

Madigan Army Medical Center

Referral Guidelines

Otitis Media

Diagnosis/Definition

- Otitis media is a general term used to describe an inflammation in the middle ear space without reference to a specific etiology. It is the second most common disease of childhood behind URI, and it is also common in the adult population.
- There are several classifications of otitis media to help delineate treatment.
- Acute otitis media is defined as an episode of inflammation of less than 3 weeks duration. Chronic otitis media is defined as inflammation lasting greater than 3 months. Both acute and chronic otitis media can be further characterized as purulent, mucoid, or serous in nature.
- Complications of otitis media include tympanic membrane perforation, hearing loss (with subsequent delay in speech and language development), cholesteatoma, mastoiditis, facial nerve paralysis, meningitis, and intracranial and/or neck abscess formation.

Initial Diagnosis and Management

History:

- Pertinent historical points should include:
 - Ear pain
 - Decreased hearing
 - Otorrhea
 - Duration of symptoms
 - Antecedent therapy
 - Behavioral changes
 - Vertigo or episodes of falling down
 - Speech changes
 - Previous episodes
- Previous surgical history is also important as these patients may be at increased risk for cholesteatoma. A history of recent URI, eustachian tube dysfunction and inhalant allergies should also be documented.
- Physical Examination: The physical exam includes a description of the tympanic membrane. It may appear erythematous, bulging, opaque, thinned, or retracted. There may be a perforation associated with discharge. Bubbles may be visualized behind the tympanic membrane indicating middle ear effusion. Pneumatic otoscopy of the ear may reveal a sluggish or immobile tympanic membrane. The "light reflex" is not a valid measure of ear health and the absence of the "light reflex" is not a valid indicator of ear disease. Otoscopic examination alone is not capable of evaluating middle ear negative pressure. Documentation of otorrhea is indicated. The mastoid bone should be palpated and any fluctuance and tenderness noted. A hearing evaluation with the Rinne and Weber tuning fork tests should be done as appropriate. Facial nerve function and gait and balance observations should be documented.
- Ancillary Tests: Tympanometry is a highly reliable test for identifying middle ear effusion/pressure. An audiogram is indicated for patients with a suspected hearing loss.
- Initial Management Of Acute Otitis Media: Initial management of acute otitis media is a 7-10 day course of a first line antibiotic (refer to the MAMC Intranet Pharmacy Guidelines or the

Sanford Antimicrobial Handbook) . If the infection resolves, any remaining middle ear fluid (see otitis media with effusion below) can be observed for up to 3 months before obtaining an audiogram and a referral to ENT. If the infection does not resolve, change to an antimicrobial active against beta-lactamase producing bacteria. Failure to resolve with this treatment should raise the suspicion of a penicillin resistant *Streptococcus pneumoniae* and prompt treatment with double dose amoxicillin or a referral to ENT for tympanocentesis and culture.

- Initial Management of Otitis Media With Effusion: Initial management of otitis media with effusion should include one course of a first line antibiotic and observation for 3 months. At 3 months an audiogram should be obtained followed by a referral to ENT if the effusion persists. An earlier referral can be considered in patients with known sensorineural hearing loss, hearing aid use, or patients with a speech delay.

Ongoing Management and Objectives

Resolution of ear infections.

Indications for Specialty Care Referral

- Hearing loss >30dB in a patient with otitis media with effusion for > 3 months
- Otitis media with effusion for >3 months
- History of more than 3 episodes of otitis media in 6 months or more than 4 episodes in 12 months
- Chronic retraction of the tympanic membrane
- Complications of otitis media

Criteria for Return to Primary Care

Resolution of the problem by medical or surgical therapy.

Last Review for this Guideline: **May 2009**

Referral Guidelines require review every three years.

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