Quick Update - AFP

Otitis Media: Rapid Evidence Review

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TABLE 1

Risk Factors for Acute Otitis Media in Children

Nonmodifiable risk factors

Age younger than five years
Craniofacial abnormalities
Family history of ear infections
Low birth weight (less than 2.5 kg [5 lb, 8 oz])
Male sex
Premature birth (before 37 weeks of gestation)
Prior ear infections
Recent viral upper respiratory tract infection
White ethnicity

Potentially modifiable risk factors

Exposure to tobacco smoke or environmental air pollution
Factors increasing crowded living conditions (e.g., cold seasons, low socioeconomic level, day care/school)
Gastroesophageal reflux
Lack of breastfeeding
Pacifier use after six months of age
Supine bottle feeding (bottle propping)

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TABLE 2

Treatment Recommendations for Initial Management of AOM in Children Six Months and Older

Examination findings	Treatment
AOM with otorrhea	Antibiotic therapy
AOM with severe symptoms* or if follow-up cannot be guaranteed	Antibiotic therapy
Bilateral AOM without otorrhea	Six months to two years of age: antibiotic therapy Two years and older: antibiotic therapy or observation without initial antibiotic treatment†
Unilateral AOM without otorrhea	Antibiotic therapy or observation without initial antibiotic treatment†

AOM = acute otitis media.

*—Toxic-appearing child, persistent ear pain lasting more than 48 hours, or temperature of 102.2°F (39°C) or higher within the previous 48 hours.
†—Mechanism must be in place to ensure follow-up within 48 to 72 hours.

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BEST PRACTICES IN INFECTIOUS DISEASE

Recommendations from the Choosing Wisely Campaign

Recommendation	Sponsoring organization
Do not prescribe antibiotics for otitis media in children two to 12 years of age with nonsevere symptoms if the observation option is reasonable.	American Academy of Family Physicians

Source: For more information on the Choosing Wisely Campaign, see https://www.choosingwisely.org. For supporting citations and to search Choosing Wisely recommendations relevant to primary care, see https://www.aafp.org/afp/recommendations/search.htm.

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SORT: KEY RECOMMENDATIONS FOR PRACTICE

Clinical recommendation	Evidence rating	Comments
AOM should be diagnosed in symptomatic children with moderate to severe bulging of the tympanic membrane or new-onset otorrhea not caused by otitis externa, and in children with mild bulging and either recent-onset ear pain (less than 48 hours) or intense erythema of the tympanic membrane.[7]	C	Practice guideline from the AAP, which is based on consistent evidence from observational studies
Pneumatic otoscopy with or without tympanometry should be used to assess the tympanic membrane for effusion in patients with suspected AOM.[7,9]	C	Expert opinion and practice guideline from the AAP, which is based on consistent evidence from observational studies
If antibiotics are used for AOM, high-dose amoxicillin (80 to 90 mg per kg per day in two divided doses) is first-line therapy.[7]	C	Practice guideline from the AAP, which is based on consistent evidence from observational studies
Consider observation for 48 to 72 hours with deferment of antibiotic therapy in lower-risk children with AOM.[7,10]	B	Practice guideline from the AAP, which is based on consistent evidence from observational studies; Cochrane review on antibiotics for acute otitis media in children
Pain should be treated as needed in children with AOM.[7]	C	Practice guideline from the AAP, which is based on consistent evidence from observational studies

AAP = American Academy of Pediatrics; AOM = acute otitis media.

A = consistent, good-quality patient-oriented evidence; **B** = inconsistent or limited-quality patient-oriented evidence; **C** = consensus, disease-oriented evidence, usual practice, expert opinion, or case series. For information about the SORT evidence rating system, go to https://www.aafp.org/afpsort.

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- Other causes of ear pain and erythema of the tympanic membranes, including vascular engorgement from crying, viral and hemorrhagic myringitis, and aberrant tympanic membrane vessels, should be considered before diagnosing AOM.[31]
- Parents should be counseled that fever and ear pain may persist for 48 to 72 hours after initiation of antibiotics. However, parents should seek care immediately if the child is vomiting or has a high fever, headaches, or pain behind the ear.

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- AOM often follows a viral upper respiratory tract infection. Influenza vaccination leads to a 4% absolute reduction in AOM episodes and a 30% to 55% reduction in AOM during the respiratory illness season.[7,18] Children older than six months should receive annual influenza vaccination.[19]
- Breastfeeding reduces the risk of AOM. Longer duration of breastfeeding provides greater protection for children younger than two years.[20] Exclusive breastfeeding until six months of age reduces the risk by 43%.[7,20]