

## Otosclerosis

Otosclerosis -- the immobilization of the stapes bone -- occurs slowly. Perception of hearing loss is so slow that many people with otosclerosis only become aware of their hearing loss when friends or relatives call it to their attention. Many individuals with otosclerosis compensate for their hearing loss by inadvertently learning to read lips.

Sometimes, the lip reading is conscious; at other times the person may be unaware of it. Hearing loss in otosclerosis may be in one, or both ears. When the hearing loss is in both ears, its effects on daily communication are significant. The first sign of a hearing loss can occur when a person finds themselves requesting that others repeat themselves, or noting hearing difficulty when people's faces are turned away.

Noises in the ear usually accompany otosclerosis. The sensation of background noises in the ear, even in the quiet, is called, tinnitus. In otosclerosis, tinnitus may be a broad band hissing sound, discreet tones or pulses. Also, the nerve of hearing is sometimes effected by otosclerosis. The tinnitus may be worse in this case.

Tinnitus will go away in about half the cases of otosclerosis, when treated surgically. It is uncommon for the tinnitus to worsen after surgery.

The individual with otosclerosis has several options. If the degree of hearing loss is minimal and only affects one ear, no intervention can be considered. However, hearing in both ears is necessary to localize where sounds are coming from. This enhances our ability to hear. Individuals with good hearing in one ear only, generally adapt, but it is still distressing vis-a-vis

a sudden blockage of one ear by an infection or wax.

Hearing aids can be fitted in cases of otosclerosis. Some individuals with otosclerosis purchase a hearing aid because of health problems, age, or concerns regarding surgery. However, most people in good health will generally elect surgery to correct their hearing loss.

This surgery is called stapedectomy, meaning removal of the stapes bone. After removal of the stapes bone (which is not properly vibrating), a small window is made to the inner ear. An artificial replacement made out of teflon and platinum or other material is then substituted for the non-functioning stapes bone. The artificial replacement (prosthesis) is very tiny, since the stapes bone, which it is replacing, is only about 3.5 mm in height, less than 1/8 of an inch.

Courtesy of Mark J. Levenson, MD, FACS