

procedure may be performed in outpatient settings. These procedures should only be performed by ear, nose, and throat (ENT) specialists ([Yousaf, Malik, and Zada, 2014](#)).

Tympanostomy tube placement and adenoidectomy are surgical procedures that may be done to treat recurrent chronic OM (defined as three bouts in 6 months, six in 12 months, or six by 6 years of age). Tympanostomy tubes are pressure-equalizer (PE) tubes or grommets that facilitate continued drainage of fluid and allow ventilation of the middle ear. They are inserted to treat severe eustachian tube dysfunction, OME, or complications of OM (mastoiditis, facial nerve paralysis, brain abscess, labyrinthitis). Adenoidectomy is not recommended for treatment of AOM and is performed only in children with recurrent AOM or chronic OME with postnasal obstruction, adenoiditis, or chronic sinusitis.

In some children, residual middle ear effusions remain after episodes of AOM. Some children have fluid that persists in the middle ear for weeks or months. Antibiotics are not required for initial treatment of OME but may be indicated for children with persistent effusion for more than 3 months ([van Zon, van der Heijden, van Dongen, et al, 2012](#)). Placement of tympanostomy tubes is recommended after a total of 4 to 6 months of bilateral effusion with a bilateral hearing deficit ([Zakrzewski and Lee, 2013](#)). This therapy allows for mechanical drainage of the fluid, which promotes healing of the membrane and prevents scar formation and loss of elasticity. Myringotomy with or without insertion of PE tubes should not be performed for initial management of OME but may be recommended for children who have recurrent episodes of OME with a long cumulative duration ([Zakrzewski and Lee, 2013](#)).

OME is frequently associated with mild to moderate impairment of hearing; therefore, a hearing test should also be performed if OME persists for 3 months or more or if there is evidence of language or learning delays. Follow-up examinations of children with chronic OME should be maintained on a 3- to 6-month basis until the OME is resolved, a significant hearing loss is identified, or structural defect of the tympanic membrane or middle ear is identified ([Rosenfeld, Schwartz, Pynnonen, et al, 2013](#)). Children with hearing loss should be referred to a pediatric otolaryngologist and possibly a pediatric allergist for identification and treatment of the cause. They should receive a speech and language evaluation as