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

Call Summary

In attendance:

Andrew Buckler, MS (Co-Chair)  
Michael McNitt-Gray, PhD  
P. David Mozley, MD (Co-Chair)  
James Mulshine, MD  
Lawrence Schwartz, MD (Co-Chair)  
Daniel R. Nicolson  
Maria Athelogou, MD  
Binsheng Zhao, PhD  
Kristin Borradaile  
RSNA  
Gary S. Dorfman, MD  
Fiona Miller  
Charles Fenimore, PhD  
Susan Anderson  
Robert Ford, MD  
Joe Koudelik  
David Gustafson, PhD  
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 Athelogou has approached Definiens about analyzing images
- Drs Schwartz and Zhao will work on wording
  • May use date 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:
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