



National
Association
for Deaf People



Flying and the Ear

From the large correspondence received at the National Association for Deaf People it is clear that flying comes high on the list of anxieties for people suffering from deafness and tinnitus. Most of these anxieties are completely unfounded and come from the almost universal experience of discomfort in the ears following an air flight.

Pressure Changes

Although a commercial aeroplane may be flying at over 30,000 feet, the pressure in the cabin is controlled automatically to the equivalent of a height of around 6,500 feet. The main effect of this pressure change is on the middle ear. This is part of the ear behind the ear drum containing the small ossicles or bones which conduct sound to the inner ear and nerve of hearing. The middle ear cavity is normally filled with air at the same pressure as the surrounding air in the atmosphere. The air in the middle ear is being continuously absorbed by the body, but each time we swallow or yawn, the Eustachian tube running to the back of the nose opens and allows air to pass into the middle ear cavity.



After take-off the pressure in the aircraft cabin slowly drops, but this does not usually present a difficulty as the air in the middle ear is at a relatively high pressure and this results in the expulsion of a small quantity of air down the Eustachian tube, rather like releasing the string on a toy balloon. If there is a problem, it tends to occur when the aircraft comes down to land. The air in the middle ear is at a lower pressure than the air in the cabin and the Eustachian tube may become locked and the small muscles in the pharynx which open it may not be able to do so. This results in low pressure in the middle ear, and the eardrum is pressed inwards and tensed resulting in a slight discomfort. In people with pre-existing deafness, often due to reduced nerve function, this small additional loss of hearing may have a very dramatic effect in terms of speech intelligibility. Usually the blockage of the Eustachian tube clears of its own accord after a short time.

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See our leaflet for our Resource Centres and Outreach Centres

Check out our range of leaflets or visit our website at www.nadi.ie for further information.

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Avoiding the problems

Eustachian tube function varies a great deal between individuals and even in the same person over a period of time, but here are a few simple rules:

1. Make sure you are awake before the aircraft begins its descent (the initial descent from cruising altitude may be an hour or so before landing). The Eustachian tube does not open effectively during sleep.
2. Keep swallowing, using a glass of water (or your favourite non-alcoholic beverages) at regular intervals; if necessary every fifteen to thirty seconds. If this does not clear the ear, pinch the nose between finger and thumb and gently blow air down it with the mouth closed, but without releasing any air (the valsalva manoeuvre).
3. Chewing or sucking a sweet or simulated chewing is helpful when you experience discomfort of the ear.
4. Avoid flying with a cold (not always an easy thing to do). With a cold or other infection around the nose and throat the lining of the Eustachian tube is swollen and blocks more easily. If you are forced to travel with a cold use nasal decongestant drops or spray on the advice of your doctor. Use the decongestant before and during the flight. Your doctor will advise you.



Tinnitus and Flying

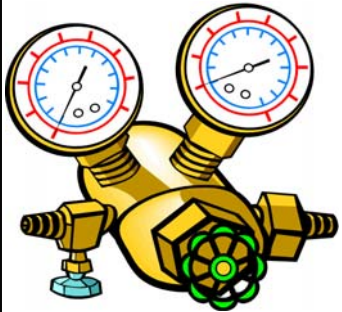
The vast majority of tinnitus sufferers have small abnormality in the inner ear. The middle ear is normally blameless, but its function can always be checked in an audiology department. It is very quick and easy to do. If Eustachian blockage is experienced during flying, then tinnitus may appear to get louder, temporarily, in the same way as

it does on inserting an ear plug. On clearing the ears the tinnitus will normally return to its former level.

Pressure Changes and the Inner Ear

In some cases changes of pressure do have a small and temporary effect on tinnitus. It may change the frequency, and in some cases may temporarily increase or decrease the sound. The same effects can be produced by lying flat or tilting with the head down. The majority of tinnitus sufferers do not experience these effects, and it must be stressed that when they do occur they are only temporary.

Very occasionally sudden decompression occurs in an aircraft. This can sometimes have an effect on the inner ear. This is an extremely rare occurrence and is usually accompanied by disturbance of balance and hearing loss. If medical attention is sought quickly enough treatment is often effective. Any ear condition following an air flight that does not clear within a number of hours should be seen by a doctor.



Grommets and Perforations

Grommets are very small ventilation tubes used in the treatment of certain middle ear disorders. Perforations can occur in the eardrum as a result of infection or injury. In either case there is actually less of a problem flying than if the ear drum is intact. This is because any change in pressure can be equalised across the ear drum and does not depend on the Eustachian tube functioning normally.

Ear Plugs, Noise and Flying

Many people ask whether they can wear ear plugs to counter the effect of pressure changes. Some people who are extremely sensitive to any kind of pressure change do find it helpful to wear ear plugs. Special earplugs are called "Earplanes" which are available from chemists and airport pharmacies. They help with the sudden changes that may occur and cause discomfort. The plugs should be removed on leaving the aircraft.

Many people find the noise in the aircraft cabin is excessive, particularly if they are sitting near the back of the aircraft.

Patients with hearing disorders or tinnitus often find loud sounds uncomfortable. For this reason ear plugs can be very helpful in protecting against this sort of noise. Conversely, many patients find that being in an aircraft is one of the times when they are completely free of their tinnitus because the noise of the aircraft masks it.



Flying after Ear Surgery

If you have recently undergone middle ear surgery, or are about to do so, it is important to discuss whether or not you will be allowed to fly immediately afterwards. If the operation involves the insertion of a grommet or ventilation tube, then there should be no problem about flying. Other operations which involve either the grafting of a perforation of the ear drum, or more particularly the stapedectomy operation for otosclerosis, usually require a short period of avoidance of air travel while the ear is healing. Ask your ear specialist for his/her views.

Other factors

Many people with hearing disorders and particularly those who have tinnitus can suffer from varying degrees of anxiety or depression. Sometimes the thought of a lengthy air flight with its own attendant anxieties makes it very difficult to contemplate undertaking the journey. If you have these anxieties, it is well worth discussing them with your medical adviser, as he/she may consider it reasonable to provide you with a mild sedative to help you with the journey. Remember too that modern air travel is one of the safest ways to getting from A to B, and that there are very few ear conditions which preclude flying.