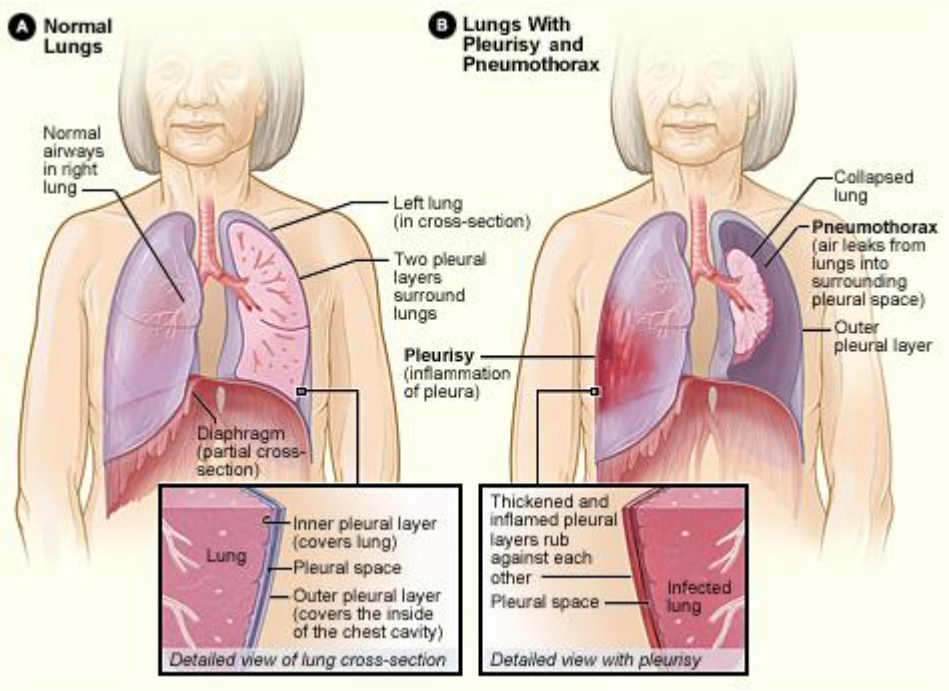
5.2.3

Pneumothorax and Pleuritis

There are clinical emergencies when the important negative pressure inside the pleural cavity becomes compromised. **Pleuritis** is an infection of the pleura and may cause excess fluid to build up in the pleural cavity. With too much fluid, the visceral and parietal layers are no longer attracted to each other and the lung collapses. Conversely, if air is introduced into the pleural cavity from a stab wound or a gunshot, the lungs will also collapse. Air may also be introduced internally such as when a rib cuts the surface of the lung or when an alveolus ruptures.

Air in the pleural cavity is called a **pneumothorax.** A **tension pneumothorax** occurs when air is allowed to enter the pleural cavity during inspiration but not exit during expiration. This can happen if damaged tissue forms a one-way valve. This pressure builds up in the thoracic cavity and may put pressure on veins returning blood to the heart. If the added pressure on the veins results in a decrease in venous return then the resultant decreased cardiac output may be life-threatening. In an ER environment, a large needle is inserted between the ribs into the pleural cavity to relieve the pressure from a tension pneumothorax. In the movie *"Just Like Heaven",* a doctor played by Reese Witherspoon saved a man suffering from tension pneumothorax in a restaurant. She made an incision into the thorax with a kitchen knife and then shoved the tube part of a pen between his ribs to relieve the pressure. Another type of alveolar collapse is called **atelectasis;** however, this condition is not due to a pneumothorax but rather it happens when alveoli become under-inflated. One type of atelectasis is absorption atelectasis which could happen when an alveolus becomes under-inflated due to bronchial or bronchiolar blockage.



Pneumothorax.

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