

symptoms occurring from a cytokine-mediated inflammatory response after treatment has begun. Evidence indicates that dexamethasone therapy decreases the risk of neurologic sequelae in children with *H. influenza* type b meningitis, but data regarding the benefits in other types of bacterial meningitis are inconclusive ([Prober and Matthew, 2016](#)).

Signs of gastrointestinal hemorrhage or secondary infection may complicate steroid administration. Antibiotic treatment with cephalosporins demonstrates superiority for promptly sterilizing the CSF and reducing the incidence of severe hearing impairment.

### Nonspecific Measures

Maintaining hydration is a prime concern, and the patient's condition determines the type and amount of IV fluids. The optimum hydration involves correction of any fluid deficits and electrolyte abnormalities followed by fluid restriction until normal serum sodium levels and no signs of increased ICP are present. If needed, measures to decrease ICP are implemented (see earlier in this chapter). Long-term fluid restriction is not the standard of care, because a lack of adequate fluid volume can reduce blood pressure and CPP, causing CNS ischemia ([Prober and Matthew, 2016](#)).

Complications, such as aspiration of subdural effusion in infants and treatment for disseminated intravascular coagulation syndrome, are treated appropriately. Shock is managed by restoration of circulating blood volume and maintenance of electrolyte balance. Seizures can occur during the first few days of treatment. These are controlled with the appropriate antiepileptic drug. Hearing loss is common. The patient should undergo auditory evaluation 6 months after the illness has resolved.

Lumbar puncture is carried out as needed to determine the effectiveness of therapy. The patient is evaluated neurologically during the convalescent period.

### Prognosis

Less than 10% of cases of bacterial meningitis are fatal ([Thigpen, Whitney, Messonnier, et al, 2011](#)). The child's age, duration of illness before antibiotic therapy, rapidity of diagnosis after onset, type of organism, and adequacy of therapy are important in the