

## QIBA Proton Density Fat Fraction Biomarker Committee (PDFF BC) Update Call

Thursday, May 2, 2019 at 3 PM (CT)

Call Summary

### Participants

*Takeshi Yokoo, MD, PhD*

Gavin Hamilton, PhD

Diego Hernando, PhD

Nancy Obuchowski, PhD

Hans Peeters, PhD

Samir Sharma, PhD

Claude Sirlin, MD

### RSNA

Joe Koudelik

Julie Lisiecki

**Moderator:** Takeshi Yokoo, MD, PhD

### Review of Previous Call Summary

- The 04.04.2019 call summary was approved as presented

### Multi-Vendor Calimetric Phantom Study Update (Dr. Yokoo)

- To ensure that software versions and parameters are standardized, some phantoms are being sent back to the Siemens site due to water/fat map swapping issues with scanner reconstructions
- The Siemens product reconstruction tool assumes that fat is on the outside, which works with people, but not with phantoms
  - Siemens will continue to use product reconstruction but will try to get the swap issue corrected in the delayed recon. Siemens asks all sites to standardize software versions and parameters
- Additional considerations to send the phantom back to UCSD, as LipoQuant at UCSD had larger than expected systemic bias toward lower fat fraction
  - It is not obvious from the DICOM files why there is such a large bias
  - This issue may be considered as suspected acquisition failure and allow UCSD to re-evaluate / troubleshoot, if they so wish
  - Dr. Yokoo recommends running the routine QA scans, and making sure that the scanner has been rebooted
- Dr. Sirlin recalls that GE had a similar issue with the underlying sequence with and without ARC
  - It was necessary to run a calibration scan first
  - A workaround may require parallel imaging turned on
- Dr. Hernando volunteered to reacquire images with and without parallel imaging to check for differences
  - Dr. Sirlin suggested that Dr. Hernando also contact Dr. Mark Bydder at UCLA re: his insights into the LipoQuant bias issue on GE scanners
  - If there is no obvious reason why LipoQuant did not work well, it should be mentioned that the software performance is erratic and further investigation with GE is recommended
    - Another suggestion was to contact Perspectum to see if they may have insight into the problem
- LipoQuant is routinely used in many clinical trials and is suggested based on hepatology expertise, not imaging expertise
- PDFF BC members would like to get UCSD and GE team members together at the ISMRM meeting, and will include Dr. Harry Hu
- The round-robin testing will be complete after the last phantom travels to remaining Siemens sites

- A draft manuscript based on the experiment will be ready in a couple of months

**Next call:** Thursday, June 6, 2019 at 3 PM CT

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