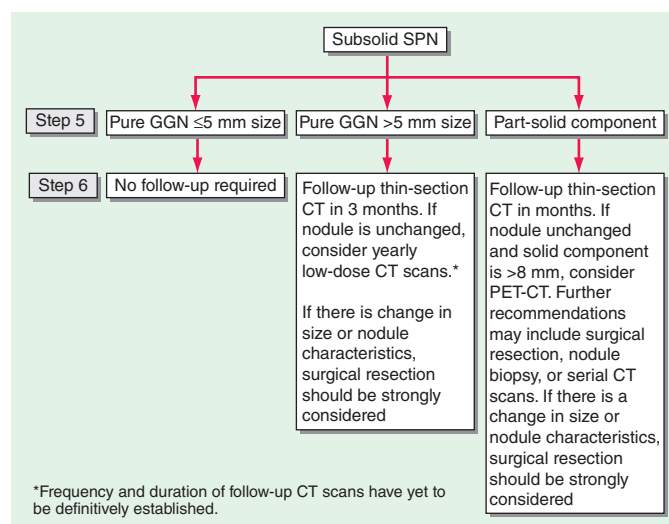
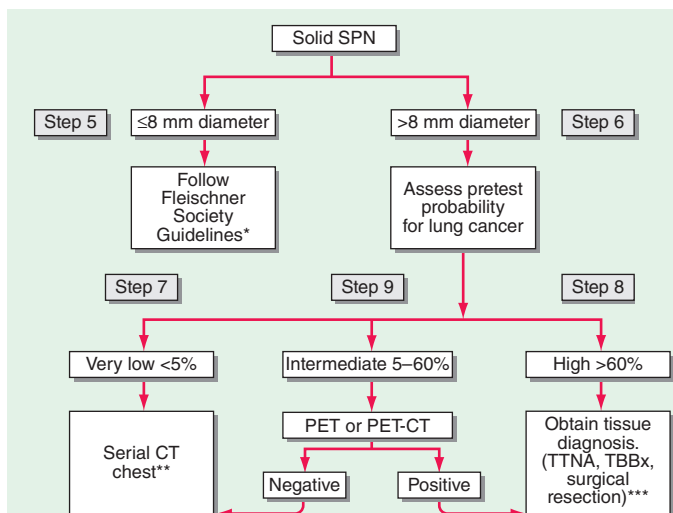


A



C

\*Fleischner society guidelines; modified from: H. MacMahon, et al: *Radiology* 2005; 237:395–400

Nodule size (a):	Low-risk patient (b):	High-risk patient (c):
$\leq 4$ mm	No follow-up needed (d)	Follow-up at 12 months; if unchanged, no further follow-up
$> 4$ –6 mm	Follow-up CT at 12 months; if unchanged, no further follow-up	Follow-up CT at 6–12 months; then 18–24 months if no change
$> 6$ –8 mm	Follow-up CT at 6–12 months; then 18–24 months if no change	Follow-up CT at 3–6 months; then 9–12 and 24 months if no change
$> 8$ mm	Follow-up CT at 3, 9, and 24 months; dynamic contrast-enhanced CT, PET, and/or biopsy	Same as low-risk patient

(a) Average of largest and smallest axial diameters of the nodule

(b) No smoking history and absence of other risk factors

(c) Previous or current smoking history or other risk factors

(d) Risk of malignancy ( $< 0.1\%$ ) is substantially lower than for an asymptomatic smoker\*\*ACCP guidelines (see MK Gould et al: *Chest* 2007;132(suppl 3):108s-130S.

\*\*\*Consider patient preference, severity of medical comorbidities, center specific expertise prior to tissue diagnosis.

B

**FIGURE 107-6** A. Algorithm for evaluation of solitary pulmonary nodule (SPN). B. Algorithm for evaluation of solid SPN. C. Algorithm for evaluation of semisolid SPN. CT, computed tomography; CXR, chest radiograph; GGN, ground-glass nodule; PET, positron emission tomography; TTBx, transbronchial biopsy; TTNA, transthoracic needle biopsy. (Adapted from VK Patel et al: *Chest* 143:840, 2013.)

patients with excellent pulmonary reserve. The 5-year survival rates are 60–80% for patients with stage I NSCLC and 40–50% for patients with stage II NSCLC.

Accurate pathologic staging requires adequate segmental, hilar, and mediastinal lymph node sampling. Ideally this includes a mediastinal lymph node dissection. On the right side, mediastinal stations 2R, 4R, 7, 8R, and 9R should be dissected; on the left side, stations 5, 6, 7, 8L, and 9L should be dissected. Hilar lymph nodes are typically resected and sent for pathologic review, although it is helpful to specifically dissect and label level 10 lymph nodes when possible. On the left side, level 2 and sometimes level 4 lymph nodes are generally obscured by the aorta. Although the therapeutic benefit of nodal dissection versus nodal sampling is controversial, a pooled analysis of three trials involving patients with stages I to IIIA NSCLC demonstrated a superior 4-year survival in patients undergoing resection and a complete mediastinal lymph node dissection compared with lymph node sampling. Moreover, complete mediastinal lymphadenectomy added little morbidity to a pulmonary resection for lung cancer when carried out by an experienced thoracic surgeon.

**Radiation Therapy in Stages I and II NSCLC** There is currently no role for postoperative radiation therapy in patients following resection of stage I or II NSCLC. However, patients with stage I and II disease

who either refuse or are not suitable candidates for surgery should be considered for radiation therapy with curative intent. Stereotactic body radiation therapy (SBRT) is a relatively new technique used to treat patients with isolated pulmonary nodules ( $\leq 5$  cm) who are not candidates for or refuse surgical resection. Treatment is typically administered in three to five fractions delivered over 1–2 weeks. In uncontrolled studies, disease control rates are  $> 90\%$ , and 5-year survival rates of up to 60% have been reported with SBRT. By comparison, survival rates typically range from 13 to 39% in patients with stage I or II NSCLC treated with standard external-beam radiotherapy. Cryoablation is another technique occasionally used to treat small, isolated tumors (i.e.,  $\leq 3$  cm). However, very little data exist on long-term outcomes with this technique.

**Chemotherapy in Stages I and II NSCLC** Although a landmark meta-analysis of cisplatin-based adjuvant chemotherapy trials in patients with resected stages I to IIIA NSCLC (the Lung Adjuvant Cisplatin Evaluation [LACE] Study) demonstrated a 5.4% improvement in 5-year survival for adjuvant chemotherapy compared to surgery alone, the survival benefit was seemingly confined to patients with stage II or III disease (Table 107-10). By contrast, survival was actually worsened in stage IA patients with the application of adjuvant therapy. In stage IB, there was a modest improvement in survival of questionable clinical significance. Adjuvant chemotherapy was