CT remains the gold standard for imaging-based phenotyping of chronic obstructive pulmonary disease (COPD).

Pulmonary Disease (GOLD) staging system for 4062 subjects. Brown = subjects w/ GOLD stage 2, blue = subjects w/ GOLD stage 1, green = subjects w/ GOLD stage 3, purple = subjects w/ (FEV1).


Fig. 2 - Correlation of LAA-950 with physiologic measurements from spirometry grouped by disease severity as measured by Global Initiative for Chronic Obstructive Pulmonary Disease (GOLD) staging system for 4062 subjects.

a. Scatterplot shows LAA-950 on inspiratory CT, and forced expiratory volume in 1s (FEV1).

CT Lung Density Profile Claims:
1. An increase in RA-950 of at least 3.7% is required without lung volume adjustment (VA).
2. A decrease in Perc15 of at least 18 HU is required without lung VA, and 11 HU with VA.

Initial Field Testing

QIBA-SRM Phantom Development and Testing

QIBA-SRM Phantom Development and Testing

Segmentation Criteria/Data Analysis

- Segmentation of the whole lung cavity, with right and left lobe separation
- Segmentation removal of blood vessels and airways
- Generation of the image histogram for the remaining lung parenchymal tissues
- Calculation of the percentage of lung volume below the -950 HU threshold (RA -950 HU) value below which 95% of the total parenchymal tissue voxels fall, and the total lung volume.

What We're Doing and How YOU Can Participate!

Specific Accomplishment and Plan

Organizing Activities

• Development of CT lung density software for clinical use and data analysis (CT-SRM) plan
• CT scanner manufacturer updates: Toshiba, Siemens, Philips and GE representatives
• Groundwork and recommendations on lung density works
• Development of statistical and physical characterization methods
• Development of CT data base protocols for clinical use and data analysis
• Software vendor updates: VIDA Diagnostics, Informs, etc.
• Supplimentary Funding Proposals
• Updates to CT coastline committee
• Drifting of biomarker profile

For more information, please visit: http://qibawiki.rsna.org

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