

QIBA Volumetric CT Group 3A Update
Thursday, 13 March 2014 at 11:30 AM CT
Call Summary

In attendance

Maria Athelougou, PhD (Chair)
Hubert Beaumont, PhD
Andrew Buckler, MS
Heang-Ping Chan, PhD
Matthew Fuld, PhD

Marios Gavrielides, PhD
Lubomir Hadjiiski, PhD
Rudresh Jarecha, MBBS
Leon Lenchik, MD
Adele Peskin, PhD

Nicholas Petrick, PhD
Daniel Sullivan, MD
Ying Tang, PhD
Binsheng Zhao, DSc

RSNA

Joe Koudelik
Julie Lisiecki

Update: Status of the Paper for the Pilot/Pivotal Challenge

- The paper based on the first challenge (pilot + pivotal) is still with NIST under review.
 - Dr. Peskin to update the group on the next call.

Update: Status of the Clinical Challenge as of 3/13/2014

- Variability between algorithms discussed; plan to build on prior 1B results by exploring repeatability and reproducibility
- Analysis of the challenge data is on track
 - Primary analysis (on computed volumes): Indices are RC, wCV, RDC, allocation between algorithm and residual
 - Endpoint was log-transformed for these analyses
 - Secondary analysis (on segmentation contours): Indices are PPV, Jaccard, and Sørensen-Dice
 - Also detailed contour comparisons
- Mr. Buckler discussed the 3A analysis radar plots that indicated compliance vs. non-compliance and how that might inform the CT Vol Profile
- Dr. Jarecha cautioned that algorithm automation is never likely to replace a radiologist's judgment
- Question remains regarding where compliance ends: with user or with algorithm

Conclusions:

- QIBA compliance procedure and presentation to be made across disparate groups
- Further discussion needed regarding intra-vs. inter-algorithm comparisons

Action items:

- Dr. Athelougou will contact a MICCAI representative in order to invite her/him for a presentation about comparison of challenge methodologies concerning the statistical evaluation of algorithm results.
 - Dr. Peskin to follow up with NIST colleagues regarding paper status.
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Next call: Thursday, **March 27, 2014** at 11:30 AM CT.