

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

Thursday, September 8, 2016 at 3 PM (CDT)

Call Summary

Participants

Scott Reeder, MD, PhD (Co-chair)

Diego Hernando, PhD

Harry Hu, PhD

Nancy Obuchowski, PhD

Suraj Serai, PhD

Takeshi Yokoo, MD

RSNA

Joe Koudelik

Susan Weinmann

Review of Previous Call Summary

- The 08.04.2016 call summary was approved as presented

PDFF Accuracy & Precision Meta-Analysis (Dr. Yokoo)

- PDFF BC materials are in [Dropbox](#); new accounts may be obtained by emailing Dr. Reeder: sreeder@uwhealth.org
- All files are located at “Dropbox/QIBA PDFF Task Force/Meta-Analysis”
- Authorship
 - Only 7 of the papers reviewed were not written by PDFF BC members
 - PDFF BC members were encouraged to share raw data from their studies
 - Authorship of the PDFF Profile to be offered to those who contribute data and/or write Profile content; honorary authorship to be avoided
 - Dr. Hernando to send authorship guidelines to Dr. Yokoo
 - Dr. Yokoo to draft “request for data” email to send to paper authors
 - Progress Update
 - Phase I – Literature Review (Aug) – complete
 - Phase II – Data Collection (Sept) – started
 - Phase III – Data Analysis (Oct)
 - Phase IV – Manuscript Preparation (Nov-Dec)
 - Literature Search
 - Accuracy – 74 articles in PubMed
 - Precision – 54 articles in PubMed
 - Abstract Screening Results
 - Paper is excluded if no imaging, not human subject, or not concerning PDFF
 - Accuracy – 32 articles
 - Precision – 23 article

- Full Paper Screening Results
 - Accuracy
 - Paper is excluded if it is a secondary analysis, not concerning PDFF, or no MFS
 - 25 articles (may include duplicate subjects)
 - Precision
 - Paper excluded if it is a secondary analysis, not concerning PDFF, not precision analysis, or ex vivo
 - 9 articles
- Reference list of articles has been completed; it contains papers by PDFF BC members at: Duke University, Children's Hospital Los Angeles, University of Wisconsin-Madison, University of California-San Diego (UCSD) and other institutions
- PDFF BC members to identify any further (potentially partial) duplicate data
- Rationale for including intervention trials
 - Add variable to account for set of changes in time
 - Include baseline data
 - Placebo control group = test-retest population (over span of multiple weeks or months)
- Data from each study is being compiled
- Data Model information
 - Random effects model considered a solid starting point
 - Accuracy: MRS PDFF
 - Precision: Measurement
 - Bias: true PDFF, field, vendor, recon
 - MRI-H has been added to recon
 - Variance: exam, acquisition, Region of Interest (ROI)
 - Model changes may occur after getting all of the data from paper authors
 - Discussion on how to summarize age and gender as they are not reported in uniform fashion across papers

New business

- Next call: Thursday, October 6, 2016 at 3 PM CT