

result in additional bronchodilation in patients with severe airflow obstruction. An IV infusion is often initiated to provide a means for hydration and to administer medications. Correction of dehydration, acidosis, hypoxia, and electrolyte disturbance is guided by frequent determination of arterial pH, blood gases, and serum electrolytes.

Additional therapies in acute asthma attacks include the use of IV magnesium sulfate, a potent muscle relaxant that decreases inflammation and improves pulmonary function and peak flow rate among patients with moderate to severe asthma when treated in the ED or ICU. Heliox may be administered to decrease airway resistance and thereby decrease the work of breathing; heliox can be delivered via a nonrebreathing face mask from premixed tanks, which may be blended in a stand-alone unit or within a ventilator. Heliox may be used in acute exacerbations as an adjunct to β_2 -agonist and IV corticosteroid therapy to improve pulmonary function until the two latter medications have time to take full effect in decreasing bronchospasm; whereas the effects of heliox are usually seen within 20 minutes of administration, other drugs may take longer to exert the desired effect. Ketamine, a dissociative anesthetic, is believed to cause smooth muscle relaxation and decrease airway resistance caused by severe bronchospasm in acute asthma; it may be administered as an adjunct to other therapies mentioned previously, although evidence on the use of this in asthma is limited. Antibiotics should not be used to treat stable asthma except when a bacterial infection is present; however, macrolide antibiotics can be considered in patients with refractory asthma or with a presumed *M. pneumoniae*– or *C. pneumoniae*–related infection ([Rollins, Good, and Martin, 2014](#)).

A child suspected of having status asthmaticus is usually seen in the ED and is often admitted to a pediatric ICU for close observation and continuous cardiorespiratory monitoring. A key component in the prevention of morbidity is helping the child, parents, teachers, coaches, and other adults recognize features of deteriorating respiratory status, use the correct rescue drugs effectively, and immediately place the child with deteriorating respiratory status into the care of health care professionals instead of waiting to see if the asthma gets better on its own. For the child going into early status asthmaticus, immediate medical care is