## MANAGEMENT OF OTITIS MEDIA

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Algorithm for Acute Otitis Media</td>
<td>1</td>
</tr>
<tr>
<td>2. Algorithm for Otitis Media with Effusion</td>
<td>2</td>
</tr>
<tr>
<td>3. Recurrent Otitis Media</td>
<td>3</td>
</tr>
<tr>
<td>4. Chronic Otitis Media</td>
<td>3</td>
</tr>
<tr>
<td>5. Antibiotic Dosages</td>
<td>3</td>
</tr>
<tr>
<td>6. ENT Referral Guidelines</td>
<td>4</td>
</tr>
<tr>
<td>7. References</td>
<td>4</td>
</tr>
</tbody>
</table>
Acute Otitis Media
Thursday, March 15, 2007

Patient has:
- A history of acute onset of signs and symptoms
- The presence of MEE
- Signs and Symptoms of middle-ear inflammation
See box at right also

Observation Option:
- Infants older than 6 months and less than 24 months with an uncertain diagnosis of AOM AND without severe symptoms (severe = otalgia or fever)
- Children older than 24 months with uncertain diagnosis OR without severe symptoms
- In either group, if observation option is chosen:
  - Must be followed up in 48 to 72 hours

Has child received antibiotics in the last 30 days?
- No
  - High dose amoxicillin
  - Effusion without acute symptoms — consider AOM AND with Effusion (See OME Protocol)
  - Perforated TM >6 weeks (See Chronic OM Protocol)
- Yes
  - High Dose Augmentin or Other
    - Symptoms improving after 3 days?
      - Yes
        - Consider: High dose augmentin
      - No
        - Symptoms improving after 3 days?
          - Yes
            - FU in 10-12 weeks to assess for persistent effusion (see OME protocol)
          - No
            - Consider ENT referral if no sign of improvement after 3 days

Symptoms improving after 3 days?
- No
  - Consider: High dose augmentin
  - Antihistamines
  - A red TM with or without normal mobility is not a single diagnostic finding
  - For children less than 2 months of age with AOM, REFER TO FEVER GUIDELINES (not included)

Antibiotic Dosages
1) High Dose Amoxicillin: 80-90 mg/kg/day divided b.i.d for 10 days
   + Note: Changes from Ode Guideline
   May give a shorter course of amoxicillin (7 days) if child < 6 years old
2) High Dose Augmentin: 45 mg/kg/day PLUS
   40 mg/kg/day of amoxicillin divided b.i.d for 10 days (total amoxicillin dose = 80-90 mg/kg/day)

Augmentin ES available at AMNC PHR ONLY (600 mg/5ml solution)
3) Ceftriaxone (Rocephin): 50 mg/kg/day IM times 3 days (may switch to oral if significant improvement occur one or two doses) use in the vomiting/nauseated patient
4) Azithromycin: 10 mg/kg loading dose, then 5 mg/kg/day for 4 days
   (if line if type I hypersensitivity reaction present)
5) Cefdinir (Omnicef): 14 mg/kg/day or b.i.d. dosing now on formulary, tastes good!
6) Clindamycin (Cleocin): 30 mg/kg/day for 10 days. Does not cover H. influenzae or M. catarrhalis, therefore, see Strep Pneumococcus ONLY
7) Bactrim 8-10 mg/kg/day of TMX
8) Cefpodoxime (Vantin): 10 mg/kg divided bid x 5 days (all ages)
9) Cefuroxime (Ceftin): 30 mg/kg divided bid x 10 days
10) Flosint Otic 7-10 drops once daily in affected ear(5) First line for drainage, if granulation tissue is present consider steroid Nasol HC 3-4 drops 3-4 x a day for 5-7 days

Type 1 Hypersensitivity
Type 1 hypersensitivity is also known as immediate or anaphylactic hypersensitivity. The reaction may involve skin (urticaria and eczema), eyes (conjunctivitis), nose (rhinorrhea, rhinitis), bronchopulmonary tissues (asthma), and gastrointestinal tract (Gastroenteritis). The reaction may cause a range of symptoms from minor inconvenience to death. The reaction usually takes 15-30 minutes from the exposure to the onset of symptoms, but may also have a delayed onset pattern (10-12 hours)

If 3 or more episodes of AOM in 6 months see Recurrent OM protocol

This guideline is designed for general use for most patients but may need to be adapted to meet the special needs of a specific patient as determined by the patient’s provider.
Otitis Media with Effusion, (OME, serous otitis, Secretory OM or glue ear)
Friday, August 18, 2006

