

QIBA Lung Density Biomarker Committee (BC)

Wednesday, April 28, 2021, 2 PM CT

Call Summary

In attendance

Charles Hatt, PhD (Co-Chair)

Miranda Kirby, PhD (Co-Chair)

Ehsan Abadi, PhD

Rachel Eddy, PhD

Timothy J. Hall, PhD

Philip F. Judy, PhD

Hatem Mehrez, PhD

Amin Motahari, PhD

John D. Newell, Jr., MD

Nancy Obuchowski, PhD

Sam Peterson, MS

Gonzalo Vegas-Sanchez-Ferrero, PhD, MSc

RSNA

Joe Koudelik

Julie Lisiecki

Moderator: 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](#)

Airways Task Force (Dr. Kirby)

- The TF is collaboratively drafting the proposal in sections
- Considering which airway measurement should be the focus
 - More global = Pi10; Regional = airway-driven
 - The TF decided to focus on airway dimensions from five pathways, including lumen and wall areas
- More discussion is needed regarding lumen, wall thickness, the outer wall, airway wall dimensions, and clinical importance
- The team is collecting repeatability and reproducibility literature, which will help to narrow down focus
- Suggestion to ask Dr. Newell re: collaborating with spiromics researchers

Gas-trapping / PRM Task Force (Dr. Hatt)

- Trying to avoid proprietary and commercial aspects to focus on air-trapping for exploratory images
- Fewer metrics associated with gas-trapping, which translates to less literature on reproducibility
- Partnering with spiromics and COPDGene researchers could be helpful
- Dr. Hatt suggested merging the two biomarker proposals into a single "Airway Diseases" Profile effort

Parametric Response Map (PRM) Gas-trapping	Airway Measurements Analysis
Ehsan Abadi, PhD	Samuel Ash, MD, MPH
*Rachel Eddy, PhD (just added)	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

- For detailed descriptions of biomarkers, please see [notes](#) posted to the [Lung Density BC QIBA wiki page](#)

Action items (ongoing):

- 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: 5/12 - CT Coordinating Ctte at 1 pm CT, 5/26, 6/23