QIBA Volumetric CT Group 1A Update WebEx
January 29, 2009
12:00 pm CST

Call Summary

In attendance:

Nicholas Petrick, PhD (Moderator)   **RSNA staff**
Andrew Buckler, MS   Susan Anderson
Charles Fenimore, PhD   Joe Koudelik
Robert Ford, MD   Fiona Miller
Lisa Kinnard, PhD

Introduction (Dr. Petrick)
- The reader study project timeline on the Wiki has been revised to accommodate changes since December 2008
  http://qibawiki.rsna.org/index.php?title=VolCT_-_Group_1A
- May adjust the timeline to allow a longer protocol review time period

Progress report
- Dr. Kinnard has assembled all the cases for the pilot (10 nodules) and the full trial (40 nodules)
- Pilot cases will be sent within a week to Drs. Clunie and Ford at RadPharm who will verify that the cases can be loaded easily, etc.
- Dr. Petrick will post cases on Wiki; availability should not affect/bias the readers

Group review of 10 pilot cases
- Elliptical (thin slice) Nodule Layout 4 is multiple density (air pocket/hole in middle)
- Decision to remove Nodule Layout 4 and substitute another nodule because:
  - Nodule is interesting but may be complicating relative to other nodules
  - RECIST does not address necrosis in lesions
  - May affect online algorithms
- Will replace Nodule Layout 4 with a 20mm solid ellipsoid (no 8 or 10mm available)

Protocol
- Dr. Petrick will continue to work on details of protocol
  - How the readers read
  - Randomization strategy to order the cases

Analysis
- Specify analysis from algorithms

- Linear and bi-directional volume by the clinicians will be included as part of the 1A reader study
- Won't have clinicians providing hand outline of lesions for comparison with semi-automated volumetric measurements
- We will be keeping the semi-automated segmentations which are used to develop the volume estimates

Format for output
- Dr. Petrick will post the format for *3D Doctor* (which he uses in-house) and the more general PLY format on the Wiki for group to vote on which on to use in study. Others are welcome to post other formats they feel might be more appropriate.
- The choice of format is open to discussion by the group.

Reporting format
- Variation in different segmentation has not been addressed or defined yet.
- Kitware's Lesion Sizing Toolkit discussed by Rick Avila with VolCT group may become a formal part of Group 1C (http://public.kitware.com/LesionSizingKit/index.php/Main_Page)
- Every case will be read twice by the same radiologist which should provide data for inter- and intra-reader variability.

Reconstruction
- Use detailed filter reconstruction with a longer window, or standard reconstruction?
- Dr. Kinnard will check parameters and provide a sample of "detailed" window and "medium" window to aid group decision. These are now on Wiki for review and voting.
- The choice of the reconstruction filter will be used in the pilot also.

Next steps
- Continue working towards preparation of RSNA abstract
- Dr. Petrick will
  - Distribute format for outputs for group decision
  - Continue to work on the protocol
  - Provide the group with details of the filters and examples
  - Post the cases on the Wiki