

HEARING LOSS: CAUSES AND MANAGEMENT

-- Dr. Rajan Bhargava
Sr. ENT Surgeon

In India estimates suggest that percentage of people with varying degrees of hearing loss is about 10%. There is a greater amount of hearing loss in rural population.

In our daily living audio verbal communication is most commonly used. Normal hearing is a prerequisite for this method of communication. Our ability to speak is determined by our hearing capability during early childhood inability to hear in childhood leads to speech defects.

Hearing defects are usually difficult to decipher. The process is slow, painless and is not emphasized upon. The usual complaints in such situations are:

- 1) Inability to hear in cinema/ theatre or in situation where source of sound is away.
- 2) Poor discrimination of high pitched sounds
- 3) Hearing disability in a group of people.

The basic mechanism of hearing entails collection of sound waves by external ear and amplification of sound by the middle ear. The middle consists of the ear drum and small bones attached to each other. The smallest of these bones, called the stapes, transmits the vibrations to the inner ears also called the cochlea. In the cochlea sound wave is converted to electrical impulses and are transmitted by the hearing nerve to the brain which perceives it as sound. Hearing loss due to infection in the outer and middle ear causes conductive loss. If the disease is at the level of inner ear in the hearing nerve, then the type of hearing loss is sensory neural in nature. The amount and type of hearing loss is assessed by a simple test called audiometry. Conductive hearing loss is usually amendable with treatment by medicines and surgery. Sensory neural loss is usually not correctable and requires rehabilitative techniques like hearing aids and cochlear implants.

Conductive loss although correctable is not given due attention in our country. Wax in the ears, discharging ears, bone discontinuity fixation are common causes of conductive hearing loss.

In India discharge is the commonest cause of conductive hearing loss and is usually correctable by a simple surgical technique called Tympanoplasty. Ossicular discontinuity requires microsurgical procedures for improvement in hearing.

The commonest cause of **sensory neural deafness** is presbycusis or age related weakening of inner ear and hearing nerve. It is usually a progressive situation and causes considerable communication difficulties. Audiometry

documents the amount of hearing loss and hearing aid can be dispensed accordingly. Hearing aid should not be prescribed without an audiogram.

Noise induced hearing loss is seen increasingly both in general public and in professional groups exposed to loud sounds like traffic police personnel industrial workers etc.. There is no cure for this type of hearing loss except prevention. Other common causes of sensory neural deafness include trauma, drug induction and certain viral infections.

Hearing loss in children requires considerable attention. This is because speech is dependent upon normal hearing in childhood. Fluid collection behind eardrum due to repeated nose / throat infections is commonly seen in children. Placement of ventilation tube (Grommet) is a very simple solution to this problem.

Congenital hearing loss can be corrected considerably by placement of cochlear implant. The work of inner ear is done by the implant giving good hearing results. Presently, it does not enjoy mass acceptance due to the expenses involved.