Decreased mobility of TM on pneumatic otoscopy without acute symptoms

Assess language development
Refer to audiology if delayed or abnormal

Discuss environmental risk factors:
Passive smoke
Bottle feeding
Group child care

Remember: Effusion may persist for 3 months after acute OM episode
Not recommended: Antibiotics Steroid therapy Antihistamine/decongestant

OME present for 3 months?
Yes
Obtain hearing evaluation
Refer to ENT:
if hearing loss >20 DB or
if bilateral SOM > 3 months
(see criteria for direct referral for tube placement)

No
f/u every 6 weeks by primary provider

If patient is an adult and has OME > 3 months consider Nasopharyngeal carcinoma

This guideline is designed for general use for most patients but may need to be adapted to meet the special needs of a specific patient as determined by the patient’s provider.
**Recurrent Otitis Media**

Definition: 3 or more documented episodes of AOM over a 6-month period

Management:
- Evaluate history of other recurrent infections or anemia
- Obtain hemoglobin if none in previous 6 months
- Obtain hearing evaluation
- Avoid smoke, pacifiers, and feeding supine
- Offer influenza vaccine (if over 6 months)
- Offer pneumococcal vaccine (if 2 years or older)
- Consider prophylaxis with sulfisoxazole (Gantrisin) daily for 2-6 months or at onset of URI

Follow-up:
- Every 8-12 weeks
- Refer to ENT: If fails to improve after appropriate treatment
  - If fails prophylaxis (> 2 episodes while on prophylaxis in 2-6 month period)
  - If has had 4 acute distinct infections over 6 months or 6 acute distinct infections over 12 month period. (see ENT guidelines)

**Chronic Otitis Media (COM)**

Definition: Perforated tympanic membrane persisting > 6 weeks
- Active COM = drainage
- Inactive COM = no drainage

Management of Active COM:
- Mechanical cleansing/suction (at minimum use wick to clean)
- Oral and topical antibiotics (gentamicin ophthalmic [+/- prednisone] or Cortisporin) after cleaning ear canal with Kleenex wick; in adults, treat initially with topicals then add oral antibiotics if not improving.

Follow-up:
- A persistent dry perforation should be referred to ENT after child is 5 years of age

**Antibiotic Dosages**

Most treatments for 10 days. (May treat for 5 days in children > 2 yrs, no history of recurrent/chronic OM, intact TM's):

- High dose Amoxicillin: 80-90 mg/kg/d divided into 2 doses (usual dose is 40 mg/kg/d) x 10 days
- High dose Augmentin (Amoxicillin/clavulanate): 45mg/kg/d augmentin plus 40 mg/kg/d of amoxicillin divided into 2 doses x 10 days (total amoxicillin dose = 80-90 mg/kg/d)
- Cefpodoxime (Vantin): 10 mg/kg/d divided into 2 doses x 5 days (all ages)
- Clindamycin (Cleocin): 30 mg/kg/d divided into 3 doses x 10 days. Does not cover H.influenza or M. catarrhalis
- Ceftriaxone (Rocephin): 50 mg/kg/d IM x 3 days (switch to oral antibiotics if significantly improved after 1 or 2 doses)
- Azithromycin 10mg/kg loading dose, then 5mg/kg/day x 5 days (use only if allergic to other antibiotics listed)

Prophylaxis:
- Sulfisoxazole (Gantrisin): 50 mg/kg/d once daily for 2-6 months (monitor WBC)
**ANMC ENT Direct Referral Guidelines for Tympanostomy Tube Placement**

1. Recurrent acute otitis media defined as four acute distinctive infections on a six month time period or six acute distinctive infections in a twelve month time period.

2. Otitis media with effusion defined as bilateral middle ear effusion that is present for at least three months despite treatment with at least one course of antibiotic therapy. Preferable there will be some documentation of hearing loss along with the middle ear effusions.

3. Breakthrough infection (acute otitis media) while on antibiotic prophylaxis

4. Adenoidectomy in the setting of a history of middle ear disease may also be considered on a case by case basis by the individual otolaryngologist

5. Severe retractions on the tympanic membrane or retraction pockets are also indications for tympanostomy tube placement. These patients, however, should receive an ENT evaluation and should not be directly referred for tubes.

6. Patients being considered for direct surgical referral should also be without preexisting medical problems that might complicate anesthesia delivery and/or the surgical procedure. A prior ENT evaluation is warranted otherwise.

Note: Decisions for direct referral and ultimately, surgical intervention must be individualized for each patient. Patients with ear or hearing problems not meeting these criteria should be referred to ENT clinic

References:
4. Direct Referral Guidelines for Tympanoplasty Tube Placement, ENT Dept. ANMC, 1999