s
- Utilization of the average of SWE and magnetic resonance elastography (MRE) values has proven beneficial
  - This point of contact (*correlation between MRE and SWE*) is the average of liver stiffness values for both
  - MRE (at ultrasound-relevant frequency such as 160Hz) will be the gold standard for Profile values
- Discussion occurred regarding whether a **standardized color scale** for the SWS velocity range should be proposed
  - Suggestions included:
    - top portion: red (harder / stiffer tissue); bottom portion: blue to purple (softer tissue)
    - low intensity: white; high intensity: black
      - ☐ One known manufacturer utilizes *completely opposite* colors for the color scale, making the need for standardization quite evident
- Dr. Ehman noted that no standardized color scale currently exists, and that such a scale would be quite useful
  - Need to agree on what colors will represent the measurement extremes (high to low density)
  - Measurement range recommended: 0 to 8 kPa
  - Phantom measurements are the best guidance at present; work toward a standardized scale to continue

#### Feasibility Test of the Profile

- Once comments generated during the public comment phase have been resolved, the next step is to test the Profile to see if it performs as stated in real-world applications

- Dr. Dhyani has proposed a project to test the Profile and determine whether measurements are being obtained in a QIBA-compliant manner, along with establishment of variance
- The goal of all QIBA Profile writing teams is to get Profiles out, in use, and referenced in medical publications to show the benefit of the QIBA effort and ultimately improve patient care in clinical trials and clinical practice

### **Proposed Industry Reps Task Force for US**

- It was decided that there is no need at this time for an industry task force
  - Occasional topic – specific discussions can be held in the existing US SWS task force groups

### **Action item:**

- A formal QIBA biomarker proposal is needed for QIBA SC consideration/approval for the Contrast Enhanced Ultrasound (CEUS) effort, to be led by Dr. Barr and Mr. Guenette

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### **Meetings: (Fridays, 11 am CT):**

#### **May:**

- May 06: Systems/ Phantom Task Force
- **May 06: QIBA US Coordinating Committee (1pm CT)**
- May 13: Clinical Task Force
- May 20: US SWS BC
- **May 27: CEUS Task Force (?)**

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### **Conferences/ Meetings:**

- **May 09 - 12:** IFCS 2016 IEEE International Frequency Control Symposium (New Orleans, LA)
  - **May 23 - 27:** 171<sup>st</sup> Meeting of the Acoustical Society of America (Salt Lake city, UT)
  - **May 27 – 29:** Asian Federation of Societies for Ultrasound in Medicine & Biology (AFSUMB – Kyoto, Japan)
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