

COLLAPSED EARDRUM

(ADHESIVE OTITIS MEDIA, DRUM ATELECTASIS)

Eardrum collapse occurs when the Eustachian tube from the rear of the nose to the ear becomes chronically blocked ([Eustachian Tube dysfunction](#)). The middle ear is normally an air-filled chamber bounded on one side by the eardrum, and on the other by the dense bone of the inner ear. Suspended between are the tiny ear bones (ossicles) that vibrate to pass sound into the inner ear nerve to create hearing. To work optimally the bones must vibrate in mid air. As air is soluble, it is constantly replenished from the nose, when the normally shut tube is opened by actions of the palate.

If the tube-opening mechanism malfunctions ([Failure of the Eustachian Tube](#)), a vacuum forms in the middle ear, sucking the drum in, placing it under constant tension. In these circumstances, as well as fluid filling the ear (glue ear), the drum gradually stretches, becoming flaccid and collapsing into the middle ear.



Adhesive Otitis Media: The chronically collapsed eardrum

“Silverton Place”

101 Wickham Terrace
Brisbane Qld 4000

P: 07 38397677 F: 07 38325723

Other Locations

Beenleigh

Sunnybank

Mt Ommaney

Caboolture

Characteristics

Collapse of the drum has **four phases**, each with implications for the function of the ear.

Collapse generally begins in the upper rear quadrant of the drum, but may gradually extend to the entire drum face. Hearing may be unaffected for some time, unless a concurrent effusion fills the ear; this may be recovered by a grommet (vent tube) insertion that dispels the vacuum.

Gradually, however, the extent of collapse will cause deafness as the drum loses its tensile vibratory nature, reducing the vibration of the ossicles. Drum repair with a stiffening graft is then needed to restore hearing.

Retraction of the drum then causes gradual breakdown of the ossicles themselves, possibly by pressure on the blood supply. Ossicle replacement using micro-prostheses, plus drum repair, is then necessary to repair the damage.

Lastly, stretching of the drum results in dead skin accumulation in the middle ear (cholesteatoma). Infection then intervenes, risking a range of serious, sometimes fatal consequences and necessitating more extensive surgery such as mastoidectomy.

Treatment

The drum collapse process is often partial and is frequently operable with complete success. In these cases, thin cartilage and soft tissue drafts are fashioned and fitted to reinforce the damaged drum. These are generally successful in preventing re-collapse.

If the chain is damaged, tiny devices (ossicular replacement prostheses) are used to bridge the gap in the chain, restoring hearing. The success of this aspect of microsurgery in the ear will be dependant upon a range of factors.

A minority of cases suffer permanent and irreversible blockage of the Eustachian tube. In these cases surgery may arrest the progression of the problem but a partial hearing loss may persist, requiring either hearing aids or active middle ear hearing implants. Other complicating factors include severe scarring or the need for more extensive surgery to remove cholesteatoma

More Information

- [Adhesive Otitis and Classification](#)

“Silverton Place”

101 Wickham Terrace
Brisbane Qld 4000

P: 07 38397677 F: 07 38325723

Other Locations

Beenleigh Sunnybank Mt Ommaney Caboolture