QIBA VolCT Update WebEx
Monday, Feb. 23, 2009
11AM (CST)

Call Summary

In attendance:

Andrew Buckler, MS (Co-Chair)
David Mozley, MD (Co-Chair)
Lawrence Schwartz, MD (Co-Chair)
Maria Athelogou, MD
Rick Avila, MS
Kristin Borradaile
Wendy Hayes, DO
Michael McNitt-Gray, PhD
Daniel R. Nicolson

Kevin O'Donnell
Nicholas Petrick, PhD
Hiro Yoshida, PhD
Binsheng Zhao, PhD

RSNA
Fiona Miller
Susan Anderson
Joe Koudelik

Introduction and agenda (Mr. Buckler)

Goal is to review Profile work on Wiki; many new additions and changes in past two weeks. Invite broad participation; thanks to members who have been participating.

Progress reports
- Dr. Petrick reported Group is ready to start pilot; list of cases and order for scheduling has been sent to RadPharm
- RadPharm is scheduling readings week of March 2-5, 2009
- Dr. Schwartz will consult with Dr. Clarke about timing of posting of MSK coffee break experiment data; may be NIH issue

Review Profile: CT Lung Nodule Volume Measurement for Primary/Regional Nodes and Metastatic Sites
- Division of Table of Contents into *Claims* and *Details*
- Placeholders (< >) denote values which may change
    - Discussion of best location for Mr Avila's posting of claim that phantom performance have to achieve certain accuracy in addition to engineering claims
    - May be "pre-test" information to build confidence

Editing and review
1. Renamed *V* and *D cursor* to *Precursor*
2. Discussion of use of word *tumor* in place of *nodule* (which is defined as $\leq$ 3mm)
   - Tumor does not imply malignancy
3. Remove "skeleton" line
4. Summary statement: Consider bracketing (< >) 18%; that value may be improved or diminished
   - Need definition of *repeatability*

- Issue of expressing RECIST repeatability and degree to which RECIST has been qualified
5. Table of Contents:
   - *Activity* is defined as happening in one spot (one place); *Transaction* is transfer/moving images along
6. Profile claims
   - Summary will be requirements and analysis
   - Claims to make specific takes on the summary-substantiated work to be linked to pages
   - Add sub-items - Vol CT Groups 1A, 1B, 1C to be layered into profile

Review of Claims

Claim (#2): Can create, store, retrieve linear, area and volume measurements made on lung tumor images

- Make congruent with 'what would be needed for a clinical trial?'

- Expand Scope to obtain repeatable measurement or to run clinical trials

Claim (#3): Can create, store, and retrieve mark ups of lung tumors, i.e., region of interest (ROI) boundaries

- May have implications for meeting claims target
- DICOM implementation suggested, but multiple possibilities for data storage here; list the possibilities?
   - polylines
   - voxels
   - polygons/triangles

Claim (#4): Can measure lung tumor volume with repeatability of <18%> (one half of one half of the RECIST threshold for making a diagnosis of Progressive Disease) for tumors greater than 10mm in Longest Diameter.

- Discussion of addressing repeatability - what do we mean by repeatability?
- Use % change above certain thresholds
- Use absolute change below a certain threshold
- Drawing from RECIST 1.1 wording: "change totaling 5mm" as an escape clause from using percents
- To what extent should we continue with RECIST view or establish a different view
- Size-absolute vs. percent; detail matters with boundary condition
- Precursor: Should we give thought to reviewing the RECIST definitions?
- Re: repeatability over operators, over scans? Is this a single reader or multiple readers?
- Role of bias
- Are we looking for change or absolute values?
- There is a link to Group 1A test-retest measurements; add links to Groups 1B and 1C including groundwork areas

Review of Profile Details
- Roles are identified separately to help flexibility, e.g. measurements might be based on PACS, modality, 3rd party workstation, acquisition systems; roles may be linked
- Requirement on number of slices may go under "system specification"; performing patient scans covered under UPICT?
- Run a scan on *xyz* phantom and demonstrate that you can resolve
- Emphasize *what we want* versus *how to get there*

Review of *Activity: Image Acquisition*
- Specify parameters (e.g. kVp, MAS) or results (slice thickness)?
- Move towards physical performance
- When to implement: now or in the future?; the spiral model suggests that what is relevant now stays relevant over the course of time

Note that both Spiral and Waterfall models are in play; Spiral utilizing current protocol and Waterfall allowing revision over time i.e. a living document

Next steps
Continue with Profile Details starting with *Activity: Patient Preparation*