

Guidelines for Diagnosis and Management of Acute Otitis Media 2009

Guideline History

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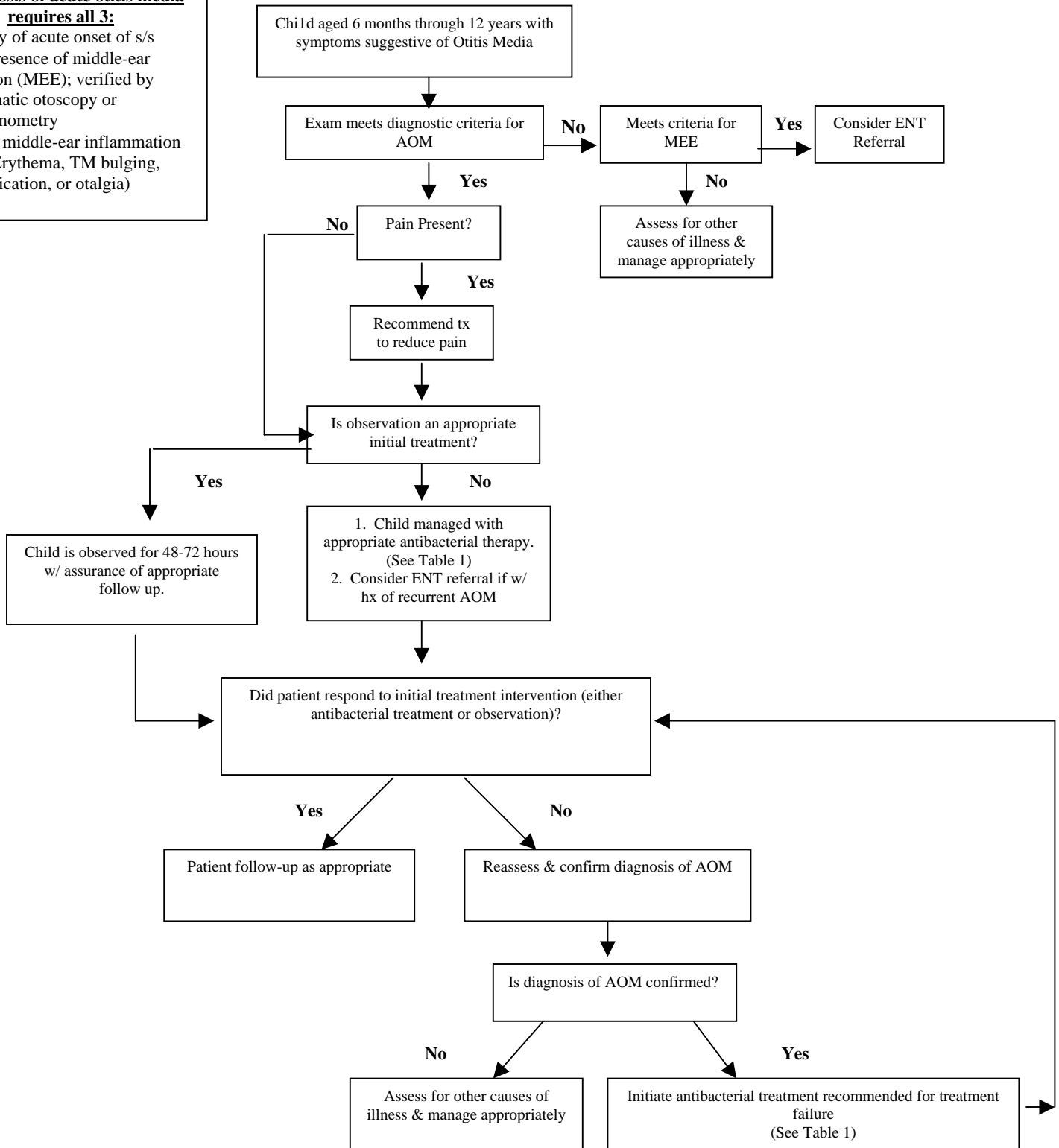
Caveats

