

QIBA Lung Density Biomarker Committee (BC)

Wednesday, May 26, 2021, 2 PM CT

Call Summary

In attendance

Charles Hatt, PhD (Co-Chair)

Miranda Kirby, PhD (Co-Chair)

Samuel Yoffe Ash, MD

Rachel Eddy, PhD

Philip F. Judy, PhD

Annelise Malkus, PhD

Hatem Mehrez, PhD

John D. Newell, Jr., MD

Nancy Obuchowski, PhD

Josh Schirm, BSE

RSNA

Joe Koudelik

Julie Lisiecki

Moderators: Drs. Hatt and Kirby

Biomarker Proposals

- A [new biomarker proposal](#) will need to be submitted to the CT Coordinating Committee, and if approved, then reviewed by the QIBA Steering Committee; more information on this process can be found on the [QIBA wiki](#)
- Both task forces intend to have draft proposals circulated to the BC prior to the next call on June 23rd
- For detailed descriptions of biomarkers, please see [notes](#) posted to the [Lung Density BC QIBA wiki page](#)

Gas-trapping Task Force (Dr. Hatt)

- Dr. Vegas-Sanchez-Ferrero has taken the lead in refining the draft proposal
- The task force changed their focus to gas-trapping on expiration scans (not PRM)

Airways Task Force (Dr. Kirby)

- The Airways TF is looking for summaries of studies that investigate repeatability
- They are considering whether to include phantom data or only in vivo studies
- Considering which airway measurement should be the focus
 - More global = Pi10; Regional = airway-driven
 - There has been a lot of interest in Pi10
- Question regarding whether literature on repeatability should be used or if the TF should conduct their own repeatability studies
- Data exists to do groundwork studies, which may be an alternative to meta-analysis
- There is existing literature for airway dimension measurement; so, the TF could outline these Pi10 datasets for further investigation; more access details needed to determine whether access to data is an issue
- A coffee-break study may be the best option for repeatability data
 - Could use the Lung Density datasets
 - Dr. Newell to investigate the availability of a test-retest dataset from U-Iowa studies related to spiromics

Lung Density Profile

- Dr. Hatt to follow up with Drs. Fain and Humphries regarding feasibility testing (technical confirmation) progress
- They would need to be on a future BC call for discussion regarding this topic

Action items (ongoing):

- Dr. Hatt to follow up with Drs. Fain and Humphries regarding technical confirmation progress
- Dr. Fain to send Checklist to co-chairs and Dr. Humphries for review/feedback
- Continue discussion of multi-parametric Profile suggestions on next call
- Dr. Humphries to add the checklist to his group's phantom scanning efforts with the COPDGene study, and asked for a brief description with instructions, which Dr. Fain offered to format

Next meetings: 6/23, 7/23, 8/25

Parametric Response Map Gas-trapping	Airway Measurements Analysis
Ehsan Abadi, PhD	Samuel Ash, MD, MPH
Rachel Eddy, PhD	Raul San Jose Estepar, PhD
Sean Fain, PhD	Philip F. Judy, PhD
Chuck Hatt, PhD	Miranda Kirby, PhD
Joe Mammarrappallil MD, PhD	John D. Newell Jr., MD
Lars Nordenmark, PhD	Nancy Obuchowski, PhD
Yoshiharu Ohno, MD, PhD	Samuel Peterson, MS
Gonzalo Vegas-Sanchez-Ferrero, PhD, MSc	Claudio Silva, MD, MSc