Clinical Care Guideline

Management of
PEDIATRIC OTITIS MEDIA
In Migrant Health Programs

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PEDIATRIC OTITIS MEDIA

DEFINITION:

Otitis media is an inflammation of the middle ear, usually due to an infection. It may result in effusion (collection of fluid in middle ear cavity) or a perforation of the ear drum with drainage of purulent material. Otitis media may recur or become chronic (effusion lasting more than 3 months).

Otitis media occurs predominantly in infants and young children. American Indians, Eskimos and Hispanics have a higher incidence than whites. Factors that cause a delay in seeking medical attention, poor nutrition, crowding, and poor treatment compliance (all problems of migrant farmworker children) may increase incidence, severity and type of otitis media.

DETECTION:

A. Fever, irritability, pulling at ear, ear pain, decreased balance following URI

B. Abnormal findings on otoscopic exam during well child care and other visits

QUALITY ASSURANCE SUGGESTIONS:

A. Maintain a problem list on all pediatric patients

B. Review sample of charts with diagnosis of otitis media on a regular basis to:

1. Determine compliance to follow-up and clinic's response to non-compliance with follow-up
2. Determine type, dose and length of use of antibiotics
3. Return of hearing to normal

GUIDELINE FORMAT:

The guideline follows a "SOAP" format (Subjective, Objective, Assessment, and Plan). Within each component of the SOAP format, "trigger statements" that target specific problem areas for providers who work with migrant patients are noted. These statements are designed to "trigger" a response from a provider to question the appropriate method of care needed for a migrant patient. These migrant-specific statements follow four primary areas where consideration in serving migrant farmworkers or in designing a plan should be given.

The acronym "CLEF" was developed to identify these four areas:

C – Culture of migrant patients

L – Language factors for consideration

E – Environmental/educational factors

F – Follow-up care for a mobile population

PROTOCOL

SUBJECTIVE

A. Initial

1. Earache or ear pulling
2. Irritability
3. Ear drainage
4. Fever
5. Nasal congestion or rhinorrhea
6. Hearing loss
7. History of episodes of otitis media and treatment in preceding 6 months.

B. Follow-up

1. Earache or ear pulling
2. Irritability
3. Fever
4. Hearing loss

SUBJECTIVE CLEF

C=

- Ask if the mother's partner is with her. Invite him to take part in the process.
- Ask parent whether she carries the child's health record in any form. Ask parent for child's immunization record.
- Ask parent if child is under care for the current problem. Determine how many previous episodes of otitis media the child has had.
- Ask whether the parent has begun treatment with any medications or cultural remedies.
- Determine the parent's perception of the child's problem: what caused the otitis media, what their expectations are of treatment, what fears they have of the future course or outcome.
- Determine whether parents feel that the child's environment caused the problem, such as lack of heat, running water, several sick children sleeping together.
- Determine the dietary habits of the child. Is he or she breast fed?
- Determine the effect that the otitis media episode is having on the rest of the family. Does it pose a threat to the parent's job?

L=

- Take the history in the parents' own language. Be sure you understand how *lethargy*, *loss of balance*, *loss of hearing*, etc. are described in the parents' language and culture.

E1=

- Determine the factors that may affect the parents' compliance with treatment:
  - –What type of farm work do they do? What are their hours?
  - –Who takes care of the children while they work? at night?
  - –Who would give any medications prescribed?
- Is the child in day care? How many children under 4 years are in the day care center?
- Is there any means to refrigerate antibiotics?
- Do they have any means to take the child's temperature?

E2=

- Determine the parents' educational level. Are they able to read? How many years of school did each attend? Has anyone explained to them how to suspect that their child has an ear infection and the reasons for follow-up?

F=

- Determine the compliance with follow-up care for otitis media in the past. If non-compliant, ask what obstacles prevented follow-up.
- Determine who decides if medications prescribed will be purchased or used.
- Be sure parent understands the purpose of follow-up. Ask parent whether follow-up is possible under existing conditions, e.g., migration, other sick children, work hours vs. clinic hours, financial status.
- Remember, migrant mothers may not tell you they cannot keep your follow-up schedule, so ask and make alternative arrangements.

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C = Cultural, L = Language, E1 = Environmental, E2 = Educational, F = Follow-up

OBJECTIVE

A. Initial

1. Tympanic membranes – color, position, mobility
2. Nose
3. Throat
4. Cervical nodes

B. Follow-up

1. Tympanic membrane – color, position, mobility
2. Tympanogram – if tympanic membrane abnormal by otoscopy
3. Audiogram – if tympanogram abnormal

OBJECTIVE CLEF

C =

- Migrant farmworker children may initially fear the examination room more than the average middle class child. Migrant farmworker children are often brought to the clinic acutely ill. They have undergone long transportation times, and waited long periods in the waiting room. They often see a different provider each time without the opportunity to build a trusting relationship. Migrant farmworker parents may use the threat of injections as a means to control the child's behavior in the exam room.
- To help the child and you, examine the child sitting up on the parent's lap. Examine the child's ears in the mother's arms, stabilizing the child's head against the mother's chest.

L =

- Explain what you are finding on examination of the child to the parent in her own language. Relate what you are seeing to the mechanism of injury in simple terms and in culturally relevant expressions.

E =

- Same as subjective.
- Use language and visuals appropriate to their educational level. Teach and demonstrate use of thermometer, as necessary.

F =

- Same as subjective.

ASSESSMENT CLEF

C =

- Explain the diagnosis of otitis media without placing blame on the parent for delay in obtaining care. Migrant farmworker parents may not be able to bring the child in for evaluation as early as others do.

