coronaviruses, influenza virus, adenoviruses, and human metapneumovirus. The bacteria most commonly isolated are *Streptococcus pneumoniae*, nontypeable *Haemophilus influenzae*, and *Moraxella catarrhalis*.

**Symptoms and Signs** Symptoms of AOM include ear pain, fever, irritability, otorrhea, and anorexia. Physical examination may be notable for a bulging, inflamed, cloudy tympanic membrane, with obscured landmarks, and immobility of the membrane on pneumatoscopy, the Valsalva maneuver, or swallowing while holding the nose shut. (An immobile tympanic membrane is also indicative of perforation, old middle-ear adhesions, a blocked auditory tube, or the presence of middle-ear fluid.) Patients have conductive hearing loss. Severe signs and symptoms include moderate to severe otalgia, otalgia lasting at least 2 days, and a temperature of >102.2°F.

AOM should be diagnosed in children with moderate to severe bulging of the tympanic membrane or new-onset otorrhea (not due to otitis externa). With mild bulging of the tympanic membrane, AOM can also be diagnosed if the patient has had symptoms for <48 h or if there is intense erythema of the tympanic membrane. AOM should *not* be diagnosed in children who do not have middle-ear effusion.

## TREATMENT

# Acute Otitis Media

Pain from AOM should be treated with NSAIDs or acetaminophen, which are effective for mild to moderate pain. Topical agents like benzocaine, procaine, or lidocaine may provide some additional, brief benefit beyond that offered by NSAIDs or acetaminophen.

In up to 80% of children, AOM resolves without antibiotics. Indications for antibiotic treatment in children include an age of <6 months, bilateral ear findings in children 6 months to 2 years old, otorrhea in children >6 months old, and—in children of all ages—ear findings with severe otalgia, ear pain for >48 h, or a fever of >102.2°F **(Table 35-1)**.