

**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 Athelgou, 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  $\leq 3$ mm)
  - 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, 3<sup>rd</sup> 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*