CHAPTER 18

Pulmonary System Medications

The body depends on the respiratory, or pulmonary, system to bring oxygen to the cells and dispose of carbon dioxide. If this system works improperly, immediate medication may be needed. The fastest method for conveying medication to the lungs is through inhalation.

LEARNING OUTCOMES

At the end of this chapter, you should be able to:

- **18.1** Define all key terms.
- **18.2** Describe how the respiratory system functions to exchange oxygen and carbon dioxide.
- **18.3** Discuss the actions of mast cell stabilizers, bronchodilators, anticholinergics, xanthines, and beta-adrenergic agonists used in the treatment of asthma and other respiratory disorders.
- **18.4** Describe two medications that may be used to treat a viral respiratory illness.
- **18.5** Compare and contrast antitussive and expectorant medications and when each is appropriate to use.
- **18.6** Discuss tuberculosis and how it is treated.

KEY TERMS

Alveoli
Apnea
Chronic obstructive pulmonary disease (COPD)
Dyspnea
Expiration
Hypoxia
Inspiration
Latent tuberculosis (TB)
Purified protein derivative (PPD)
Respiration
Respiratory syncytial virus (RSV)

THE PULMONARY SYSTEM

The pulmonary system is responsible for **respiration**—the process of inhaling oxygen (O_2) into the bloodstream and exhaling the waste in the form of carbon dioxide (CO_2). It works with the musculoskeletal system during this process. To survive, the muscles need O_2 supplied and CO_2 removed. The diaphragm, the large muscle under the stomach, facilitates breathing. When the diaphragm contracts, the lungs are compressed, and CO_2 is expelled up through the bronchial tubes and trachea, out of the mouth, and into the air. This outward movement of air is known as **expiration.** The now mostly empty lungs inhale O_2 from the air; the inward movement of air is called **inspiration.** Both require energy (Fig. 18-1).