

Evidence Discussion (CH 11.1)

CH 11.1 Interstitial Lung Disease (ILD)/Diffuse Lung Disease (DLD) evidence summary

ILD is often suspected in those with chronic dyspnea or non-productive cough, especially in the setting of an inhalational exposure or systemic disease known to be associated with lung involvement.(1,2,3,4) Chest x-ray (CR) and CT chest without contrast are usually appropriate for suspected ILD and provide complementary information.(1,2) A normal CR does not rule out ILD. Its primary function is to evaluate for an alternative diagnosis. CR remains an important imaging modality to screen for occupational lung disease.(1) High resolution CT (HRCT) has higher sensitivity and specificity for ILD. HRCT may help guide a biopsy site or provide a definitive diagnosis, making a biopsy unnecessary.(1,2) CT can provide prognostic information: patients with honeycombing or a usual interstitial pneumonia (UIP) pattern on CT have increased mortality.(5)

CR and CT chest without contrast are usually appropriate for evaluation of an acute exacerbation of ILD.(2) They can help exclude alternative causes for worsening clinical symptoms and confirm abnormalities consistent with progression of ILD. There are no data to support routine surveillance imaging of ILD, but serial CT's can improve diagnostic accuracy and evaluate disease stability, reversibility or progression.(2) The optimal interval for follow up HRCT to determine disease progression in idiopathic pulmonary fibrosis (IPF) is unknown. Raghu et al recommend consideration of an annual HRCT in people with IPF if there is clinical suspicion of worsening fibrosis or to screen for complications such as lung cancer.(6) In people with an ILD other than IPF and radiologic evidence of fibrosis, disease progression on HRCT is one of three criteria used to define progressive pulmonary fibrosis.(6,7)

Interstitial lung abnormalities (ILA) are abnormalities on CT suggestive of ILD in people without a prior clinical diagnosis.(8,9) They are common incidental findings, especially in older people. ILA are a radiologic observation. Differentiation between ILA and clinical or subclinical ILD must be on the basis of a clinical evaluation. When respiratory signs/symptoms or functional impairment is present, ILA likely represent mild ILD. The morphology and distribution of ILA are important: subpleural fibrotic ILA are most likely to progress. There is minimal evidence to support a specific management plan for ILA. Hatabu et al recommend that when ILA are detected, a dedicated HRCT chest can help confirm and characterize the abnormalities, especially if the initial scan was incomplete (ie a CT abdomen) or not performed with thin sections.(8) Hunninghake et al recommend that a HRCT should be done in those with ILA.(9) If clinically significant ILD is ruled out, Hatabu et al recommend a repeat CT at 12-24 months for those with subpleural fibrotic ILA or other risk factors for progression to ILD. However, participants in a recent consensus survey disagreed about repeating a HRCT at the follow up evaluation.(9) People with nonfibrotic nonsubpleural ILA and no symptoms or physiologic impairment do not need reimaging.(8,10)

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2. Expert Panel on Thoracic Imaging; Hobbs SB, Chung JH, et al. ACR Appropriateness Criteria®

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