QIBA VOL-CT Phantom Study Protocol (Part 1A)
November 6, 2008, 12nn CST
Draft Call Overview

In attendance:

Rick Avila, MS (Moderator)   Michael McNitt-Gray, PhD
Charles Fenimore, PhD   Fiona Miller (RSNA)
Wendy Hayes, DO   Joe Koudelik (RSNA)

Mr. Avila provided and discussed slides concerning the QIBA Vol-CT Part 1A Group's pursuit of Algorithm Evaluation. Main topic of the call was the evaluation of software.

General Discussion

NIST Pocket Phantom
- Small phantom designed to accompany each patient, thus providing calibration information with each patient scan
- Aim is to move beyond spatial accuracy, to include density and noise characteristics
- Dr Fenimore to inquire whether the pocket phantom data is available
- Scanner manufacturers could be lobbied to include capability to hold pocket phantom in the tables (?)

Objectives of the Vol-CT Part 1A Group
- Leveraging of FDA phantoms
- Massive data collection
- Automation of analysis software
  - How to get to full algorithm automation

Part 1A Group Primary Focus
- Automate the evaluation of phantom lesion measurements
- Model needed for automating the running of analysis software to help the workflow of people reading the data (readers)
- Automate the measurement process once Ground Truth has been established
- Need scanner characteristics
- Algorithm results needed to compare software packages
- Scoring the system

Phantom Target Lesion Markup
- A defined point in each lesion would be helpful
- Lesions within phantom markup (?)
- Inventory list from the FDA (follow-up with Dr Petrick)
- Ask FDA to use file format such as XML, to be provided with their data set

Validation Data
- Need true volumes from FDA data
- Spreadsheet format not currently available

- Every scan and lesion indexed - XML file defined is a goal
- Begin with true volume and geometry and add RECIST

Lesion Ground Truth
- Rick Avila to lead effort of new subgroup to define Lesion Ground Truth
- Dr Hayes and Mr Avila may have some background in this area
- caBIG imaging workspace - developing an infrastructure to markup and store images
- Drs Daniel Rosen and David Channin looking into AIM formats
- Rick Avila to contact Dr Channin concerning the defining of lesion ground truth
- Rick Avila to distribute link to lesion sizing toolkit

ACTION ITEMS:
- Rick Avila to follow-up with the caBIG AVT group of John Pierson and Rob Schwankee (sp?)
- Rick Avila to lead effort of new subgroup to define Lesion Ground Truth
- Reporting Mechanism to be discussed at a later date