



Ear Infection (Acute Otitis Media)

What is otitis media?

Otitis media means that your child has fluid behind his or her ear drum. There are two kinds of otitis media:

- **Acute Otitis Media (AOM)**, which means that the fluid is infected with bacteria or viruses and is causing pain or fever
- **Otitis Media with Effusion (OME)**, which means that the fluid is not infected and is not causing pain

The treatment your doctor recommends will depend on which type of otitis media your child has as well as his or her other symptoms.

For AOM, treatment is aimed at reducing symptoms such as pain and fever.

This means treating pain with ibuprofen (Motrin or Advil) or ear drops such as Auralgan. Antibiotics can sometimes be helpful but are not always needed. In some situations AOM can go away without antibiotic treatment.

What causes otitis media?

Otitis media is caused by a blockage of the tube (called the Eustachian tube) that connects the middle ear to the nose. When this tube is blocked, fluid will collect behind the ear drum. Sometimes bacteria will grow in this fluid, and sometimes that will cause pain. However, about a third of the time, there is no bacteria. These cases are probably caused by viruses. Sometimes there is no infection, this is OME.

Otitis media is more common in the winter and in children who go to day care. Sometimes children get otitis media after catching an upper respiratory infection (a “cold”). Getting water in the ear does not cause otitis media.

How do antibiotics help treat acute otitis media?

Antibiotics are only helpful in certain cases of AOM. In young children (under 2 years of age) and children with severe symptoms (severe or persistent pain, ear drainage, or fever over 102F) antibiotics can help reduce pain and fever within 2-3 days. In older children, or children with mild or no symptoms, AOM will often get better without antibiotics

Treatment with antibiotics can lead to side effects such as stomach upset, diarrhea or rashes. In some cases children treated with antibiotics for ear infections end up getting severe infections with antibiotic resistant bacteria. For these reasons, doctors try to save antibiotics for those children most likely to benefit—young children and children with fever or severe ear pain. In many cases, treating with a pain medicine is more helpful than treating with an antibiotic.

Since the middle ear fluid is not infected in patients with OME, there is no advantage of treating OME with antibiotics.

What happens if my child is not treated with antibiotics?

If your child is older and his or her symptoms are mild, your doctor will offer you the “Observation Option.” Your doctor will recommend giving your child pain medicine (ibuprofen or acetaminophen) and ask you to wait a few days for the symptoms to go away. If the symptoms continue for 2 more days, your doctor would want you to call to get a prescription for an oral antibiotic. There is no long term negative impact of putting off antibiotics in children with mild symptoms.

What antibiotic is the best for treating my child?

When antibiotics are needed, amoxicillin is almost always the best choice. It is more effective, safer, and less expensive than any other oral antibiotic. However, like all antibiotics, it would be expected to “fail” 10-20% of the time. It is unclear why this is, but probably many of the ear infections that do not

respond to amoxicillin were caused by viruses. If your child still has symptoms 48 hours after starting amoxicillin, your doctor will want to check your child again to make sure that the symptoms are actually caused by the ear infection. Your doctor might then change your child to a different antibiotic. Even in these cases amoxicillin should still be the first antibiotic chosen for future episodes of AOM. If your child gets a diaper rash after taking antibiotics, you can treat it with an antifungal cream such as clotrimazole or miconazole (ask your pharmacist). It is probably a good idea to feed your child yogurt with active cultures during and after treatment with antibiotics.

What happens after the symptoms go away?

Once the acute symptoms are gone, the name we use for the ear fluid changes from AOM to OME. Sometimes middle ear fluid can occur without any known AOM. In most cases, this fluid goes away within 3 months. Your doctor might want to recheck your child to make sure the fluid is gone. Usually this fluid does not cause problems, but it can cause a mild hearing loss. If your child seems to not be hearing well or seems to be ignoring you, you can help by doing some of the following things:

1. Reduce distracting background noise (the TV or radio) when you are talking to him or her.
2. Speak directly to your child using a louder voice than usual. Use good eye contact and make sure your child understands what you are saying. Use gestures to help explain what you mean.
3. Spend at least 15 minutes each night sitting with your child reading a book.

If you have any questions about your child's hearing or speech development, ask your doctor or call 1-800-EARLY ON to get a free developmental evaluation.

What can be done to prevent otitis media?

The pneumococcal conjugate vaccine (Prevnar13) and the flu vaccine can both reduce the risk of recurrent ear infections. Avoid exposure to second hand smoke at all times. Breast feeding exclusively until 6 months of age can be beneficial. Avoid bottle propping for all children. Older children should not use pacifiers. Older children can chew gum containing the sugar “xylitol”. Giving antibiotics to children with colds does not prevent ear infections. It only makes the ear infections harder to treat.

If your child is having problems with many ear infections (AOM) or prolonged OME with behavior or language problems, your doctor can refer you to an otolaryngologist, who is a specialist in the care of ear problems. The otolaryngologist might suggest putting tubes in the ear drum to let ear fluid come out.

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