

QIBA Contrast Enhanced Ultrasound (CEUS) Biomarker Committee (BC) Call

Friday, January 27, 2017; 11 AM CT

Call Summary

In attendance			RSNA
Richard Barr, MD, PhD (Co-Chair)	Christian Greis, PhD	Nancy Obuchowski, PhD	Joe Koudelik
Paul Carson, PhD	Hui Jiang, PhD	Thierry Rognard	Julie Lisiecki
Shigao Chen, PhD	Justine Jie Liu, PhD	Theresa Tuthill, PhD	
David Cosgrove, MD	Mark Lockhart, MD, MPH	Nikolay Tzaribachev, MD	
Todd Erpelding, PhD, MSE	Ravi Managuli, PhD RDMS	Stephanie Wilson, MD	
J. Brian Fowlkes, PhD	Andy Milkowski, MS		

Moderator: Dr. Barr

CEUS Task Forces (TF) (Dr. Barr)

- Five TF have been formed: *Basic Science, Clinical Focus, Imaging Systems Requirements, Literature Review, and Quantification Analysis Software*
- A [doodle poll](#) will be sent out to TF members to determine the first meeting of each group
 - TFs will report to the BC with progress updates on the monthly WebEx call
 - Two TFs will share a time slot
- Volunteer TF leaders are needed; please email [Dr. Barr](#) if interested
 - Anticipated meetings will be monthly or bi-monthly between biomarker committee meetings, as needed
 - Clinical Focus TF will be deferred

Literature Search / Profile

- A volunteer “librarian” is needed for the CEUS citation listings and PDF articles on [Mendeley](#)
 - Anyone interested is asked to email [Dr. Barr](#)
 - Raw clinical data needed to support Profile and a standardized image acquisition protocol
 - Pediatric vs. adult imaging protocols to be required
 - [Dr. Mark Palmeri](#) at Duke established the QIBA US SWS Mendeley community; he can be contacted for further details or assistance with posting material
- CEUS BC leaders also plan to review the [QIBA Profile templates](#) on the [QIBA wiki](#) and confer with Process Committee Leadership ([Mr. O'Donnell](#)) with any questions

Items for investigation

- System requirements needed
 - Dual display vs. single display
 - Standard vendor protocol requirements
 - Calibration of systems on phantoms (with raw and phantom data from at least one patient) prior to considering clinical trials
- Consider factors needed for standardization with vendors and pharma
 - How dynamic curves may change with each of these issues
 - How the use of multiple systems and multiple transducers may slow progress and affect results
 - Review literature and related scientifically validated studies
 - Focus on quantification first, image quality second
 - The goal is for all vendors to deliver the same numbers; a q-metric needs to be identified

Phantom Considerations

- There are three sites that have access to the same phantom for testing consistency and calibrating the scanners
- Dr. Barr is trying to obtain raw scanner data from one of the vendors
- Dr. Averkiou is working on a document that describes the phantoms
 - This document will provide information on which factors work best in patients, though these factors may not be the same factors that work best for the phantoms
- Some adjustments must be made for the phantom mixing chamber
- It not yet known how ground truth will be established or how the phantom will be validated
 - The literature review TF will analyze what the literature says about these variables
 - A better understanding of the underlying physics is needed to establish ground truth

Software Under Consideration

- For CEUS experimental groundwork, a common software package would be helpful
- The goal will be to use software that works on multiple systems with multiple tasks, capable of generating the same output data
- [VueBox](#) has been selected as a starting point for the common software

Synopsis of Status

- Dr. Barr plans to summarize the current status of the group for the BC
- He would like the group to consider what would be the best standard
- Any comments or suggestions may be emailed to [Dr. Barr](#) or RSNA Staff, jlisiecki@rsna.org

Other:

- Dr. Carson reminded Dr. Barr (and Dr. Averkiou) that the dashboard info for the QIBA Steering Committee Meeting is due and offered his help to compile updates

Ultrasound CEUS BC QIBA wiki page: http://qibawiki.rsna.org/index.php/Ultrasound_CEUS_BC

WebEx Calls:

- **Feb 03:** US Systems/ Phantom Task Force (*Dr. Palmeri*)
- **Feb 10:** US SWS Clinical Task Force (*Dr. Samir, pending availability*)
- **Feb 17:** US Coordinating Committee
- **Feb 24:** CEUS BC (*Dr. Averkiou*)

RSNA Staff attempt to identify and capture all committee members participating on WebEx calls. However, if multiple callers join simultaneously or call in without logging on to the WebEx, identification is not possible Call participants are welcome to contact RSNA staff at QIBA@RSNA.org if their attendance is not reflected on the call summaries.