

intravenous (IV) line. Respiratory problems include inhalation injuries, aspiration in unconscious patients, bacterial pneumonia, pulmonary edema, pulmonary embolus, posttraumatic pulmonary insufficiency, and atelectasis. The most common cause of respiratory failure in the pediatric age group is bacterial pneumonia, which requires prolonged intubation and sometimes a tracheostomy. Tracheostomies increase the incidence of serious complications and are performed only in extreme cases.

A less common complication is pulmonary edema resulting from fluid overload or acute respiratory distress syndrome (ARDS) in association with gram-negative sepsis. ARDS results from pulmonary capillary damage and leakage of fluid into the interstitial spaces of the lung. A loss of compliance and interference with oxygenation are the consequences of pulmonary insufficiency in conjunction with systemic sepsis.

### **Wound Sepsis**

Sepsis is a critical problem in the treatment of burns and an ever-present threat after the burn shock phase. Decreased level of consciousness and lethargy are early signs of sepsis. Initially, burn wounds are relatively pathogen free unless they are contaminated with potentially infectious material, such as dirt or polluted water. However, dead tissue and exudate provide a fertile field for bacterial growth. On approximately the third post-burn day, early colonization of the wound surface by a preponderance of gram-positive organisms (primarily staphylococci) changes to predominantly gram-negative opportunistic organisms, particularly *Pseudomonas aeruginosa*. By the fifth post-burn day, bacterial invasion is well under way beneath the surface of the burn wound. Early surgical excision of eschar together with placement of autograft reduces the incidence of sepsis.

## **Therapeutic Management**

### **Emergency Care**

The initial management of the burn patient begins at the scene of injury. The first priority is to stop the burning process (see [Emergency Treatment](#) box). The child should then be transported immediately to the nearest medical facility for treatment and