

This resource is meant to be used by nurse practitioners, physician assistants and patients alike. For the providers, the resource contains evidence based care recommendations and clinical tools. Patients and guardians can use the patient education tools to understand proper diagnosis and treatment steps. The resource is meant to enhance the delivery of evidence based care and improve patient and practitioner interactions. Learn More...











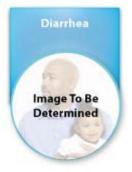
#### Click on the appropriate icon for your area of interest.





[Acute Otitis Media]









[Sinusitis]









[Pharangitis]









[Bronchitis]









Click on an icon to navigate you your area of interest.











<u>Home</u>

For Clinicians

For Patients and Guardians

**About This Project** 

References



## Acute Otitis Media (Middle Ear Infection)

ICD 9-328.9 | ICD 10- H66.90

The data presented on Otitis Media evidence is based on the  $\frac{AHRO}{report}$ .



#### **First Facts & Definitions**

- Acute Otitis Media (AOM) is a viral or bacterial infection of the middle ear.
- AOM is the most common childhood infection for which antibiotics are prescribed in the United States.
- Recurrent Otitis Media (ROM) is defined as three or more episode in six months, or four or more episodes in twelve months.
- Otitis Media with Effusion (OME) is defined as fluid in the middle ear without signs of symptoms of acute infection.
- Otitis Externa (OE) is inflammation of the outer ear canal
- (AHRQ, p. 1)

#### **Key Elements of Diagnosis for Providers**

Image of an irritated eardrum with Acute Otitis Media

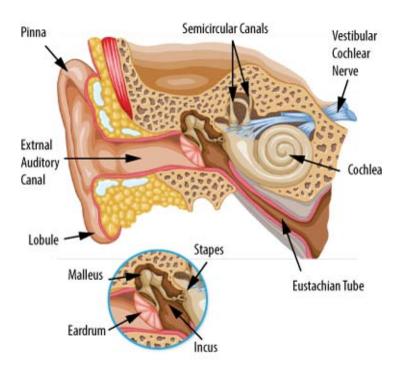


Image of a Healthy Eardrum



## Three criteria are necessary to diagnose acute Otitis media:

- Severe or intense (Acute) symptoms of infection
- 2. Evidence of acute tympanic membrane inflammation
- 3. Presence of middle ear effusion





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#### **First Facts**

The American Academy of Pediatrics (AAP) and American Association of Family Physicians (AAFP) recommend antibiotics for all children under the age of six months. It is recommended to take a "wait and watch" approach for otherwise healthy children ages six months to less than two years old who have either an uncertain diagnosis and or non-severe diagnosis.

#### **Did You Know?**

There is a recommendation for children 2-23 months old to receive the pneumococcal vaccine (PCV7). There has been an associated microbiological shift among the pathogens commonly responsible for Otitis media since administering the PCV7 vaccine. Streptococcus pneumoniae is becoming less prevalent, while haemophilus influenzae is increasing in importance as an infectious agent of AOM.

#### **Antibiotic Options**

- Amoxicillin
- Ampicillin
- Cefdinir
- Ceftriaxone
- Azithromycin

Complete the full course of all medications prescribed by your provider.



#### **Key Elements of Treatment**

Evidence shows that success with treatment of ROM with long-term antibiotics may not be significant enough to warrant the possible adverse effects such as diarrhea and allergic reactions, and emergence of bacterial resistance to antibiotics (AHRQ, p.193).

Tympanostomy tubes can help decrease the likelihood of a repeat infection in a child with a history of ROM within the first six months after tube insertion (AHRQ, p. 193).

Study comparisons found that amoxicillin-clavulanate was superior to azithromycin in terms of clinical success by day fourteen when the pathogen was haemophilus influenzae (AHRQ, p.192).

Studies found an increase rate of gastrointestinal adverse affects and diarrhea specifically with amoxicillinclavulanate and cefixime.

