



BRONCHIECTASIS

- Bronchiectasis is irreversible dilatation of the bronchial tree while bronchiolectasis is irreversible dilatation of peripheral airways. [1](#)
- May result from obstruction, abnormal mucous production, infection and/or congenital abnormalities of the bronchial wall. [1](#)

CHEST X-RAY

- Initial investigation to exclude other causes for the patient's symptoms. [1,2](#)
- Sensitivity (37-47%) and specificity 95% for diagnosing bronchiectasis when bronchography used as gold standard. [3,4](#)
- More recent study reported 87% sensitivity and 74% specificity when plain radiographic findings were compared to HRCT. [5](#)
- Radiographic manifestations are non-specific. Positive findings include increased linear markings, crowding, cystic spaces and honeycombing. [1,2,6](#)
- Limitations: [1-4](#)
 - May be normal in mild disease.
 - Underestimates the severity and the extent of disease.

HIGH-RESOLUTION COMPUTED TOMOGRAPHY (HRCT)

- Use of Helical MDCT with thin collimation instead of conventional HRCT has the advantage of contiguous data acquisition and has been shown to be more accurate in the detection of bronchiectasis. [11](#) However, radiation dose is also significantly increased with the use of MDCT with thin collimation. [12](#)



- HRCT was preferred to MDCT with thin collimation for ground glass opacities in one study.[13](#)
- Choice of scanning technique depends on the clinical scenario and the age of the patient. Younger patients (especially females) should have HRCT if clinically acceptable.
- Imaging investigation of choice to identify and define the type and extent of bronchiectasis. [1,2,7](#)
- High sensitivity of 84-95% and specificity of 93-100% for detection and determining the extent of bronchiectasis. [8-10](#)
- CT appearances of bronchiectasis depend on the bronchiectatic pattern, as defined by Reid's classification and on the orientation of the bronchus in relation to the plane of scanning. [1](#)
 - Cylindrical bronchiectasis is classified depending on a horizontal or vertical course of the bronchi in the scan plane as "tramlines" or "signet rings".
 - Varicose bronchiectasis shows a greater degree of dilatation and the walls of the dilated bronchi assume a beaded appearance.
 - Cystic bronchiectasis can be recognised by air-fluid levels, strings, or cluster of cysts.
- There is a significant linear relationship between the severity of bronchiectasis at HRCT and abnormalities as seen on the chest radiograph. [5](#)
- Thick slice helical CT is not effective at excluding clinically significant bronchiectasis.

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