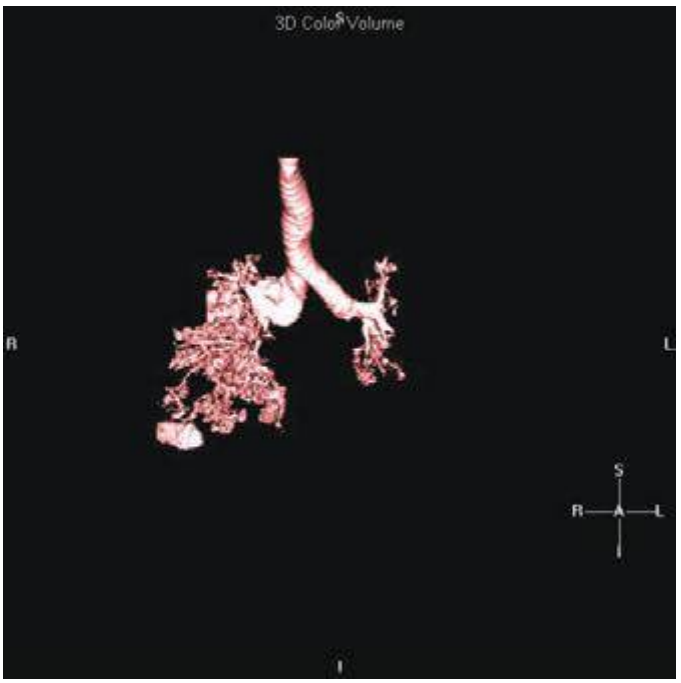
A

B

FIGURE 307-2 Chest x-ray (*A*) and computed tomography (CT) scan (*B*) demonstrating a right lower-lobe mass. The mass is not well appreciated on the plain film because of the hilar structures and known calcified adenopathy. CT is superior to plain radiography for the detection of abnormal mediastinal densities and the distinction of masses from adjacent vascular structures.

A



B

FIGURE 307-3 Spiral computed tomography (CT) with reconstruction of images in planes other than axial view. Spiral CT in a lung transplant patient with a dehiscence and subsequent aneurysm of the anastomosis. CT images were reconstructed in the sagittal view (***A***) and using digital subtraction to view images of the airways only (***B***), which demonstrate the exact location and extent of the abnormality.

increased image reconstruction ability. As the technology has progressed, higher numbers (currently up to 64) of detectors are used to produce clearer final images. MDCT allows for even shorter breath holds, which are beneficial for all patients but especially children, the elderly, and the critically ill. However, it should be noted that despite the advantages of MDCT, there is an increase in radiation dose compared to single-detector CT to consider.

In MDCT, the additional detectors along the *z*-axis result in improved use of the contrast bolus. This and the faster scanning times and increased resolution have all led to improved imaging of the pulmonary vasculature and the ability to detect segmental and subsegmental emboli. CT pulmonary angiography (CTPA) also allows simultaneous detection of parenchymal abnormalities that may be contributing to a patient's clinical presentation. Secondary to these