Terms Related to Hearing Losses

**Aural Atresia:** In the presence of Microtia (meaning "little ears"), aural atresia, or absence of the ear canal, usually also will be present. In some patients, a tiny diameter external ear canal, canal stenosis, will be present. Canal stenosis is associated with a high incidence of Cholesteatoma. Cholesteatoma is 'skin' inside the ear which becomes erosive and destroys bone such as the three little bones that we use for hearing.

Because hearing is usually affected by Microtia, a hearing test is important. Babies will have an auditory brainstem response threshold test (ABR or BAER) and this test can be done in the early days and weeks of life either under natural sleep or under sedation (anesthesia is not required). The hearing test most often will reveal that a "maximum conductive hearing loss" of about 60 decibels exists for the affected ear. For comparison, if you stick fingers in both ears simultaneously, you can simulate the hearing level of a patient with bilateral aural atresia.

Should a patient have bilateral atresia, hearing amplification will be vital for language development, which should proceed normally. A patient with unilateral atresia often has excellent language development yet still can have a hard time determining where sounds are coming from. Depending on the age of the patient, whether the patient has an atresia or a stenosis, and the type of Microtia, various types of amplification are available. A bone conduction hearing aid can be used to bypass the ear canals and stimulate the skull directly with vibrations. The styles that are available can be discussed with an audiologist. Some patients will be candidates for surgical correction of the aural atresia.

**Cholesteatoma:** A cyst or other abnormal growth behind the ear drum that may result from repeated ear infections and that can interfere with normal hearing.

**Mastoiditis:** An infection of the bone behind the ear. This condition usually follows acute otitis media.

**Microtia:** Microtia means "little ear." Microtia ears can vary in appearance; most are shaped like a small peanut or figure-eight and are associated with aural atresia (meaning that the ear canal has not opened). Some microtia ears have a more recognizable auricular appearance and the ear canal might be open.
Myringotomy Tubes (also called ear tubes, tympanostomy tubes, ventilation tubes, or pressure equalization tubes): These are small tubes placed surgically into the eardrum that help to drain fluid from the middle ear space and reduce the risk of infection.

Otitis Media: An infection associated with a collection of fluid in the middle ear space.

Recurrent Acute Otitis Media: Acute Otitis Media is inflammation of the middle ear space resulting in an collection of fluid and associated with rapid onset of symptoms such as ear pain, fever, irritability, anorexia, or vomiting. Multiple ear infections that occur over a period of several months should be evaluated by an otolaryngologist.

Chronic Otitis Media with Effusion: Otitis Media with Effusion is a middle ear fluid (effusion) collection that often follows acute otitis media; the child may not show any symptoms. Persistent middle ear infections may cause ear damage or hearing loss.

Factors that increase risk of Otitis Media:
• Secondhand smoke exposure
• Frequent upper respiratory infections
• The child attends daycare
• The child is bottle-fed while laying on back
• A poor immune system
• Eustachian tube dysfunction
• Absence of breastfeeding

Otitis Externa ("Swimmer's Ear"): Inflammation of the outer ear and ear canal.

Tympanic Membrane Perforation: A hole in the eardrum which may cause persistent ear drainage or hearing loss. The perforation usually heals on its own within a few weeks. When perforations fail to heal spontaneously, surgical repair, or tympanoplasty, is usually deferred until the child is older and Eustachian tube function has improved.