

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

Thursday, August 2, 2018 at 3 PM (CT)

Call Summary

Participants

Takeshi Yokoo, MD, PhD (Co-chair)

Gavin Hamilton, PhD

Diego Hernando, PhD

Harry Hu, PhD

Dariya Malyarenko, PhD

Michael Middleton, MD

Jonathan Riek, PhD

RSNA

Joe Koudelik

Susan Stanfa

Review of Previous Call Summary

- The 05.03.2018 call summary was approved as presented

Multi-Vendor Phantom Study Update (Dr. Hu)

- Dr. Hu is leading this round-robin multi-vendor study to determine bias in image acquisition and reconstruction (vendor-specific recon kernel specifications for each scanner needed)
- Calimetrix will loan one new commercial-grade PDFF phantom (built solely for this study) and package it in a travel kit for shipping between imaging sites
 - Drs. Reeder (Calimetrix co-founder) and Jackson (QIBA Chair) drafted an agreement between Calimetrix and QIBA regarding the particular details of the phantom, (e.g., insurance, shipping, handling and ownership of data, etc.) to avoid any potential conflict of interest
 - The agreement has been finalized and distributed
 - Circulation of the phantom is expected to begin on schedule, beginning and ending at Madison, Wisconsin
- Dr. Hu developed and distributed a phantom transportation schedule (in PDFF Dropbox) that will allow each of the following nine sites at least one week (2 weeks maximum) to complete scanning in 3 months:
 - University of Wisconsin (UW) (GE; Drs. Reeder/Hernando)
 - Duke University (Siemens; Dr. Bashir)
 - Nationwide Children's Hospital, Columbus Ohio (Siemens 3T x2, GE 3T x1; Dr. Hu)
 - University of Texas Southwestern (UTSW) (Philips; Dr. Yokoo)
 - University of California, San Diego (UCSD) (GE 3T, 1.5T; Middleton)
 - Children's Hospital of Philadelphia (CHOP) (Siemens 3T & 1.5 GE 3T; Serai)
 - Mayo Clinic (Siemens 1.5T, GE 1.5T & 3T; Shu)
 - University of Michigan (Philips 1.5T & 3T; Malyarenko/Chenevert)
 - Cincinnati Children's (Philips; Trout)
- Breakdown of sites by vendor/manufacture
 - GE (UW, Nationwide, UCSD, CHOP, Mayo): 1.5T(3), 3T(5)
 - Siemens (Duke, Nationwide, CHOP, Mayo): 1.5T(3), 3T(3)
 - Philips (UTSW, U Michigan, Cincinnati): 1.5T(3), 3T(3)

- Dr. Reeder will be requesting user/site feedback via questionnaire; with questions to be agreed upon by BC leadership
 - The questions will seek to assess what process improvements are needed (e.g., phantom size and durability, robustness, clarity of instructions, etc.)
 - Discussion on the format of the questionnaire (e.g., online survey via shared link, file distributed through email or uploaded to a shared drive; anonymous or site-specific, etc.)
 - While there were no fundamental objections to the questionnaire, PDFF BC members would like to review it prior to agreeing to participate, as well as to determine the intended use of the survey data
 - Dr. Reeder confirmed that it would not be used for marketing material nor to suggest QIBA's endorsement of the phantom
 - Dr. Sirlin has been updating the Dropbox drive set up by Dr. Bashir and will ensure access to the questionnaire
 - The questionnaire is expected to be circulated between August 13 and 19

- System sequence default parameters for each site have been collected, including vendor-specific sequences to document site/vendor-specific parameters used
 - The shared spreadsheet contains: time period (order), institution, name & contact information, location, scanner manufacturer & models(s), software and status

- Three protocols will be run, including: vendor-specific, QIBA-recommended and LipoQuant
- The following QIBA PDFF-Recommended Scanning Protocol was discussed:

<ul style="list-style-type: none"> ○ Phantom orientation ○ Pulse sequence ○ Orientation of acquisition ○ Flip angle ○ Slice thickness ○ Number of slides ○ In-plane resolution 	<ul style="list-style-type: none"> ○ FOV ○ Number of echoes ○ First echo (TE1) ○ Echo spacing ○ Echo read out type ○ Parallel imaging ○ Readout BW
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- Dr. Reeder to provide scanning instructions electronically and packaged with the phantom
- Dr. Hu to add all exam cards, survey and phantom-scanning instructions to Duke repository; Dr. Sirlin will also add this information to Dropbox

Next call: Thursday, September 13, 2018 at 3 PM CT [shifted Sept. call one week later to avoid schedule conflicts]

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