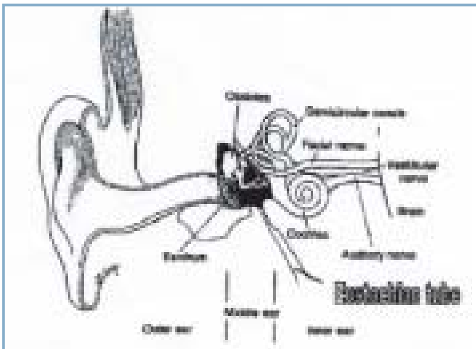
Ear Infections

Otitis Media (OM) is an infection of the middle ear. It is the second most common disease of childhood after upper respiratory tract infections and is one of the most common reasons for a child to visit the pediatrician's office. It is also seen in adults. Although both the diagnosis and the treatment of OM have improved enormously , serious complications still occur, although far less frequently than in the past. However, non-life-threatening complications such as hearing loss are very frequent, causing difficulty for the patient.

Middle Ear Effusion is the fluid behind the eardrum resulting from Otitis Media. There are three types of effusion: serious (thin, watery liquid), mucoid (thick and viscous, like mucous), and purulent (pus-like liquid). After an ear infection, 10% of patients have middle ear fluid lasting three months or more. Prolonged middle ear fluid associated with hearing loss may interfere with speech and language development in children.

WHAT CAUSES OTITIS MEDIA?

Abnormal function of the Eustachian tube appears to be the most common cause of middle ear infections. The Eustachian tube allows the passage of air from the back of the nose to the space behind the eardrum. An improperly functioning Eustachian tube can cause fluid to form in the middle ear space. Other contributing factors are infections of the upper respiratory tract, allergy, immune deficiencies, and abnormal function of the respiratory lining of the ears, nose and throat (ciliary dysfunction)



HOW IS OTITIS MEDIA DIAGNOSED?

Otitis Media is classified into three types:

Acute Otitis Media (AOM) - rapid onset of symptoms/signs of acute infection such as fever, pain, and irritability.

Otitis Media with Effusion (OME) - fluid in the middle ear without symptoms/signs of acute infection but often accompanied by hearing loss.

Chronic Suppurative Otitis Media (CSOM) - prolonged or intermittent drainage through a tube or perforation (hole) in the eardrum. Diagnosis is typically made with a thorough history and examination of the ears, nose, and throat. Examination of the ears may reveal any of the above types of Otitis Media. Hearing should be evaluated in any patient with recurrent or persistent Otitis Media. An impedance audiogram (tympanogram) may be performed to help confirm the presence of the fluid in the middle ear space.

COMMON SIGNS & SYMPTOMS OF OTITIS MEDIA

Otalgia (Ear Pain)
Fever
Irritability
Otorrhea (ear drainage)

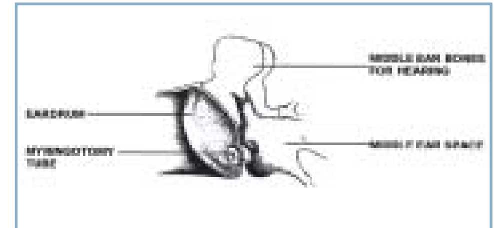
HOW IS OTITIS MEDIA TREATED?

Uncomplicated Acute Otitis Media (AOM) should initially be treated with oral antibiotics. A ten day course of therapy is recommended, with significant improvement expected within 72 hours. If the patient does not improve significantly in that time, then a resistant organism (bacteria) should be suspected and a stronger antibiotic should be used. After a ten day course of effective antibiotic therapy, up to 50% of patients are clinically well but have persistent middle ear fluid. If the patient remains asymptomatic, the fluid can be followed, because it may take up to 3 months to resolve after a single infection. If the patient develops frequent and recurrent bouts of Otitis Media, other treatments may be considered. Other disease processes that may be associated with ear infections are sinusitis, nasal allergy, immune deficiency, ciliary dysfunction, enlarged or infected adenoids, and cleft palate. Identification and treatment of these factors may help to control Otitis Media.

Patients who experience frequent or recurrent Otitis Media can be considered for the following treatment options:

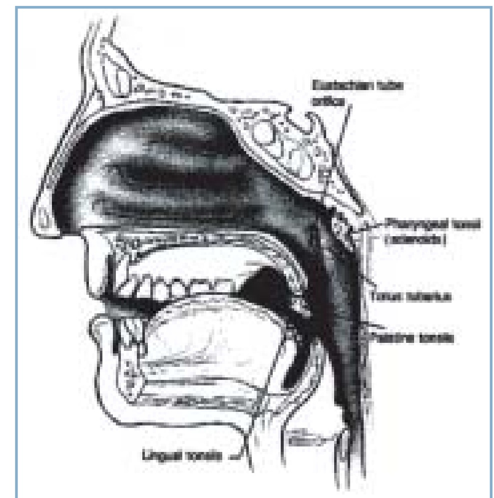
Antibiotic Prophylaxis - Antibiotics in a once-a-day dose to try to prevent recurrent infections. If tolerated, treatment should usually be administered for 2 to 3 months. Children who experience infections during this treatment usually require surgical intervention.

Myringotomy and Tube Insertion - Children who are unable to tolerate antibiotic prophylaxis or have breakthrough infections while on prophylaxis are candidates for myringotomy tubes. This is typically performed as an outpatient procedure under general anesthesia. The tubes are temporary, lasting 6 to 12



months in the ears. A new laser procedure, Otolam, is currently being tested. No long term results are currently available with this technique.

Adenoidectomy - Adenoidectomy (removal of the adenoids) and, to some extent, tonsillectomy (removal of the tonsils) have long been advocated for definitive management of middle ear disease. Enlargement of the adenoids can cause obstruction of the Eustachian tubes or be a source of bacteria that can cause middle ear infections. There is evidence that Adenoidectomy is helpful in some children with Otitis Media with effusion. with a history of snoring and/or chronic mouth breathing with nasal obstruction should be evaluated for possible adenoid and tonsil enlargement.



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