1. Experts feel there is significant over and under diagnosis of Acute Otitis Media (AOM) and Middle Ear Effusion (MEE).
2. The accurate diagnosis of Acute Otitis Media (AOM) requires 1) rapid onset of signs and symptoms such as fever, otalgia (ear pulling), otorrhea, irritability; and 2) evidence of MEE (fluid level, bubbles) confirmed with the use of pneumatic otoscopy but can be supplemented by tympanometry or acoustic reflectometry, or presence of fluid in the external auditory canal as a result of tympanic membrane (TM) rupture; and 3) presence of middle ear inflammation (TM erythema, TM fullness or bulging, opacification, otalgia).
3. Abnormal ear exam showing fluid in the absence of s/s = MEE.
4. The use of anti-inflammatory medication such as prednisone in combination w/ an antibiotic may be considered in the child w/ persistent MEE although the literature on the value of such RX is unclear at present.
5. The child under two years of age with persistent MEE needs special attention since most speech acquisition occurs in this time frame. The use of the Early Language Milestone Scale-2 (ELM) as a means of screening for speech delays should be a part of the evaluation of these children if a formal audiological evaluation isn't done.

Diagnosis and Management of Acute Otitis Media

A diagnosis of acute otitis media requires all 3:

- ❖ History of acute onset of s/s
- ❖ The presence of middle-ear effusion (MEE); verified by pneumatic otoscopy or tympanometry
- ❖ S/S of middle-ear inflammation (TM Erythema, TM bulging, opacification, or otalgia)



****Antibacterial choice should be guided by the likely pathogen(s) in the community and clinical experience****

Algorithm Annotations

Criteria for antibacterial treatment or observation in children with non-severe illness:

- < 6 months: antibacterial treatment
- 6 months to 2 years: antibacterial treatment with certain diagnosis or severe illness or observation with uncertain diagnosis and non-severe illness.
- 2 years and older: antibacterial treatment if severe illness or observe with non-severe illness with certain diagnosis; observation for uncertain diagnosis.

Diagnostic criteria for recurrent acute otitis media

A minimum of three or more episodes of acute otitis media in a six-month period or during a respiratory season or four or more in a year

Children at increased risk of recurrent acute otitis media

- Cleft palate, craniofacial abnormalities and Down's syndrome (very high-risk category)
- First episode early (under six months)
- Family history of recurrent acute otitis media in a sibling or parent
- Day care attendance
- Exposure to tobacco smoke
- Not breast-fed
- Ethnic origin: Native American or Inuit (Eskimo)

Consider ENT Referral

A child should meet one of the following criteria for ear, nose and throat (ENT) specialist referral for consideration of ventilating tubes:

- ◆ Impending or actual complication of otitis media including:
 - Mastoiditis
 - Facial nerve paralysis
 - Lateral (sigmoid) sinus thrombosis
 - Meningitis
 - Brain abscess
 - Labyrinthitis
- ◆ Patients in high-risk categories should be referred to an ear, nose and throat specialist; patients with craniofacial anomalies, Down's syndrome, cleft palate, and patients with speech and language delay
- ◆ Recurrent acute otitis media that fails medical management (greater than three episodes in six months or greater than four episodes in one year) with failure of prophylaxis defined as recurrence times two on prophylaxis in a two- to six- month time period
- ◆ Refractory acute otitis media with moderate to severe symptoms unresponsive to at least two antibiotics
- ◆ Bilateral or unilateral otitis media with effusion persisting for at least three months with hearing threshold of 20 dB or worse

- ◆ Development of advanced middle-ear disease involving tympanic membrane atrophy, retraction pockets, ossicular erosion or cholesteatoma
- ◆ Medical treatment failure secondary to multiple drug allergy or intolerance
- ◆ At least two recurrences of otitis media within two to three months following ventilating tube extrusion with failed medical management
- ◆ History of six or more months of effusions out of the previous twelve months

Children at increased risk for otitis media include those under two years of age, those who have an episode of otitis media at less than six months of age, children in day care, and children who have a positive family history of otitis media.

Caregiver is informed and agrees to the option of observation. Caregiver is able to monitor child and return should conditions worsen. Systems are in place for ready communication with the clinician, reevaluation, and obtaining medication if necessary.

