Earache

Schmitt-Thompson Clinical Content

DEFINITION

- Pain or discomfort in or around the ear
- Older child reports an earache
- Younger child acts like he did with a previous ear infection
- **Also Included:** recently FINISHED antibiotics for ear infection and recurrent earache
- **Excluded:** Ear pain caused by ear trauma/injury, see that protocol

TRIAGE ASSESSMENT QUESTIONS

Call EMS 911 Now

Sounds like a life-threatening emergency to the triager

See More Appropriate Protocol

Painful ear canal and has been swimming

Go to Protocol: Ear - Swimmer's (Pediatric)

Full or muffled sensation in the ear, but no pain

Go to Protocol: Ear - Congestion (Pediatric)

Due to airplane or mountain travel

Go to Protocol: Ear - Congestion (Pediatric)

Crying and cause is unclear

Go to Protocol: Crying - 3 Months and Older (Pediatric)

Follows an injury to the ear

Go to Protocol: Ear Injury (Pediatric)

Go to ED/UCC Now (or to Office with PCP Approval)

Fever and weak immune system (sickle cell disease, HIV, chemotherapy, organ transplant, chronic steroids, etc)

R/O: serious bacterial infection. Note: if available, refer to established specialist.

Pointed object was inserted into the ear canal (e.g., a pencil, stick, or wire)

R/O: perforated eardrum, damaged ossicles

Child sounds very sick or weak to triager

R/O: sepsis

Go to Office Now

Can't move neck normally

Walking is unsteady and new-onset

Fever > 105° F (40.6° C)

R/O: serious bacterial infection

Earache is SEVERE 2 hours after taking pain medicine

Outer ear is red, swollen and painful

R/O: cellulitis and risk for ear cartilage damage

New-onset pink or red swelling behind ear

R/O: mastoiditis

See in Office Today

Age < 2 years and ear infection suspected by triager

Reason: recognizes child too young to report earache

Pus or cloudy discharge from ear canal

Pus on eyelids/eyelashes

R/O: otitis-conjunctivitis syndrome with amoxicillin resistant organism

Child with cochlear implant

R/O: ear infection

See in Office Today or Tomorrow

Earache (Exception: MILD ear pain that resolved)

R/O: otitis media

See in Office Within 3 Days

Recurrent transient MILD ear pain

Triager thinks child needs to be seen for non-urgent problem

Caller wants child seen for non-urgent problem

Home Care

Transient (or resolved) MILD ear pain once

Reason: transient eustachian tube blockage

Home Care Advice

Suspected Ear Infection (Treatment Pending Office Visit)

1. **Reassurance and Education - Suspected Ear Infection:**
   - Your child may have an ear infection, but it doesn't sound serious.
   - The only way to be sure is to examine the eardrum.
   - Diagnosis and treatment can safely wait until morning if the earache begins after office hours.
2. **Pain Medicine:**
   - Give acetaminophen (e.g., Tylenol) or ibuprofen for pain relief.
3. **Cold Pack for Pain:**

- Apply a cold pack or a cold wet wash cloth to the outer ear for 20 minutes to reduce pain while the pain medicine takes effect.
- Note: Some children prefer local heat for 20 minutes.

4. **Olive Oil Eardrops for Persistent Pain:**
   - Do not recommend any eardrops if the child will be seen today. (Reason: May make it difficult to visualize the eardrums.)
   - For severe earache unresponsive to oral pain medicine, recommend 3 drops of plain olive oil into the ear canal. Another option is plain mineral oil (baby oil).
   - Repeat every 4 hours as needed.
   - Exception: ear discharge, ear tubes or hole in eardrum.
   - U.S. Update: Prescription analgesic ear drops that contain benzocaine-antipyrine are no longer available in the US (FDA 2015 regulation).
   - Canada: Auralgan eardrops are available OTC in Canada. Can recommend for severe pain.

5. **Fever Medicine:**
   - For fever above 102 F (39 C), give acetaminophen every 4 hours OR ibuprofen every 6 hours as needed. (See Dosage table)
   - For fevers 100-102 F (37.8 to 39 C), fever medicines are not needed. Reason: Fever turns on your body's immune system. Fever helps fight the infection.

6. **Avoid Earplugs:**
   - If pus or cloudy fluid is draining from the ear canal, the eardrum has ruptured from an ear infection.
   - Wipe the pus away as it appears.
   - Avoid plugging with cotton (Reason: Retained pus causes irritation or infection of the ear canal).

7. **Contagiousness:**
   - Ear infections are not contagious.

