bacteria, especially meningococci and pneumococci organisms; (2) viral, or aseptic, caused by a wide variety of viral agents; and (3) tuberculous, caused by the tuberculin bacillus. The majority of children with acute febrile encephalopathy have either bacterial meningitis or viral meningitis as the underlying cause.

Bacterial Meningitis

Bacterial meningitis is an acute inflammation of the meninges and CSF. Suspected bacterial meningitis is a medical emergency, and immediate action must be taken to identify the causative organism and to initiate prompt treatment.

The advent of antimicrobial therapy has had a significant effect on the course and prognosis of children with bacterial meningitis. The introduction of conjugate vaccines against *Haemophilus influenzae* type b (Hib vaccine) in 1990 and *Streptococcus pneumoniae* (pneumococcus) in 2000 has led to dramatic changes in the epidemiology of bacterial meningitis (see Translating Evidence into Practice box later in this chapter).

Since the introduction of widespread vaccination for *S. pneumoniae,* the incidence of pneumococcal meningitis in children in the United States has decreased 62%, but it remains the most common cause of meningitis in children 3 months to 11 years old (Thigpen, Whitney, Messonnier, et al, 2011). The fatality rate for *S. pneumoniae* has not significantly changed, with a rate of 17.9% noted in 1999 and a rate of 14.7% noted in 2007 (Thigpen, Whitney, Messonnier, et al, 2011).

Currently *S. pneumoniae* is the leading cause of bacterial meningitis in children 3 months to 11 years old, whereas *Neisseria meningitidis* is the leading cause in children 11 to 17 years old (Thigpen, Whitney, Messonnier, et al, 2011). The leading causes of neonatal meningitis are group b streptococci (Thigpen, Whitney, Messonnier, et al, 2011). Meningococcal meningitis occurs in epidemic form and is the only type readily transmitted by droplet infection from nasopharyngeal secretions. Although this condition may develop at any age, the risk of meningococcal infection increases with the number of contacts; therefore, it occurs predominantly in school-age children and adolescents. College students, especially those living in dormitory residences, are at