

QIBA FDG-PET/CT Tech Ctte Update Call

March 9, 2012 at 9 AM CST

Call Summary

In attendance:

Paul Kinahan, PhD (co-chair)

Richard Frank MD, PhD (co-chair)

Keith Allberg

Andrew Buckler, MS

Patricia Cole, PhD, MD

Barbara Croft, MD

John M. Hoffman, MD

Martin Lodge, PhD

Dennis Nelson, PhD

Eric Perlman, MD

Ling X. Shao, PhD

John Sunderland, PhD

John Wolodzko, PhD

Jeffrey Yap, PhD

Brian Zimmerman, PhD

RSNA

Joe Koudelik

FDG-PET Profile Update (v0.5.9)

- Much committee member feedback received and incorporated into this latest Profile version
- The use of "...for Oncologic Drug Development" in the title was discussed; whether the Profile should be broader than oncology and drug development needs further consideration
- The overall framework for a three-part Claim was discussed
 - Scanner function
 - Display station function
 - Scan site protocol
- Additional text needed to address SUV accuracy associated with <2cm lesions; lower-limit detail required
- Claim might be applied to a baseline target lesion
 - Lesions still need to be selected
 - Absolute lesion value requires phantom involvement
- Dr Kinahan welcomes additional edits by next Friday (Mar 16); next call to focus on the revised Profile

Spreadsheet of supporting literature reviewed (Dr Lodge)

- Discussion of eight supporting papers based on similar acquisition protocols
- Majority of references state narrow 11-13% range for SUVmax reproducibility estimates when converted to a standard parameter, such as standard deviation
- Mean absolute differences are closely related to inpatient deviation
- Whether FDG-PET and FDG-PET/CT scanners can be compared discussed
- Claim to measure SUVmax with a coefficient of repeatability of 30% was deemed possible
- Meaningful lesion change needs more literature support
- Reproducibility needs to be statistically validated
- Dr Lodge to follow-up with Dr Gatsonis concerning standard deviation details
 - Statistical details to be presented on a future t-con
- All "n" values and baseline SUVs deemed critical and should be reported
- Absolute vs. Change in SUV discussed
- RSNA staff to post current reproducibility literature references on the QIBA Wiki under a "FDG-PET Reproducibility" subdirectory

Next steps:

- Discuss PET Profile edits on next call
- Latest version of Profile available on the QIBA wiki: http://qibawiki.rsna.org/index.php?title=FDG-PET_tech_ctte
- Dr. Kinahan to follow up with Dr. Shao regarding software tracking details
- Mid-March: 1st draft of NIBIB application renewal needed; Early April final draft of application needed

Next call: to discuss Profile tbd