#### **Sample Prices for Common Antibiotics**

Please note that prices vary among pharmacies and serve as informational. All data is based on prices in Walgreen's 2012.

amoxicillin-clavulanate (Augmentin) 250mg/5ml 80ml \$54.99 150ml \$124.99 400mg/5ml 75ml \$49.99 100ml \$64.99 500mg tab #30 \$59.99 875mg tab #20 \$73.49

amoxicillin 125mg/5ml 100ml \$12.99 150ml \$11.99 250mg/5ml 100ml \$11.99 150ml \$11.99 400mg/5ml 75ml \$12.99 100ml \$13.99

#### azithromycin

250mg Zpack #6 \$37.99 100mg/5ml 15ml \$38.29 200mg/5ml 15ml \$38.99 200mg/5ml 30ml \$44.69 cefuroxime (Ceftin) 250mg/5ml 50ml \$52.99 100ml \$124.99

#### ampicillin

125mg/5ml 200ml \$11.99 250mg/5ml 100ml \$15.59 500mg caps #40 \$17.39 cefixime (Suprax) 100mg/5ml 50ml \$204.99 100ml \$354.99 200mg/5ml 50ml \$345.99 75ml \$567.99 400mg tab #50 \$1009.00





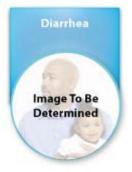
#### Click on the appropriate icon for your area of interest.





[Acute Otitis Media]

























[Bronchitis]











# Middle Ear Infection

[Acute Otitis Media]

#### Middle Ear Infection (Acute Otitis Media)

The data presented on Otitis Media evidence is based on the AHRQ report.

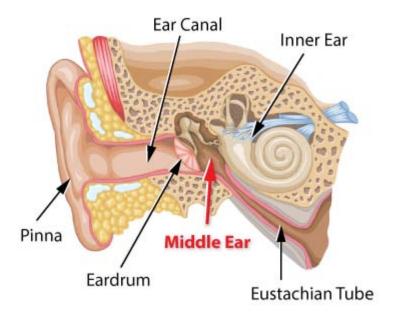
#### **Acute Otitis Media Video**



#### **Key Elements of Diagnosis**

Before diagnosing a middle ear infection, your health care provider looks for ALL THREE specific signs:

- 1. Rapid start of ear symptoms
- 2. Redness of the ear drum
- 3. Fluid in the middle ear



#### **First Facts**

There are three types of ear problems:

- 1. Middle Ear Infection (Acute Otitis Media)
- 2. Swimmer's Ear (Otitis Externa)
- 3. Fluid with no sign of infection (Otitis Media with Effusion)

Note: Not all ear pain indicates infection.

#### **Information on Antibiotic Use**

- There are a few options to try before an antibiotic; warm compresses, pain relievers and or "wait and watch" approach.
- Amoxicillin is still the safest, most least expensive antibiotic for patients without a penicillin allergy.
- Some liquid antibiotics, like Amoxicillin, need to be kept in the refrigerator.
- Antibiotics can cause some people to get an upset stomach; there are supplements called probiotics that can help decrease upset stomach. Ask your health care provider or pharmacist if you should take probiotics.
- After each course of antibiotics, children are more likely to carry resistant germs in their nose and throat.



This project is a multi-media resource for retail clinicians who need consistent, quick access to diagnosis, treatment and patient education information. The resource is interactive and contains links to navigate through informational text, graphics and video presentations for some of the most common conditions throughout the retail clinic industry."

We hope to expand the system into a network environment, delivering this media via Internet web interface, retail clinic hard copy posters with QR Codes and transferable PDF formats. In addition, the patient education resources can be distributed through clinic TV monitors in a cyclical manner.

Finally, we invite you to explore the possibilities of this technology and media delivery system.

Please feel free to use your imagination.....





Agency for Healthcare Research and Quality (2010).

Management of Acute Otitis Media: Update. Evidence Report/Technology Assessment Number 198.

AHRQ Pub No. 11-E004. www.ahrq.gov