8. **Call Back If:**
   - Your child develops severe pain
   - Your child becomes worse

9. **Extra Advice - Request for Antibiotics by Phone:**
   - Inform caller that PCPs rarely call in antibiotics without examining the ear.
   - Reassure that ear pain can be controlled with analgesics and eardrops.
   - Reassure that examining child within 24 hours is quite safe.

Transient (or Resolved) Mild Ear Pain Once

1. **Reassurance and Education - Transient (or Resolved) Mild Ear Pain:**
   - Transient ear pain once that goes away is harmless.
   - This kind of pain is sometimes caused by a blocked eustachian tube that opens up on its own.
   - Since the pain has gone away, no treatment is necessary.

2. **No Pain Medicines**:
   - Don't give pain medicines.
   - Reason: If earache recurs, your child will need to be seen in the office.

3. **Call Back If:**
   - Pain recurs

FIRST AID

N/A

BACKGROUND INFORMATION

Matching Pediatric Care Advice (PCA) Handouts for Callers

Detailed home care advice instructions have been written for this protocol. If your software contains them, they can be sent to the caller at the end of your call. Here are the names of the pediatric handouts that are intended for use with this protocol:

- Earache - From Air Travel
- Earache - Symptom
- Fever - How to Take the Temperature
- Fever - Myths Versus Facts
- Acetaminophen (Tylenol) Dosage Table - Children
- Ibuprofen (Advil, Motrin) Dosage Table - Children

Pain Severity Scale

- **Mild:** doesn't interfere with normal activities
- **Moderate:** interferes with normal activities or awakens from sleep
- **Severe:** excruciating pain, unable to do any normal activities, incapacitated by pain
- Assessment of Pain Severity: Base it on the child's current behavior. Ask: "What does the pain keep your child from doing?" Do not ask: "Is the pain Mild, Moderate or Severe?" Reason: Many parents and teens will choose "Severe".

Causes of Earaches

- **Ear Infection.** An infection of the middle ear (space behind the eardrum) is the most common cause. Ear infections can be caused by viruses or bacteria. Usually, a doctor can tell the difference by looking at the eardrum.
- **Swimmer's Ear.** An infection or irritation of the skin that lines the ear canal. Main symptom is itchy ear canal. If the canal becomes infected, it also becomes painful. Mainly occurs in swimmers and in the summer time.
- **Ear Canal Injury.** A cotton swab or fingernail can cause a scrape in the canal.
- **Ear Canal Abscess.** An infection of a hair follicle in the ear canal can be very painful. It looks like a small red bump. Sometimes, it turns into a pimple. It needs to be drained.
- **Earwax.** A big piece of hard earwax can cause mild ear pain. If the wax has been pushed in by Q-tips, the ear canal can become blocked. This pain will be worse.
- **Ear Canal Foreign Body (Object).** Young children may put small objects in their ear canal. It will cause pain if object is sharp or pushed in very far.
- **Airplane Ear.** If the ear tube is blocked, sudden increases in air pressure can cause the eardrum to stretch. The main symptom is severe ear pain. It usually starts when coming down for a landing. It can also occur during mountain driving.
- **Pierced Ear Infections.** These are common. If not treated early, they can become very painful.
- **Mastoiditis.** A bacterial infection of the air cells in the mastoid bone behind the ear. The mastoid area becomes pink, swollen and tender. Uncommon complication of an ear infection.
- **Referred Pain.** Ear pain can also be referred from diseases not in the ear. Tonsil infections are a common example. Tooth decay in a back molar can seem like ear pain. Mumps can be reported as ear pain. Reason: the mumps parotid gland is in front of the ear. Jaw pain (TMJ syndrome) can masquerade as ear pain.

Analgesic Eardrops - No Longer Available (FDA 2015)

- 2015 FDA major change: Benzocaine-antipyrine ear drops have never been approved by the FDA. As of July 2015, they will no longer be available in U.S. pharmacies. Reason the FDA gives for this enforcement: Unproven effectiveness (not because of side effects).
- Previous information found in this protocol: Analgesic eardrops have long been prescribed in selected patients to reduce severe pain from otitis media (Hoberman 1997). Many teen and adult

patients insist that these products give them pain relief.

- Generic analgesic eardrops and brand name Auralgan eardrops have identical ingredients (benzocaine and antipyrine). Both are prescription drugs in the U.S. In 2008, Deston Therapeutics, the company that makes Auralgan, changed the formulation and increased the price to $140/bottle. In the U.S., only generic analgesic ear drops had been previously recommended because of cost-savings.
- Canada: Can use Auralgan eardrops for severe pain. Reason: Available OTC in Canada.

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