TABLE 47e-3 COMMON CAUSES OF NONCARDIOGENIC PULMONARY EDEMA

Direct Injury to Lung
Chest trauma, pulmonary contusion
Aspiration
Smoke inhalation
Pneumonia
Oxygen toxicity
Pulmonary embolism, reperfusion
Hematogenous Injury to Lung
Sepsis
Pancreatitis
Nonthoracic trauma
Leukoagglutination reactions
Multiple transfusions
Intravenous drug use (e.g., heroin)
Cardiopulmonary bypass
Possible Lung Injury Plus Elevated Hydrostatic Pressures
High-altitude pulmonary edema
Neurogenic pulmonary edema
Reexpansion pulmonary edema

DISTINGUISHING CARDIOGENIC FROM NONCARDIOGENIC PULMONARY EDEMA

The *history* is essential for assessing the likelihood of underlying cardiac disease as well as for identification of one of the conditions associated with noncardiogenic pulmonary edema. The *physical examination* in cardiogenic pulmonary edema is notable for evidence of increased intracardiac pressures (S3 gallop, elevated jugular venous pulse, peripheral edema) and rales and/or wheezes on auscultation of the chest. In contrast, the physical examination in noncardiogenic pulmonary edema is dominated by the findings of the precipitating condition; pulmonary findings may be relatively normal in the early stages. The *chest radiograph* in cardiogenic pulmonary edema typically shows an enlarged cardiac silhouette, vascular redistribution, interstitial thickening, and perihilar alveolar infiltrates; pleural effusions are common. In noncardiogenic pulmonary edema, heart size is normal, alveolar infiltrates are distributed more uniformly throughout the lungs, and pleural effusions are uncommon. Finally, the *hypoxemia* of cardiogenic pulmonary edema is due largely to $\dot{V}/Q$ to mismatch and responds to the administration of supplemental oxygen. In contrast, hypoxemia in noncardiogenic pulmonary edema is due primarily to intrapulmonary shunting and typically persists despite high concentrations of inhaled oxygen.