



Diagnostic Imaging Pathways - Common Procedures

High Resolution Computed Tomography (HRCT)

High-Resolution Computed Tomography (HRCT) is a widely used technique to image various lung pathology. Compared to helical CT, HRCT uses a narrow beam collimation to take thin slice images of the lung parenchyma. This protocol produces extremely high definition images of lung alveoli, airways, interstitium, and pulmonary vasculature. Expiration images may assist in identifying air-trapping in patients with lung disease.

A HRCT protocol used to evaluate suspected diffuse lung or airways disease can be accessed here: [HRCT protocol](#)

Main Indications

In patients with suspected chronic diffuse lung disease, HRCT is indicated in the following situations:

- for detection in patients with normal or equivocal plain CXR appearances who have symptoms or pulmonary function tests suggestive of diffuse lung disease.
- where the symptoms and/or plain CXR findings are non-specific, to attempt a specific diagnosis.
- to assess activity of disease.
- to select an optimal biopsy site.

In patients with suspected acute diffuse lung disease, HRCT is indicated in the following situations:

- for detection in patients with normal or equivocal plain CXR appearances who have symptoms or pulmonary function tests suggestive of acute lung disease (especially in immunosuppressed patients).
- for investigation of haemoptysis in selected patients.
- to select an optimal biopsy site.

Other indications

HRCT may also be useful in the following conditions:

- Industrial lung disease
- Idiopathic pulmonary fibrosis
- Connective tissue disease (rheumatoid lung, scleroderma etc)
- Radiation-induced lung disease
- Diffuse metastatic disease (haematogenous, lymphangitis)
- Sarcoidosis (appearances may be diagnostic)
- Bronchio-alveolar carcinoma
- Mycobacterial infection (tuberculosis, non-tuberculous atypical)
- Infections in immunosuppressed patients
- Hypersensitivity pneumonitides (appearances may be diagnostic)
- Interstitial pneumonitis (appearances may be diagnostic in Usual Interstitial Pneumonitis)
- Histiocytosis X (appearances may be diagnostic)
- Lymphangiomyomatosis (appearances may be diagnostic)
- Cryptogenic organising pneumonia (COP)
- Bronchiolitis obliterans organising pneumonia (BOOP)
- Emphysema (appearances may be diagnostic)



- Bronchiectasis (appearances may be diagnostic)

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