

WHAT IS PRESBYCUSIS

Presbycusis is the loss of hearing in both ears that gradually occurs in most individuals as they grow older. There are many causes of presbycusis.

Most commonly it arises from two major changes in the *inner ear* or *auditory nerve* of a person as they get older:

- It has been noted that older people often have more difficulty understanding speech than their hearing loss suggests. Reasons could be attention span and working memory, but new research suggests that there is a change with age, independent of hearing loss, in the way speech sounds are “coded” on the way to the brain. The ability to recognize words is governed by a small portion of the brain's **auditory cortex**. Subjects were tested on their ability to identify words, some of which were filtered to reduce intelligibility. Older subjects with comparatively smaller portions of the auditory cortex were less able to identify challenging words than the younger subjects—thus the explanation as to why it becomes more difficult to understand speech in noisy environments. Understanding that hearing loss can also be the result of comparatively diminished brain function could help lead to new therapies.
- Repeated exposure to noisy environments can cause a loss of hair cells. This is called *Sensorineural hearing loss*. It can also occur as a result of hereditary factors & the side effects of some medicines.

Presbycusis also results from a *conductive hearing disorder*—changes in the **outer & middle ear**. Health conditions more often found in elderly patients such heart disease, high blood pressure and diabetes, can contribute, as these change the blood supply to the ear.

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