

## QIBA Volumetric CT Group 1C Update WebEx Cross-Platform / Inter-Clinical Study

May 6, 2009  
2:00 PM CDT

### Call Summary

#### In attendance:

Charles Fenimore, PhD (Moderator)

Andrew Buckler, MS

John Lu, PhD

Kevin O'Donnell

Nicholas Petrick, PhD

Daniel Sullivan, MD

#### RSNA Staff

Fiona Miller

Susan Anderson

Joe Koudelik

#### General Discussion

Dr Fenimore discussed the revised Group 1C strawman slide deck, posted to the QIBA Wiki at:

[http://qibawiki.rsna.org/index.php?title=VolCT\\_-\\_Group\\_1C](http://qibawiki.rsna.org/index.php?title=VolCT_-_Group_1C)

Two branches to the 1C project

- 1-General Protocol to implement across sites – based on ACRIN 6678 with lung lesions larger than 10mm
  - General Protocol has no science or engineering basis
  - No means to validate choices made here
- 2-Performance Protocols, e.g. sites need to meet resolution and noise requirements
  - Addresses unknown components
  - Performance level will help feed data (knowledge) back into the General Protocol
  - 2nd profile based on smaller lesions – requires thin slices

Image Section of Performance Protocol

- Details based on output results, not process itself
  - Specifications deal with results, not technical details
  - Technical details not specified/mandated to allow more imaging sites to participate
- Output characteristics should be model-independent
- Mr O'Donnell's table compares the VolCT Profile, ACRIN 6678 and NLST parameter protocols side-by-side
- QIBA VolCT Profile is currently more detailed than either ACRIN 6678 or NLST
- Relationship with ACRIN 6678 is to help build the VolCT Profile only
- UPICT template to be used as a formal distribution format
- UPICT to review/process proffered protocols into consensus protocols

All developed around Bull's-eye Concept

- Acceptable – Minimum requirements
- Target – Reasonable requirements
- Ideal – Best case scenario

## Claims

- Claims are targets, but cannot currently be substantiated
- Experimental work will inform expectations of claims and determine claim performance
- Claims obtained by following the profile
- Ultimate application
  - Following the VolCT Protocol, will provide consistent/accurate data for VolCT volumetric analysis
  - If equipment is compliant with the VolCT Protocol Claims, it should provide accurate data
  - Will be useful to pharma in clinical trials, and ultimately in clinical practice, to determine response to treatment

## Recon Kernel

- May need to be specified depending on model due to variations between equipment
- Ideal is to describe kernel performance, not restricting users to specified settings

## Filter effects

- 1A study shows no real difference between detailed and medium filters when estimating volume
- Further discussion needed

## Three Profiles exist based on disease stage, to be performed in parallel

- Large lesions (e.g. Stage 4 disease)– late stage Profile
- Small lesions – early stage Profile

## Response to therapy – focus on clinical trials

- Response to therapy poll
- Write/embed this detail in the Group 1C Strawman
- Drs Fenimore, Petrick and Mr Buckler and O'Donnell to collect other screening and neo-adjuvant profiles

## Current VolCT General Protocol

- Critical review of values needed to add confidence
- Finalize 1st Protocol at the May QIBA meeting in Chicago

## Next Steps

- RSNA staff to examine T-con availability for the VolCT Breakout group during QIBA 2009 meeting in Chicago
- Drs Fenimore, Petrick and Mr Buckler and O'Donnell to identify other screening and neo-adjuvant profiles