



Earache and Otitis Media

What is Otitis Media?

Earache and otitis media are very common. One out of three children will have more than three ear infections during the first three years of life. Otitis media is the most common cause of hearing loss in children.

Otitis Media is an inflammation of the middle ear. The middle ear is a pea-sized, air-filled cavity separated from the outer ear by a paper-thin eardrum. Within the middle ear space are three tiny bones. These bones vibrate when sound strikes the eardrum. The vibration is transmitted through the bones to the inner ear, which converts the sound to a nerve impulse. Surrounding the bones in the middle ear is an air space. This space is normally at the same atmospheric pressure as the outside world. The pressures are normally kept equal through a valve called the eustachian tube. Otitis Media often begins when the eustachian tube becomes blocked by infection or swelling. This allows fluid to build up in the middle ear and creates a place where bacteria can grow. In children the eustachian tube does not work as well as it eventually does in adults. As the face and head grows, the eustachian tube elongates, stiffens, and becomes angled in a more vertical position. These changes make the tube work better. Thus, ear infections are largely a pediatric disease. The infections can occur in one or both ears simultaneously. Otitis media is frequently preceded by an upper respiratory infection or nasal congestion. Otitis Media can occur at any age.

Despite its frequency Otitis media is a serious condition that should not be left untreated. It is often very painful and can lead to more serious consequences including hearing loss, speech delay in young children, and rarely spread of infection to other areas of the head. Despite its serious consequences it is often easily treated.

Acute otitis media is an infection that begins in a previously healthy ear. The most common symptoms of acute otitis media are earache, a feeling of pressure or blockage in the ear, or muffled hearing. In small children who cannot verbalize their discomfort you may notice them tugging or pulling at the ear. The eardrum is usually red and may bulge due to pus trapped behind the ear. If the pressure builds up enough the eardrum may rupture and drain. When the pus in the middle ear remains trapped it is called middle ear fluid or effusion or serous otitis media.

Chronic otitis media with effusion occurs when the effusion lasts too long. It is normal for fluid to stay in the middle ear for a short time after acute otitis media. In fact in 90% of all acute infections the fluid will resolve within 90 days. Chronic fluid is a serious problem. It often is not painful or bothersome and can often be overlooked and the diagnosis delayed. It nearly always causes hearing loss. Fluid in the ear that never clears can also cause more frequent episodes of acute otitis media.

What will the doctor do?

During the visit with the doctor he/she will look inside the ears with an Otoscope to check for redness or fluid behind the ear. He may also blow a tiny puff of air into the ear to see if the eardrum is moving properly. Sometimes we will use a microscope for a better look. He may also wish to have an audiologist perform an audiogram and a tympanogram to measure hearing and air pressure in the middle ear.

Then what?

If an infection is present the doctor may prescribe an antibiotic to fight the infection. The antibiotic will help the pain of the infection go away very rapidly but the fluid may still be present. It is very important to continue to take the antibiotic and finish the prescription to prevent recurrence or drug resistance to a particular antibiotic. The doctor may also prescribe other medications to relieve associated symptoms. If you have any questions about the medications or a failure of the medication to provide relief contact your doctor.

Although ear infections are common in children and usually clear up with the proper treatment in some cases the frequency of recurrence warrants more aggressive treatment. In this case your doctor may suggest a procedure called a myringotomy. This is done under local or general anesthesia depending on the age of the patient. It is a painless procedure that usually only takes a few moments. This involves an Otolaryngologist making a small incision in the eardrum to allow the accumulated fluid to escape. This is often accompanied by the placement of a small tube, called a pressure equalizing tube or PE tube, in the eardrum to hold it open and keep the ear ventilated. The goal of this is to decrease the number of ear infections and to make them more easily treatable by allowing antibiotic eardrops to be placed directly in the ear.

PE tubes are generally intended to stay in the eardrum for a period of 6 months to 2 years. Although they are very successful in decreasing the number and frequency of ear infections, infections can still occur and should be treated. The PE tube causes no discomfort and usually comes out on its own without even being noticed within a couple of years.