

QIBA Musculoskeletal (MSK) Biomarker Committee (BC) Meeting

Tuesday, September 27, 2022, at 10 a.m. CT

Meeting Summary

In attendance

Xiaojuan Li, PhD (Co-chair)

Thomas Link, MD, PhD (Co-Chair)

Bruce Beynnon, PhD

Robert Boutin, MD

Jean Brittain, PhD

Majid Chalian, MD

Ruud de Boer, PhD

Natália Favoreto, MS, CCRC

Maggie Fung, MEng

Ali Guermazi, MD, PhD

Peter Hardy, PhD

Jeff Kammerman

Feliks Kogan, PhD

Mei Li, RT

Kecheng Liu, PhD, MBA

Nancy Obuchowski, PhD

Yuxi Pang, PhD

Chris Peng, PhD

Brian Pietrosimone, PhD, ATC

Rianne van der Heijden, MD, PhD

Carl Winalski, MD

Jiming Zhang, PhD, DABMP(MR), MRSE

Yansong Zhao, PhD

RSNA

Susan Stanfa

Topics Discussed

- QIBA MSK Profile Stage 3 and 4 Conformance Testing Updates (Dr. Li)
 - Review of documents including SOW/SOP/transmittal forms/naming convention/updated timeline (Dr. Li)
- NIST phantom
 - Calimetrix update on manufacturing timeline (Dr. Britain / Rutkowski)
- Technical Confirmation Feedback Resolutions Google Sheet – brief review (Dr. Link)

Next Steps / Action Items

- There will be repeated phantom scans and scan/rescan human volunteers on the same day with repositioning between scans 5-10 volunteers with an optional third scan of the same subject on a different day (separated by one or two weeks); subject inclusion criteria and patient handling details were added to this section
 - To simplify data collection and processing, sites must scan the same knee per subject
- Cleveland Clinic (CC) is serving as the coordinating site for this study with Ms. Mei Li as Project Manager; sites must alert her when they receive or ship a phantom
- CC will perform centralized data processing for both phantoms and human subjects then deposit the data into the Arthritis Foundation (AF) Osteoarthritis Image Repository, which will be developed and managed by the CC
- Given the substantial number of participating sites (13), sites that listed two contacts were asked to designate only a single point person for email communications with the project manager
- Updated IRB language was distributed to sites; a DUA will also be set up and executed between each QIBA site and the AF prior to human subject data transfer
 - Each site is also expected to record and submit scanning data in the QIBA Phantom Scan Transmittal Form containing Phantom Information, Scan information and MRI Accession Numbers and Sequences
- A naming convention was developed to distinguish between phantoms or human subjects; specific details can be found on page 2 of the Sept. 20 version of the Scope of Work (SOW) protocol
- An expanded, updated timeline is on page 9 of the Scope of Work (SOW) protocol; more immediate items include:
 - September 2022 – November 2022: Round robin study 1 using the Phantom Lab phantom at CC to assess differences between vendor platforms (4 R01 study sites: CCF-Einstein-Kentucky-UCSF)
 - November 2022 – April 2023: Round robin study 2 (9 sites)
 - October 2022 – September 2023: Human and phantom data collection by sites
 - NIST phantoms are expected to be delivered by Calimetrix by March 2023, but sites should start human subject scans in the meantime

- Calimetrix is designing next generation phantom housing and conducting additional stability testing on phantom gels
- **Sites were asked to submit to Dr. Li the type of knee coils used**; this information will be collated into a list to submit to Dr. Brittain (Calimetrix)
- Round robin studies will be conducted during the coming months while awaiting vial content stability data from Calimetrix
- Based on the level of precision in the estimate calculated by Dr. Obuchowski, four phantom scan repetitions are needed per round robin site; a variation of ~10% is predicted
- **Documents updated in response to meeting discussions will be distributed by staff**
- **Dr. Brittain to send phantom data to Dr. Li**
- The [Stage 3: Technical Confirmation Resolutions Google Sheet](#) will be used to record testing site feedback; staff has already provided editing access to site contacts and it is viewable to all MSK BC members
- Due to schedule conflicts, there will not be a meeting in October

Next Meeting: Tuesday, November 22, 2022, at 10 a.m. CT – *no October meeting* [4th Tuesday of each month]

Zoom meeting link: <https://rsna-org.zoom.us/j/81459724817?pwd=TkJPYTUrOEpzKy80SnNjNnIDRC9WUT09>

Meeting ID: 814 5972 4817

Passcode: MSK

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