

**QIBA VolCT Update WebEx**  
**Monday, April 20, 2009**  
**11 AM (CDT)**

**Call Summary**

**In attendance:**

Andrew Buckler, MS (Co-Chair)  
P. David Mozley, MD (Co-Chair)  
Lawrence Schwartz, MD (Co-Chair)  
Maria Athelougou, MD  
Kristin Borradaile  
Gary S. Dorfman, MD  
Charles Fenimore, PhD  
Robert Ford, MD  
David Gustafson, PhD

Michael McNitt-Gray, PhD  
James Mulshine, MD  
Daniel R. Nicolson  
Binsheng Zhao, PhD

**RSNA**  
Fiona Miller  
Susan Anderson  
Joe Koudelik  
Mary Cerceo

**Introduction and Agenda (Mr Buckler)**

- Complete Profile review; according to the spiral model, work continues even when not yet perfect or complete; would like completed version for use with UPICT template
- Discuss flow of protocols between QIBA and UPICT with Dr Dorfman

**Profile Review**

No new discussion on *Patient Preparation* or *Image Acquisition*

**Section: Acquisition System Calibration**

- If using concepts of *Ideal, Target, Acceptable*
  - *Ideal*: run phantom under trial protocol; gives confirmation that scanner is performing well under that protocol; institution has QA program which goes beyond manufacturer recommendations before enrollments. Vendor QA is not suitable for trial; important to address goals of trial in QA
  - *Acceptable*: solely manufacturer recommendations
  - Dr McNitt-Gray will supply language for review
- Dr Mulshine suggested that there is a need for a simple explanation, on the level of a *Scientific American* article, to present this complex issue to a broad audience

**Section: Image Reconstruction and Measurement**

- Discussion on separating or collapsing the sections on reconstruction kernel characteristics
- Dr McNitt-Gray will edit wording
- Radiation exposure/dose
  - Is this a key issue which should be addressed here?

- What is the trade-off between exposure vs. detectability of change? – Group 1C addressing this issue
- UPICT protocol has a section on Patient Selection, not exactly the same as selection criteria but language may be in clinical protocol, not in UPICT
- Suggestion to use context-specific or protocol-specific language and decision to not address radiation exposure directly. However, in first version of proffered protocol to UPICT, suggest minimal rather than maximal levels
- Add a banner in simple language: “Radiation dose issues should be considered re patient cohort, goals of trial, etc.”
- UPICT protocols – based on image-specific details, not patient characterization
- Response assessment
  - Thinner slices associated with more noise
    - HU units may require adjusting based on slice thickness – guidelines needed
  - Thicker slices associated with lower mAs doses
  - Not a problem in lung protocol although may be different in other organs

### **Section: *Measurement***

- Less detailed than other sections; currently have questions but not answers
- Discussion of potential content:
  - Could include windows and level settings
  - Experiments in Groups 1A and 1B will use some of these specifications later
  - Could enumerate strong principles/considerations if data is not available
  - Limit to top 10 features for extraction, e.g. measuring volume (simple measures, detection and sizing, volume to density, easiest case in well-defined tumors)
  - Restrict protocol to simple masses – i.e. general demarcated tumors in the lung
  - Text in *measurement* area stating limitations of current protocol
  - Dr Jaffee may be useful reviewer for strategic analysis
- Dr Athelougou has approached Definiens about analyzing images
- Drs Schwartz and Zhao will work on wording
  - May use data from studies Dr Zhao has completed which will be published in *Radiology*
  - Data from Groups 1A and 1B will eventually be imported into this section

### **Transaction: *Transfer images***

- UPICT template addresses in section X.10. *Image Data Archival and Transmission*; also addresses retention and management

### **UPICT template (Dr Dorfman and Mr Buckler)**

- UPICT template is still in evolution and currently accommodates Details, not Claims
- UPICT format to be adopted and posted to the Wiki
- Volunteers to update format on the Wiki based on their specific area of knowledge
- May add an Executive Summary to each protocol
- Mr Buckler will populate draft UPICT template with VolCT protocol and share results

### **Review of Buckler proposal on ‘Harmonized Approach for QIBA’ (Mr Buckler/Dr Dorfman)**

- QIBA contribution to UPICT is:

- Delivery of proffered protocol
- Development of consensus protocol utilizing expertise of committee

### **Next Steps**

- Dr McNitt-Gray will supply language for the sections on *Calibration* and also *Image Reconstruction* (re reconstruction kernel) to A Buckler
- Mr Buckler will assist with Wiki work as needed
- Drs Schwartz and Zhao will work on *measurement* section using existing language or adding new content (i.e. slice thickness details, etc)
- Dr Dorfman will send Mr Buckler draft UPICT template; Mr Buckler will populate draft UPICT template with VolCT protocol and share results