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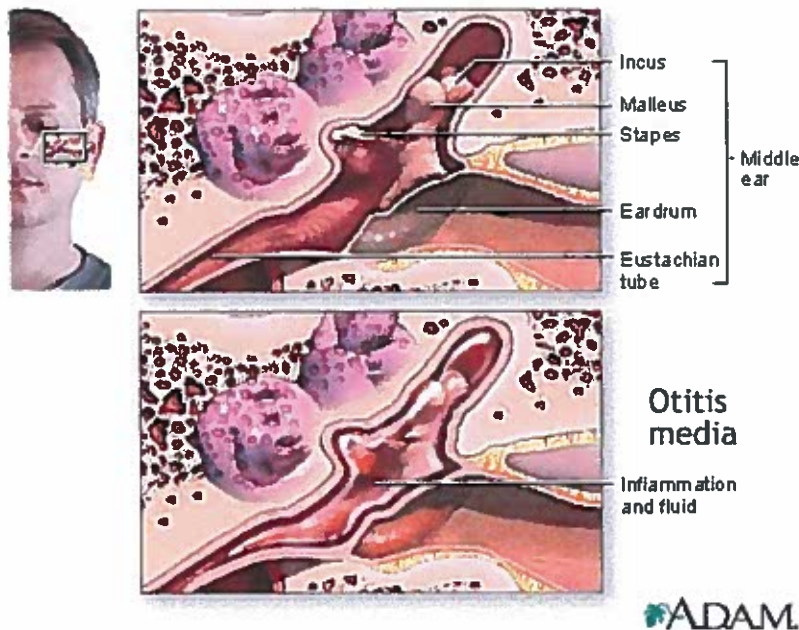
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## Ear infection - acute

Ear infections are one of the most common reasons parents take their children to the doctor. The most common type of ear infection is called otitis media. It is caused by swelling and infection of the middle ear. The middle ear is located just behind the eardrum.

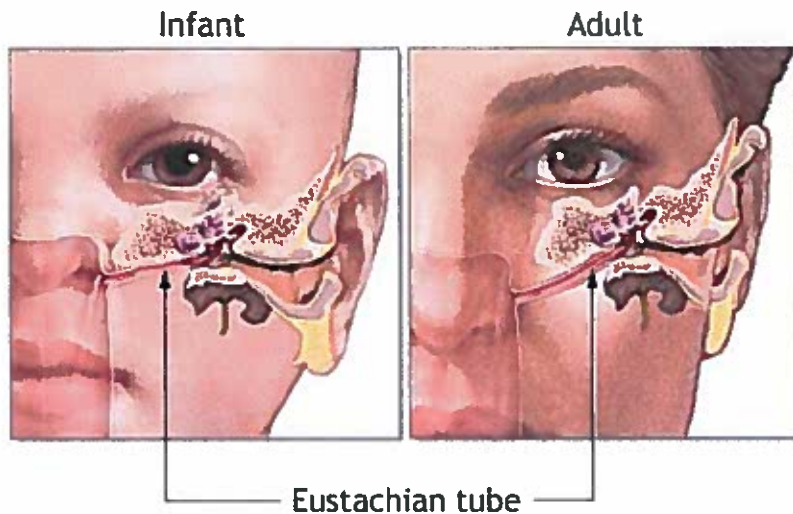
An acute ear infection starts over a short period and is painful. Ear infections that last a long time or come and go are called chronic ear infections.



### Causes

The eustachian tube runs from the middle of each ear to the back of the throat. Normally, this tube drains fluid that is made in the middle ear. If this tube gets blocked, fluid can build up. This can lead to infection.

- Ear infections are common in infants and children because the eustachian tubes are easily clogged.
- Ear infections can also occur in adults, although they are less common than in children.



Anything that causes the eustachian tubes to become swollen or blocked makes more fluid build up in the middle ear behind the eardrum. Some causes are:

- Allergies
- Colds and sinus infections
- Excess mucus and saliva produced during teething
- Infected or overgrown adenoids (lymph tissue in the upper part of the throat)
- Tobacco smoke

Ear infections are also more likely in children who spend a lot of time drinking from a sippy cup or bottle while lying on their back. Getting water in the ears will not cause an acute ear infection, unless the eardrum has a hole in it.

Acute ear infections most often occur in the winter. You cannot catch an ear infection from someone else. But a cold that spreads among children may cause some of them to get ear infections.

Risk factors for acute ear infections include:

- Attending day care (especially centers with more than 6 children)
- Changes in altitude or climate
- Cold climate
- Exposure to smoke
- Family history of ear infections
- Not being breastfed
- Pacifier use

- Recent ear infection
- Recent illness of any type (because illness lowers the body's resistance to infection)

## Symptoms

In infants, often the main sign of an ear infection is acting irritable or crying that cannot be soothed. Many infants and children with an acute ear infection have a fever or trouble sleeping. Tugging on the ear is not always a sign that the child has an ear infection.

