Clinical summary

- Male 57 year-old with right upper lobe lung adenocarcinoma
- Treated with radiotherapy and chemotherapy
- PET/CT performed for therapeutic monitoring
Extensive opacity with intense FDG activity through a large part of the upper and mid right lower lobe.
Clinical summary

- Female 66 year-old with squamous cell carcinoma of the right upper lobe and hilum
- Treated with chemoradiotherapy
- Presents for restaging PET/CT
Resolving radiation pneumonitis involving the right perihilar and infral hilar lung parenchyma over 6 months duration. No new metastases.
Clinical summary

- Male 59 year-old with mesothelioma
- Treated with IMRT radiotherapy to the left lower lobe
- Presents with recurrence at T1 intercostal space and the left lung apex with right sided pulmonary metastases
- For restaging PET/CT
(A) Radiation pneumonitis in the left upper lobe (marked 1);
(B) T1 & T2 with soft tissue and spinal cord (marked 2); with metastases in the right lung (marked 3 on whole body MIP);
(C) Intercostal muscles & diaphragmatic activity consistent with laboured breathing.
Radiation pneumonitis (RP)

- Radiation-induced lung injury occurs in two distinct phases: early acute pneumonitis and later pulmonary fibrosis.
- There is a relationship between the local radiation dose and post-treatment FDG uptake
  

- The probability and severity of radiation pneumonitis depend mainly on the irradiation dose, the fractionation schedule, and the amount of lung volume that is irradiated above a threshold of 20 Gy.
- The FDG activity of normal lung tissue after radiation treatment are related to the morbidity of acute RP.
  