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OTITIS MEDIA IN CHILDREN

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What Is OTITIS MEDIA?

The term Otitis Media covers several disease processes that can happen in the middle ear, and there are various names used for similar conditions, which can be confusing. There are three main forms of Otitis Media.

1. *Acute Otitis Media* ... is a middle ear effusion (fluid) associated with symptoms of pain, fever and irritability. Some children may also suffer from a loss of appetite and even vomiting.

2. *Recurrent Otitis Media* ... is when there are three or more separate episodes of Acute Otitis Media in a six-month period.

3. *Otitis Media with Effusion* ... often referred to as *glue ear*, describes fluid in the middle ear with no sign of fever or inflammation of the eardrum.

In all these conditions there is fluid in the middle ear, and there may be a hearing loss as well depending on the amount and stickiness of the fluid. This type of hearing loss is called a **conductive hearing loss**.

It is common to see fluid after an acute ear infection but fluid can occur with a cold or even in children with no recent history of infection. There is considerable overlap in the appearance of the ear and in the symptoms of these conditions. A child who has recently had an ear infection may have fluid for some weeks, which can then clear up without treatment.

The term **chronic middle ear effusion** is used when the fluid has been present for at least two months.

How common is OTITIS MEDIA?

Otitis Media is very common in young children. By the first birthday, 50% of children have had Acute Otitis Media. By their third birthday 70% of children have suffered. About 30% of children will have multiple infections.

There are many reasons for this high incidence in children and there are several predisposing factors that combine to cause ear infections.

Eustachian tube blockage. One of the major reasons for children suffering more ear infections than adults is the immaturity of their *Eustachian tube*. This tube opens between the middle ear and the back of the nose. It allows ventilation of the middle ear as well as protection from changes in air pressure.

In infants and young children the eustachian tube is shorter, more horizontal and the opening and closing mechanism is less efficient than in adults. Also babies spend more time lying down and this causes more swelling and therefore more obstruction of the tube.

More colds

Another significant factor is that young children have less mature immune systems and hence have frequent colds and ear infections.

How does the disease progress?

With Otitis Media, the most common story is that the child has had a cold for two or three days and then develops ear pain. Over the next week 80% of these infections will improve without treatment, although there may be some fluid remaining in the middle ear for weeks before the ear returns to normal. The reason for the spontaneous improvement is that the body's immune system fights the infection, and as the cold improves the eustachian tube opens to allow drainage of the infection and the fluid.

In Acute Otitis Media the child may have a cold for a couple of days with nasal blockage, runny nose and fever. The child then becomes increasingly irritable and may pull at the ear. An older child may complain of earache, but it is surprising how many children have difficulty localising where their pain is.

The problem is that the symptoms of Acute Otitis Media may not be very obvious. An irritable feverish child could have any one of a number of conditions, from a simple cold to a life threatening condition such as pneumonia or meningitis. For these reasons it is best for a sick child to be seen by the family doctor or at the casualty department of a hospital, even when a child has had frequent ear infections before.

What about fluid in the ear?

In children with Chronic Otitis Media with Effusion (fluid) there is a hearing loss with no other symptoms of pain. This hearing loss can cause delays in speech and language development and difficulties at school. These children may be inattentive, behave badly and perform poorly in class. Parents or teachers concerned about these sorts of problems should arrange for an audiologist to test the child's hearing.

Are antibiotics needed?

It is now realised that 80% of children will get better from Otitis Media needing only some pain relief. However, if the child is very young - two years of age or less - it is wise to treat ear infection with antibiotics. There are several reasons for this: young children have immature immune systems and may not fight infection well, and they may develop serious complications quickly. A baby cannot say if the pain is better or worse, so parents and doctors can only guess if there appears to be an improvement. Older children who have increasing pain or who still have pain and fever after 24 to 48 hours should be seen by a doctor, and antibiotics may be prescribed.

If antibiotics are frequently used bacteria can become resistant to them. However, since antibiotics have been used to treat Otitis Media there has been a significant decline in serious complications, such as mastoiditis and brain abscesses.

Antibiotics should be given to the younger child who appears ill or for a child who is not improving quickly. Each child should be monitored to check there is no complication from their ear disease, whether they have been treated with antibiotics or not.

Are other medications useful?

There is no scientific evidence from properly performed trials that supports the use of decongestants and antihistamines for either Otitis Media or Chronic Middle Ear Effusion.

What about surgery?

The insertion of ventilation tubes by surgery should be considered if:

- there is fluid in the middle ear for more than three months which is associated with a hearing loss
- there is frequent ear pain
- there are changes in the appearance of the ear drum which indicates that there could be permanent damage to the ear drum or the little bones in the middle ear if the condition is left untreated
- there are associated speech and language problems
- there is an intolerance to antibiotics in a child with frequent ear infections.

Can Otitis Media be prevented?

There are several risk factors that make a child more likely to get an ear infection. There are some things parents can do to minimise the risk of Otitis Media.

- Breast feeding for at least six months helps protect the baby from ear infections.
- Passive smoking is a cause of Otitis Media and adults should avoid smoking in the house.
- Dummies or pacifiers do not improve the function of the eustachian tube and children who use these have been found to be more prone to ear infection.
- Children in big day care settings will pick up more infections than those in smaller, family care facilities.
- Children in a day care centre may have some protection from ear infections if given the influenza vaccine. Prevenar, the new vaccine against pneumococcal infections for children aged less than two, can reduce the number of episodes of Acute Otitis Media, especially in children who are having a lot of problems.

Where can a child's hearing be tested?

Australian Hearing Services can test children and young people up to the age of 21. A doctor's referral is not required but a medical check before testing is preferred. Hearing tests are also available for children at some Community Health Centres, Audiology or Ear Nose and Throat Departments at many hospitals, and some audiologists in private practice offer paediatric assessments.