L =

- Explain the diagnosis in the parents' own language. Ask what expressions are used to denote *blockage*, *swelling of the ear drum*, *fluid in the middle ear*, *ear pain*, or *damage*.

E1 =

- Same as subjective.
- Determine if parent has time to feed baby in her arms or whether she is forced to prop bottle. Discuss alternatives to propping the bottle that are relevant to her setting. Does anyone in the household smoke?

F =

- Same as objective.

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PLAN

A. Diagnostic

1. Tympanocentesis or myringotomy for C&S – consider if toxic after 48 hours treatment.

B. Therapeutic

1. Acute otitis media
   a) Use any one of the following antimicrobial agents x 10 days:

	Pediatric	**Adult**
Amoxicillin	25-50 mg/kg/d tid	250 mg tid
TMP/SMX	840 mg/kg/d bid	160/800 mg bid
Cefaclor	25-50 mg/kg/d tid	25 mg tid
Erythromycin/sulfisoxazole	40/160 mg/kg/d qid	–
Amoxicillin/K+ clavulanate	25-50 mg/kg/d tid	250 mg tid

   b) Supportive treatment
      1) Acetaminophen for pain or fever
      2) Ear drops with benzocaine
2. Persistent acute otitis media
   a) Use different antimicrobial agent for another 10 days.
   b) Supportive treatment as for acute
   c) Persistent infection after third antibiotic used – ENT referral
3. Recurrent otitis media – 3 or more episodes of acute otitis media in preceding 12 months.
   a) Antimicrobials
      1) Initial visit
         (a) Less than 1 month since last infection – treat as for persistent
         (b) Greater than 1 month since last infection – treat as for acute
      2) Follow-up visit – if infection resolved, begin prophylactic antibiotics x 3-6 months.
         (a) Amoxicillin 20 mg/kg hs
         (b) Sulfisoxazole 50 mg/kg hs
         (c) TMP/SMX 4/20 mg/kg hs
         (d) Erythromycin estolate or ethylsuccinate 10-20 mg/kg hs
   b) ENT referral
      1) Failure of prophylaxis
      2) Persistent middle ear effusion greater than 3 months.
      3) Persistent hearing loss or retraction pocket

C. Patient Education

1. Call back if not better in 3 days.
2. Return for follow-up visit in 10-14 days
3. Emphasize importance of return visit in 4-6 weeks to check for middle ear fluid if present at 10-14 day follow-up visit.

PLAN CLEF

C=

- Explain the use of antibiotics in terms of the differences of cultural acceptance of medications.
- Explain need for analgesia (Tylenol) or Auralgan to control ear pain, especially at night.
- Determine who will give the antibiotics and how they can be stored (e.g., if there is no refrigerator, choose a form of antibiotic that does not need refrigeration).
- Amoxicillin oral suspension appears to retain potency for up to 14 days without refrigeration. Ampicillin oral suspension requires refrigeration, although one preparation was reported to be stable for 7 days at room temperature. Amoxicillin/clavulanate combination (Augmentin) and Cefaclor (Ceclor) require refrigeration for the entire length of therapy, except Cefaclor is stable for 4 days without refrigeration. The combination products Bactrim,® Septra,® and Pediazole® do not require refrigeration by the patient; Bactrim® and Septra® are stable for up to a month in very warm environments.
- Discuss whether the parents will also be using a folk remedy. If it is not harmful, accept its use, and tell the parents that it is also necessary to use the antibiotic along with the folk medicine.
- If you are to make any dietary changes (e.g., elimination of milk from the child's diet because of a possible milk allergy), recognize that they will not be followed unless you get agreement by the parent that your advice is acceptable within the family structure.

L=

- Verbally express and write all instructions for medications, diet, pain control, and follow-up in the parents' own language. If the parent is unable to read, try to draw some pictures, and ask parent if she can get someone else to help her read the instructions at home.
- Request that prescription labels be written in the language of preference.
- Ascertain that the parent has a means of accurately measuring dosage (e.g., 1 teaspoon – provide a measuring spoon if needed).

E2=

- Ask parents to repeat instructions back to you to be sure your explanation met their educational level.
- Try to achieve the following understanding with each parent:
  – Acute otitis media must be treated with antibiotics to avoid serious complications (meningitis, mastoditis, sepsis, and permanent hearing loss).
  – Follow-up is necessary to be sure that middle-ear effusion does not persist and there is no hearing loss.
  – The purpose of the antibiotic is not to relieve symptoms but to eliminate infection. For this reason, it is necessary to complete the entire course of antibiotics, regardless of how the child feels.
  – Hearing loss can affect development, speech, and school performance.
- If the child has had more than 3 episodes of otitis media in preceding 6 months, discuss use of prophylactic antibiotics and need for continued follow-up. Make the necessary compromises based on migration status, working conditions, etc.
- If the patient is leaving the area, be sure to give the parent a record of the number and frequency of otitis media episodes, present drug management, and future follow-up needs.

F=

- Establish a realistic follow-up schedule. The parent is often unable to bring the child back frequently and may not return to follow-up at all if the schedule is unrealistic.
- Instruct parents to return if the child is not responding by the 3rd day. Otherwise follow-up a child with otitis media in 2 weeks to give the eardrum an opportunity to heal and avoid a second follow-up visit. If further follow-up is necessary, explain the need in simple terms.
- Ask if it might be difficult to return for follow-up and, if so, why. Engage in mutual problem solving if necessary. Consider not charging a patient co-payment for recheck visit.
- Review the symptoms that should prompt parents to seek medical attention in the future for possible otitis infection.

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