decreased oxygen saturation—at rest or with exertion—that, without treatment, progresses to severe hypoxemia. Patients may initially have a normal chest examination and no adventitious sounds, but later develop diffuse rales and signs of consolidation.

Laboratory Findings The results of routine laboratory tests are nonspecific in PCP. Serum levels of lactate dehydrogenase (LDH) are often elevated as a result of pulmonary damage; however, a normal LDH level does not rule out PCP, nor is an elevated LDH value specific for PCP. The peripheral white blood cell count may be elevated in relation to the patient's baseline values, but the increase is usually modest. Hepatic and renal function are typically normal.

Radiographic Findings Although the initial chest radiograph may be normal when patients have mild symptoms, the classic radiographic appearance of symptomatic PCP consists of diffuse bilateral interstitial infiltrates that are perihilar and symmetric **(Fig. 220-2*A*)**—yet another finding that is not specific for PCP. The interstitial infiltrates can progress to alveolar filling **(Fig. 220-2*B*)**. High-resolution chest CT shows diffuse ground-glass opacities in virtually all patients with PCP, often before a routine chest radiograph becomes abnormal **(Fig. 220-2*C*)**. A normal chest CT essentially rules out the diagnosis of PCP. Pneumatoceles and pneumothoraces are characteristic chest radiographic findings, especially in patients with HIV infection **(Fig. 220-2*D*)**. A wide variety of atypical radiographic findings have been described, including asymmetric patterns, upper-lobe infiltrates, mediastinal adenopathy, nodules, cavities, and effusions.