

Diagnosis¹⁻⁴

- Moderate to severe bulging of the tympanic membrane or new-onset ear drainage (otorrhea) with signs and symptoms of middle-ear inflammation (e.g., ear pain, fever)
- Severe symptoms include ill appearance, moderate to severe otalgia, otalgia lasting at least 2 days, or temperature of 39 degrees Celsius (102.2 degrees Fahrenheit) or greater
- Most common bacterial pathogens causing acute otitis media (AOM) are *Streptococcus pneumoniae* (~25%), nontypeable *Haemophilus influenzae* (~50%), and *Moraxella catarrhalis* (~15%)

Treatment⁵

Age	Otorrhea With AOM	Unilateral or Bilateral AOM With Severe Symptoms	Bilateral AOM Without Otorrhea and Without Severe Symptoms	Unilateral AOM Without Otorrhea and Without Severe Symptoms
<6 months	Antibiotics	Antibiotics	Antibiotics	Antibiotics
6 months to < 2 years	Antibiotics	Antibiotics	Antibiotics	Antibiotics or observation
2 years and older	Antibiotics	Antibiotics	Consider observation	Antibiotics or observation

- For children <6 months old, a thorough examination should rule out other causes of infection, particularly for children with severe symptoms. If unilateral or bilateral AOM is confirmed, antibiotics are indicated due to risk for severe or systemic infection in infants with waning maternal antibodies and immature immune systems.⁶
- The decision to observe a child with AOM should be made in collaboration with the caregiver and with a plan for close followup.
- Amoxicillin (high-dose) is the preferred therapy for AOM.
 - Amoxicillin covers almost all *Streptococcus pneumoniae* and a large portion of *Haemophilus influenzae*
 - *S. pneumoniae* is associated with greater clinical severity than other pathogens, as reflected by high fever, more intense otalgia, and a higher potential for complications such as bacteremia, meningitis, and mastoiditis.
- Amoxicillin-clavulanate is recommended in children with AOM who:
 - Do not improve after 48–72 hours of amoxicillin
 - Have received amoxicillin within the previous 30 days
 - Have concurrent purulent conjunctivitis (most commonly caused by *H. influenzae*)
 - Have a history of recurrent AOM unresponsive to amoxicillin
- Alternative agents for children with nonsevere penicillin allergies or intolerance to amoxicillin-clavulanate include cefdinir, cefuroxime, cefpodoxime, or ceftriaxone (intramuscular or intravenous daily for up to three doses).
- Levofloxacin can be considered for children with severe penicillin allergies.

Duration^{5,7,8}

- <2 years old or severe symptoms at any age: 10 days
- 2–5 years: 7 days
- ≥6 years: 5–7 days

Followup

- When a decision is made to observe without antibiotics, a clear plan should be made with the parent for when the child should return to medical attention.⁵
- Patients should seek medical attention if the child worsens or fails to improve within 48–72 hours of initiating antibiotics; if the child is becoming confused, lethargic, or increasingly tired; or if the child is ill appearing.⁵
- Consider a referral to pediatric otolaryngology if the child is not ill appearing but has persistent symptoms despite antibiotic changes. Also consider a pediatric otolaryngology referral for children with either chronic otitis media (>3 months of middle ear effusion without infection) or recurrent ear infections (at least three episodes of AOM in 6 months or four episodes of AOM within 12 months).⁹

References

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