Recommendations

(Adapted from the AAP Subcommittee on Management of Acute Otitis Media)

1. Confirm a history of acute onset, identify signs of middle-ear effusion (MEE), & evaluate for s/s of middle-ear inflammation.
2. Assess pain. If pain is present, the provider **SHOULD RECOMMEND** treatment(s) to reduce pain.
3. A. Options for an uncomplicated AOM include observation without antibacterial agents based:
 - On diagnostic certainty
 - Age
 - Severity of illness
 - Follow up

This option should be limited to otherwise healthy children 6 months to 2 years of age with non-severe illness at presentation and uncertain diagnosis and to children 2 years of age and older without severe symptoms at presentation or with an uncertain diagnosis.

B. If treating with an antibacterial agent i.e. Amoxicillin, Amoxicillin at a dose of 80-90 mg/kg/day is the initial antibacterial of choice for most children.
4. If the member doesn't respond to initial treatment within 48 to 72 hours, reassess and confirm AOM. If AOM is confirmed, begin an antibacterial agent. If initially managed on an antibacterial agent(s) change antibacterial agent(s). See Table 1
5. Prevention (AAP/AAFP Subcommittee on Management of AOM).
 - Reduce the incidence of respiratory tract infections (alter child care attendance pattern)
 - Encourage breastfeeding for the first six months of life
 - Avoid bottle Propping
 - Reduce or eliminate pacifier use in the second six months of life
 - Eliminate exposure to passive tobacco smoke
 - Immunophylaxix (influenza and pneumococcal conjugate vaccines)

Recommended antibacterial agents for patients who are being treated initially with antibacterial agents or have failed 48 to 72 hours of observation or initial management with antibacterial agents.

TABLE 1

	At diagnosis or patients being treated initially with antibacterial agents		Clinically defined treatment failure at 48-72 hours after initial management with observation option		Clinically defined treatment failure at 48-72 hours after initial management with antibacterial agents	
Temperature (102.2 F) &/or Severe otalgia	Recommended	Alternative for Penicillin allergy	Recommended	Alternative for Penicillin allergy	Recommended	Alternative for Penicillin allergy
No	Amoxicillin*: 80–90 mg/kg per day divided every 8 hours	Non-type I: cefdinir, Cefuroxime, cefpodoxime; Type I: azrthromycin, Clarithomycin	Amoxicillin*: 80–90 mg/kg per day divided every 8 hours	Non-type I: cefdinir, Cefuroxime, cefpodoxime; Type I: azrthromycin, Clarithomycin	Amoxicillin-Clavulante*: 90/6.4 /kg/day divided every 12 hours	Non-type I: ceftriaxone; 3 days Type I: Clindamycin: 20-30mg/kg/day TID
Yes	Amoxicillin-Clavulante*: 90/6.4 /kg/day divided every 12 hours	Ceftriaxone***, 1 or 3 days 50 mg/kg. Max daily dose: 1 Gm	Amoxicillin-Clavulante*: 90/6.4 /kg/day divided every 12 hours	Ceftriaxone***, 1 or 3 days 50 mg/kg. Max daily dose: 1 Gm	Ceftriaxone***, 3 days 50 mg/kg. Max daily dose: 1 Gm	Tympanocentesis, Clindamycin: 20-30mg/kg/day TID

Adapted from the AAP/AAFP Summary of Acute Otitis Media Clinical Guideline, June 2004
Optima Pharmacy update 2009

*An antibacterial agent other than amoxicillin should be considered for a child with recurrence of AOM in less than a month from completion of antibacterial treatment from a prior AOM, or for a child who has recently been on antibacterial agent for other reasons. (AOM guidelines, Cincinnati Children’s Hospital)

**Cefdinir, cefpodoxime & cefuroxime are acceptable options for treatment failure following a amoxicillin –clavulanate before resorting to parenteral ceftriaxone (AOM Clinical Guidelines Cincinnati Children’s Hospital); and should also be considered for those patients with a history of intolerance to amoxicillin-clavulanate (side effects of diarrhea, vomiting, stomachache)

***Ceftriaxone should be considered in those patients with vomiting or other option for that preclude administration of oral antibacterial agents. Of note is that the AAP/AAFP recommends parenteral ceftriaxone as an option for patient who has severe otalgia, fever, >102.2 F.

****Allergic reactions can be classified as Type I: IgE-mediated or non-type 1: non-IgE mediated

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