

Evidence Discussion (CH 17)

- CT Chest is indicated for the evaluation of pleural nodules^{1,2,3}. CT scan is widely available and allows for easy access to isotropic 3-D reformatting³. A study looking at the utility of CT in investigation for malignancy showed a sensitivity of 68%, a specificity of 78%, a positive predictive value of 80% and a negative predictive value of 65% when CT findings were reported as malignant³. CT also carries the risk of exposure to iodinated contrast and ionizing radiation.
- Follow up for previously detected pleural nodules follows guidelines addressed elsewhere in these guidelines (See Solitary Pulmonary Nodule – Imaging (CH-16.1) and Incidental Pulmonary Nodules Detected on CT Images (CH-16.2))¹.
 - o Of note, a study looking at over 8,700 LDCT chest scans identified 943 noncalcified nodules attached to the costal pleura, of these 897 were < 10 mm in size. There were 603 that were either lentiform, oval, semicircular or triangular in shape and had smooth margins. All of these nodules, that met these qualifications of shape, size and smooth margins, were benign. Follow-up with annual screening, rather than more immediate work-up, was recommended.²
- PET/CT may be considered when the identified pleural nodule/mass or thickening is ≥ 8 mm and there is a likelihood of malignancy¹. PET/CT may be useful in differentiating between benign and malignant disease; however, studies have shown a broad range of sensitivities (88-100%) and specificities (35-100%)³. PET/CT may be complicated by false positives such as infections and prior pleurodesis with talc, or false negatives such as low grade/low metabolic activity epithelioid mesothelioma³.

1. Rivera MP, Mehta AC, Wahidi MM. Establishing the diagnosis of lung cancer: Diagnosis and management of lung cancer, 3rd ed: American College of Chest Physicians evidence-based clinical practice guidelines. *Chest*. 2013;143(5 Suppl):e142S-e165S. doi:10.1378/chest.12-2353
2. Zhu Y, Yip R, You N, Henschke CI, Yankelevitz DF. Management of Nodules Attached to the Costal Pleura at Low-Dose CT Screening for Lung Cancer. *Radiology*. 2020;297(3):710-718. doi:10.1148/radiol.2020202388
3. Hallifax RJ, Talwar A, Wrightson JM, Edey A, Gleeson FV. State-of-the-art: Radiological investigation of pleural disease. *Respir Med*. 2017;124:88-99. doi:10.1016/j.rmed.2017.02.013