

Patient information from BMJ

Last published: Oct 22, 2017

Ear fluid after an infection

After an ear infection or a cold, some children get fluid trapped inside their ear. This can stop them from hearing properly. This condition is called otitis media with effusion, or OME for short. Often it will clear up on its own. But if it doesn't, treatment can help.

We've brought together the most up-to-date research about ear infection with fluid to see what treatments work. You can use our information to talk to your doctor and decide what's best for your child.

What is OME?

Your middle ear is the part of your ear just behind your eardrum. It's normally filled with air. This allows three small bones there to vibrate and send sound waves into the inner part of your ear. The sound waves are then changed into signals that are carried by nerves to your brain.

When a child gets OME, their middle ear fills with fluid. The fluid is a bit like the thick mucus that can get stuck in your throat. The fluid can stop the eardrum and the three small bones from moving freely, so they can't carry sounds to the inner ear as well as they normally would. This may mean your child cannot hear properly.

Your child may get OME inside one or both ears.

What are the symptoms?

Poor hearing is the most common symptom. You may notice that your child:

- Seems not to listen to you
- Has the television on at a high volume
- Has problems hearing if he or she can't see the person speaking
- Doesn't pay attention
- Is overactive
- Asks, "What did you say?" more often
- Speaks more loudly or talks less

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- Says words incorrectly or speaks less clearly
- Falls behind friends in his or her use of new words and speech patterns.

Poor hearing can have other causes. But OME is the most common reason for hearing loss in children.

To check your child's ears, your doctor will look inside the ears with a tool called an otoscope. The doctor will check to see if your child's eardrum looks dull (a healthy eardrum looks shiny). He or she will also check for any air bubbles or fluid behind the eardrum. However, this test does not always detect OME. Even if the eardrum looks normal, your child could still have OME.

A special type of otoscope, called a pneumatic otoscope, is better at diagnosing OME. It changes the pressure inside the ear canal and lets the doctor see if the eardrum responds by moving. If the eardrum is not moving much, this suggests there is fluid inside the ear.

Your doctor may also do a test called a tympanometry, which measures how the ear reacts to sound and different pressures. This can also indicate whether a child has OME.

Your doctor may also recommend that your child has a hearing test.

What treatments work?

OME often clears up on its own, so doctors usually recommend **waiting at least three months** before considering treatment. During this time, your child may have regular checks with your doctor. You may hear this called "watchful waiting" or "active observation."

If the fluid doesn't clear up after three months and your child has significant loss of hearing in both ears, then your doctor may refer your child to a specialist for treatment.

If your child has Down syndrome, a cleft palate, or another condition that increases his or her chance of speech, language, or learning problems, your doctor may recommend having treatment for OME sooner, without waiting three months.

Surgery to insert tubes

The main treatment for OME is an operation to put small ventilation tubes into the eardrums. These tubes let air flow in and out of the middle ear. This helps to control the pressure in your child's middle ear, which stops fluid from building up. You may hear these tubes called **tympanostomy tubes**.

During the operation, the surgeon makes a small hole in your child's eardrum and drains away the fluid. Then the surgeon puts the tube in the hole. It's normal for these tubes to fall out after about six to 12 months. When this happens, your child may need another operation to put the tubes in again if he or she still has OME. But the chances of needing another operation get smaller as your child gets older.

Other treatments

Researchers have looked at several medicines to help with OME, including **antibiotics**, **antihistamines**, **decongestants**, and **corticosteroids**. But there is no good research

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showing that these treatments help over the long term, so doctors do not usually recommend them. They can also cause side effects.

Some children with OME use **special balloons** that they blow up with their nostrils. If done regularly, this may help open the tubes leading from the middle ear to the back of the throat (the Eustachian tubes), allowing the fluid to drain from the middle ear.

Some research suggests that children with OME who use these balloons are more likely to improve in three months than children who don't. However, most of the studies have been small, so we don't know for certain. Also, some children find these balloons difficult to use.

What will happen to my child?

Many children with OME get better without treatment within three months. But some children, especially younger children, have OME for much longer. OME can also come back.

If OME affects your child's hearing for long periods, this could possibly delay his or her speech if your child is learning to talk. It might also affect his or her behavior and cause problems at school. In these instances, your doctor will probably recommend having treatment.

As children get older, OME normally goes away completely. Problems with OME don't usually continue after age 6.

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