

Acute LTB is the most common croup syndrome. It primarily affects children 6 months to 3 years old, and the causative organisms are viral agents, particularly the parainfluenza virus types 1, 2 and 3, adenovirus, enterovirus, RSV, rhinovirus, and influenza A and B (Zoorob, Sidani, and Murray, 2011). Bacterial organisms are rarely a causative organism but can include *M. pneumonia* and diphtheria (Zoorob, Sidani, and Murray, 2011). The disease is usually preceded by a URI, which gradually descends to adjacent structures. It is characterized by a gradual onset of low-grade fever, and the parents often report that the child went to bed and later awoke with a barky, brassy cough. Inflammation of the mucosal lining the larynx and trachea causes a narrowing of the airway. When the airway is significantly narrowed, the child struggles to inhale air past the obstruction and into the lungs, producing the characteristic inspiratory stridor and suprasternal retractions. Other classic manifestations include cough and hoarseness. Respiratory distress in infants and toddlers may be manifested by nasal flaring, intercostal retractions, tachypnea, and continuous stridor. The typical child with LTB develops the classic barking or seal-like cough and acute stridor after several days of rhinitis. When the child is unable to inhale a sufficient volume of air, symptoms of hypoxia become evident. Obstruction that is severe enough to prevent adequate ventilation and exhalation of carbon dioxide can cause respiratory acidosis and eventually respiratory failure.

Therapeutic Management

The major objective in medical management is maintaining the airway and providing adequate respiratory exchange. Children with mild croup (no stridor at rest) can be managed at home. Parents are taught the signs of respiratory distress and instructed to obtain professional help early if needed. Children with labored respirations and stridor or other respiratory symptoms should receive medical attention.

The application of humidity with cool mist provides some relief for most children with mild croup. In the hospital, mist may be provided with a face mask or as blow-by. Controversy surrounds the use of mist therapy to treat croup. The cool-temperature therapy modalities assist by constricting edematous blood vessels. A ride in