

QIBA COPD/Asthma Committee Update
October 6, 2010 at 2 PM CDT

Call Summary

In attendance:	Heather Chen-Mayer, PhD
Philip F. Judy, PhD (Co-chair)	Berend Stoel, PhD
David A. Lynch, MB (Co-chair)	Juerg Tschirren, PhD
Andrew Buckler, MS	
Harvey Coxson, PhD	RSNA
David Gierada, MD	Joe Koudelik
Eric Hoffman, PhD	Julie Lisiecki
Zachary Levine, PhD	

Analysis of COPDGene QA Evaluation (Dr Judy)

- Systematic difference between scanners identified, i.e., same model at different sites; sensitivity perceived between same model scanners at different sites based on one year's worth of imaging (monthly scans of COPDGene phantom)
- Identified some limitations of the auto-analysis progress (U Iowa developed software)
- ROI drawn automatically, but program required phantom to be well positioned, i.e., slight tilting throws off ROI calculations; positioning must be precise
- CT Numbers of Acrylic vs Water
- If a DC shift occurs, CT number of acrylic as a function of CT number of water may vary with a slope of 1
- This variation was observed, but scatter grams show systematic variation
- Dr Judy hopes to plot foam vs air hole; yet to study lower part of the CT scale
- Water and acrylic shifted together, but slope not 1
- Dr Judy to present additional COPDGene QA Evaluation analysis results in two weeks
- Dr Judy to follow-up with Dr Crapo regarding Phantom Laboratory (Joshua Levy) communication to improve phantom design

NIBIB Proposal Update (Dr Judy)

- The RSNA's proposal to the NIBIB has been funded; QIBA in the process of soliciting project proposals from technical committees and work groups this fall
- 60% of funding slated to support administrative efforts such as communication, meetings, etc.
- Limitations associated with 'single' (one-of-a-kind) phantoms for calibration standards, e.g., the Catphan phantom could be used to show variation between mass produced models (basis to see if other phantoms can explain variations in measurements)
- Kyoto phantom developments
 - A physicist's description of the Kyoto phantom needed
 - Some type of communication with Kyoto company and assorted Korean groups needed; Dr Lynch to follow-up with Korean sites
- Drs Judy and Stoel to develop proposal to compare phantoms; RFA's to be sent to phantom vendors to participate

UPICT Protocol Concept (Mr Buckler)

- Universal protocol to assist pharm develop drugs in oncologic trials by creating a set of standardized / uniform set of recommendations to perform quantitative imaging for lung disease
- UPICT efforts proceeding spearheaded by Dr Dorfman's efforts with vCT group activities
 - The COPD draft protocol might work with COPD
- Dr Lynch welcomes anyone interested to join a working writing group; comprehensive and international input is needed
 - Drs Coxson, Hoffman, Sieren and Stoel have volunteered
- Dr Lynch to circulate the UPICT document for CT lung nodules with tabulated steps to clean/modify

Overview of the Q-PET Protocol Process (Mr Buckler)

- The Q-PET ctte has based their protocol on 4-5 extractions from various protocols; extracting common themes into a Template
- Observations made to determine commonalities (near agreement, etc)
- Extractions collapsed into a consensus language (protocol)
- Majority of group discussions based on addressing uncommon area
- COPD has existing protocols that can be used in a similar manner; as starting points; 1st step is to review the UPICT template format
- QIBA needs to address long-term (longitudinal) studies; Dr Stoel's experience with long term studies is welcome

Corporate Visits (Mr Buckler)

- October 26, 2010 corporate visits (Roadshow) moving ahead to help QIBA engage with vendors and develop a process of engaging
- What are issues with protocols vs equipment vs patients to be addressed?
- A specific presentation will be used for each modality (CT and PET to start)
- Three parts to vendor presentation:
 - 1-Acknowledgement of long history of CT to set the stage
 - 2-Identify desired results to increase reproducibility in long term quantitation
 - 3-How QIBA is approaching the problems
- Profiles will help better engage engineers and marketing levels
- Emphysema and COPD could be represented as well
- Goal of visits: to be specific enough, but general so business people would understand
- Dr Lynch and Hoffman to develop slide for Mr. Buckler to add to the deck and circulate amongst Coxson and Stoel for review
- Mr Buckle to send full slide deck to Dr Lynch
- UPICT involvement welcome
- A point-person for each vendor would be useful
- Bulls-eye approach used
 - Acceptable – minimum change needed
 - Target – software changes etc, product revisions
 - Ideal – new iterations of scanners HD and SW to be more quantitatively accurate

Next Steps:

- Define a market offering to engage equipment manufacturers
- Dr Judy to present additional COPD Gene QA Evaluation analysis results in two weeks
- Drs Coxson, Hoffman, Sieren and Stoel will form for a COPD protocol writing group, led by Dr Lynch
- Dr Lynch to circulate the UPICT document for CT lung nodules with tabulated steps to clean/modify
- Mr Buckler to send full slide deck of upcoming GE corporate visit to Dr Lynch for reference
- Next call scheduled for Oct 20 at 2 pm CDT