Symptoms of an acute ear infection in older children or adults include:

- Ear pain or earache
- Fullness in the ear
- Feeling of general illness
- Vomiting
- Diarrhea
- Hearing loss in the affected ear

The ear infection may start shortly after a cold. Sudden drainage of yellow or green fluid from the ear may mean the eardrum has ruptured.

All acute ear infections involve fluid behind the eardrum. At home, you can use an electronic ear monitor to check for this fluid. You can buy this device at a drugstore. You still need to see a health care provider to confirm an ear infection.

## Exams and Tests

The provider will look inside the ears using an instrument called an otoscope. This may show:

- Areas of dullness or redness
- Air bubbles or fluid behind the eardrum
- Bloody fluid or pus inside the middle ear
- A hole (perforation) in the eardrum

The provider might recommend a hearing test if the person has a history of ear infections.

## Treatment

Some ear infections clear on their own without antibiotics. Often, treating the pain and allowing the body time to heal itself is all that is needed:

- Apply a warm cloth or warm water bottle to the affected ear.
- Use over-the-counter pain relief drops for ears. Or, ask the provider about prescription eardrops to relieve pain.
- Take over-the-counter medicines such as ibuprofen or acetaminophen for pain or fever. Do NOT give aspirin to children.

All children younger than 6 months with a fever or symptoms of an ear infection should see a provider.

Children who are older than 6 months may be watched at home if they do NOT have:

- A fever higher than 102°F (38.9°C)
- More severe pain or other symptoms
- Other medical problems

If there is no improvement or if symptoms get worse, schedule an appointment with the provider to determine whether antibiotics are needed.

## ANTIBIOTICS

A virus or bacteria can cause ear infections. Antibiotics will not help an infection that is caused by a virus. Most providers don't prescribe antibiotics for every ear infection. However, all children younger than 6 months with an ear infection are treated with antibiotics.

Your health care provider is more likely to prescribe antibiotics if your child:

- Is under age 2
- Has a fever
- Appears sick
- Does not improve in 24 to 48 hours

If antibiotics are prescribed, it is important to take them every day and to take all of the medicine. Do NOT stop the medicine when symptoms go away. If the antibiotics do not seem to be working within 48 to 72 hours, contact your provider. You may need to switch to a different antibiotic.

Side effects of antibiotics may include nausea, vomiting, and diarrhea. Although rare, serious allergic reactions may also occur.

Some children have repeat ear infections that seem to go away between episodes. They may receive a smaller, daily dose of antibiotics to prevent new infections.

## SURGERY

If an infection does not go away with the usual medical treatment, or if a child has many ear infections over a short period of time, the provider may recommend ear tubes:

- A tiny tube is inserted into the eardrum, keeping open a small hole that allows air to get in so fluids can drain more easily.
- Usually the tubes fall out by themselves. Those that don't fall out may be removed in the provider's office.

If the adenoids are enlarged, removing them with surgery may be considered if ear infections continue to occur. Removing tonsils does not seem to help prevent ear infections.

## Outlook (Prognosis)

Most often, an ear infection is a minor problem that gets better. Ear infections can be treated, but they may occur again in the future.

Most children will have slight short-term hearing loss during and right after an ear infection. This is due to fluid in the ear. Fluid can stay behind the eardrum for weeks or even months after the infection has cleared.

Speech or language delay is uncommon. It may occur in a child who has lasting hearing loss from many repeated ear infections.

## Possible Complications

In rare cases, a more serious infection may develop, such as

- Mastoiditis (an infection of the bones around the skull)
- Meningitis (an infection of the brain)



## When to Contact a Medical Professional

Call your child's provider if:

- Pain, fever, or irritability do not improve within 24 to 48 hours
- At the start, the child seems sicker than you would expect from an ear infection
- Your child has a high fever or severe pain
- Severe pain suddenly stops -- this may indicate a ruptured eardrum
- Symptoms get worse
- New symptoms appear, especially severe headache, dizziness, swelling around the ear, or twitching of the face muscles

Let the provider know right away if a child younger than 6 months has a fever, even if the child doesn't have other symptoms.

## Prevention

You can reduce your child's risk of ear infections with the following measures:

- Wash hands and toys often.
- If possible, choose a day care that has 6 or fewer children. This can reduce your child's chances of getting a cold or other infection, and lead to fewer ear infections.
- Do not use pacifiers.
- Breastfeed -- this makes a child much less prone to ear infections. If you are bottle feeding, hold your infant in an upright, seated position.
- Do not expose your child to secondhand smoke.
- Make sure your child's immunizations are up to date. The pneumococcal vaccine prevents infections from the bacteria that most commonly cause acute ear infections and many respiratory infections.
- Don't overuse antibiotics. Doing so can lead to antibiotic resistance.

## Alternative Names

Otitis media - acute; Infection - inner ear; Middle ear infection - acute

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