We observed increased accumulation of I-123 IMP in a metastatic malignant melanoma, an orbital pseudotumor and the region of a lung cancer. These incidental findings prompted us to evaluate lung cancer with I-123 IMP lung scans. I-123 IMP planar and SPECT scans were performed in 9 patients with primary lung cancer (4: squamous cell carcinoma, 3: adenocarcinoma, 1: large cell carcinoma and 1: small cell carcinoma). SPECT imaging was begun 20-40 min after I.V. injection of 3 mCi of I-123 IMP and data on 72 views were acquired with 40 seconds sampling time in each view. The findings of planar and SPECT images were compared with those of chest X-ray films and CT images. All 9 lung cancers showed diminished accumulation of I-123 IMP. However increased accumulation of I-123 IMP was observed in the area adjacent to the lung cancer in 8 of 9 patients. The etiology of this increased uptake remained to be elucidated. I-123 IMP lung scanning may have the potential to provide diagnostic information in various lung diseases.