11.17.2011

Dear Colleagues:

We appreciate the support of Dr Daniel Sullivan, the RSNA, and the Quantitative Imaging Biomarkers Alliance, (QIBA), in developing a new RSNA refresher course on Quantitative Imaging in Lung Disorders.  This will be held on Wednesday, November 30th, at 8:30 am in Room S503AB at McCormick Place.  Learning objectives, abstract, and detailed agenda are provided below, and we hope you will find this of interest.

David Lynch, MB

*Sent on behalf of Dr. Lynch by: Julie Lisiecki, RSNA*

**Quantitative Imaging in Lung Disorders**

**LEARNING OBJECTIVES:**

1) Describe the methodology and limitations of non-invasive imaging in quantifying lung structure.

2) Describe the opportunities for non-invasive imaging in understanding the structure of the lung, and how that relates to phenotyping subjects for clinical trials and longitudinal studies.

3) Understand the clinical relevance of quantitative imaging of COPD.

4) Learn how to interpret quantitative CT results in the lung.

**ABSTRACT:**

Chronic lung diseases are characterized by heterogeneous small airway and parenchymal abnormalities. There is increasing evidence to suggest that these morphologic phenotypes, while related, may have different clinical presentations, prognosis and therapeutic responses to medications. With the advent of imaging modalities such as computed tomography, magnetic resonance imaging and optical coherence tomography, it is now possible to evaluate and quantify these morphologic phenotypes in large clinical studies using non or minimally invasive methods. Therefore, these new quantitative imaging techniques are very likely to play a front-line role in the study of chronic lung diseases and will produce valuable data that will be critical in our understanding of pathogenesis and the effect of therapeutic interventions.

**AGENDA:**

**8:30 am Quantitative imaging of COPD and Asthma: methodology: Harvey Coxson-**

CT acquisition techniques

QCT analysis techniques

Other imaging modalities (MR, OCT)

**9:00 am Quantitative CT of COPD/asthma: Current status: David Lynch**

Results from COPDGene,SARP and other studies: normal findings, physiologic correlations, correlation with visual analysis

Sources of variation in QCT

Results of Phantom Studies

Quantitative CT in other lung disorders

**9:30 am Clinical relevance of quantitative CT measures in COPD: James Crapo**

Subtyping COPD

Correlation with genetics

Correlation with clinical variables/exacerbation etc.