

QIBA Musculoskeletal (MSK) Biomarker Committee (BC) Meeting

Tuesday, January 24, 2023, at 10 a.m. CT

Meeting Summary

In attendance

Xiaojuan Li, PhD (Co-chair)

Thomas Link, MD, PhD (Co-Chair)

Donald Anderson, PhD

Bruce D. Beynon, PhD

Angie Botto-van Bemden, PhD

Robert Boutin, MD

Jean Brittain, PhD

Majid Chalian, MD

Ruud de Boer, PhD

Natália Favoreto, MS, CCRC

Peter Hardy, PhD

Gabby Joseph, PhD

Jason Kim, PhD

Feliks Kogan, PhD

Mei Li, MD

Jing Liu, PhD

Kecheng Liu, PhD, MBA

Nancy Obuchowski, PhD

Yuxi Pang, PhD

Chris Peng, PhD

Stacy Smith, MD

Rianne van der Heijden, MD, PhD

Nicole Wake, PhD

Carl Winalski, MD

Jiming Zhang, PhD, DABMP(MR), MRSE

Yansong Zhao, PhD

RSNA

Susan Stanfa

Topics Discussed

- QIBA MSK Clinical Feasibility Testing for T1rho and T2 Imaging: Phantom Round Robin 1 Evaluation (Dr. Li)
- Update on Calimetrix MSK phantom manufacturing timeline (Dr. Brittain)
- [Stage 3: Clinical Feasibility Resolutions Google Sheet](#) (Dr. Link)

Next Steps / Action Items

Sept. 2022 – Jan. 2023 Round Robin 1 with Phantom Lab Phantom Evaluation (Dr. Li)

- Sites included Cleveland Clinic (Dr. Li), Albert Einstein College of Medicine (Dr. Peng), University of Kentucky (Dr. Hardy), and University of California (Dr. Liu); Vendors included GE, Philips, and Siemens
- Several causes of slight temperature variability were reported, e.g., location in room, thermometer sticker placement (outside casing or on vial)
- Intra-site and inter-site repeatability results were reported
 - Good intra-site repeatability, but some location variation at sites; shimming deemed a critical factor
 - Inter-site variation <7% were observed
 - Factors of inter-site variation were discussed including temperature, B0, B1, reconstruction etc.
- If sites have finalized institutional IRB and data sharing paperwork, they should begin human data collection while waiting to receive the phantom, based on the SOP and protocol provided earlier (QIBA_MSK_ScanSOP_human_09292022.pdf)
- Cleveland Clinic is setting up contract with Ambra. Once it is finalized, Ambra accounts will be issued to scanning sites and training on uploading data will be provided.
- Sites to contact Dr. Li with their software version information to aid with their imaging protocols
- Staff will redistribute the [Stage 3: Clinical Feasibility Resolutions Google Sheet](#) which includes all sites
- Due to schedule conflicts, there will not be a meeting in February

Round Robin 2 with Calimetrix MSK Phantom – Manufacturing Timeline (Dr. Brittain)

- Phantom housing will contain fluid surrounding the vials, which will provide thermal insulation for greater accuracy of internal phantom temperature measurement
- The phantom prototype was slightly elongated, and diameter was reduced for proper fit into various knee coils used across sites
- Custom stands were designed to aid in positioning the phantom in four different knee coils
- Stability of two different phantom vial formulations continues to be monitored

- As soon as the Cleveland Clinic / Calimetrix contract is finalized, parts of the phantom housing can be ordered, and a delivery date estimate can be made

Next Meeting: Tuesday, March 28, 2023, at 10 a.m. CT [4th Tuesday of each month]

Participants are welcome to contact RSNA staff at giba@rsna.org if their attendance is not reflected on meeting summaries.