



# Ears, Eyes, and Airplane Travel

## PATIENT EDUCATION SERIES

Travel can be tough on your ears: flying in airplanes, descending into valleys below sea level, riding elevators to the tops of tall buildings, and scuba diving, just to name a few.

Such activities involve changes in atmospheric pressure and disturb the equilibrium in your ears. The result can be a host of unpleasant symptoms. Discomfort and pain, unusual noises and sensations, temporary hearing loss, and, occasionally – many hours later – symptoms not always associated with ear problems such as dizziness, nausea and headache.

### How does flying affect the ear?

The problem is the middle ear, a small air pocket inside your ear. Knowing how it works can help you prevent problems.

The middle ear connects with the outside via a narrow tube, the eustachian tube, which opens in the back of the nose. Normally, air passes freely from the outside through the nose and through the Eustachian tube into the middle ear. And the atmospheric pressure is the same in all areas.

But the free flow of air is easily interrupted. The area where the eustachian tube opens in the nose is often congested with nasal secretions from colds and allergies. Therein lies the problem.

Most commonly, ear problems occur during the descent of an airplane, when air contracts. The usual reason for this is that the Eustachian tube is partially blocked. Mucus acts like a flap over the end of the tube, which, in effect, becomes a one-way valve, allowing air out but not back into the middle ear. With the air in the middle ear contracting, a vacuum develops and sucks in surrounding tissue. This causes pain. Pain can also develop when you gain altitude if the eustachian tube is completely blocked. In this situation, air in the middle ear expands and, having no outlet, balloons out against surrounding tissue.

### How can I reduce discomfort?

Travel is generally safe with mild nasal congestion and some nasal discharge as long as you feel well, have no difficulty breathing through your nose and have no earache. Medication will help. There is one exception to this: scuba diving, which is covered in a later section.

Decongestants help shrink swollen tissue and reduce secretions. For best results take them about an hour before you will encounter changes in atmospheric pressure.

Decongestants (e.g. sudagest) are available at all pharmacies and do not require a prescription. Be aware that many decongestants are sold in combination with antihistamines, and antihistamines cause drowsiness, which can be dangerous if you plan to drive or dive. Also, people with special medical problems and pregnant women should always consult a medical provider or pharmacist before taking medication.

Nasal decongestant sprays (e.g. Afrin nasal spray or the generic equivalent) also are effective. Use them about 10 minutes before you think you may experience a problem. Spray once into each nostril; in 5 minutes, blow your nose to remove loosened mucus. Repeat if discomfort continues or if you continue to expel secretions. Do not repeat more than 3 times. Use of topical nasal decongestant sprays more than 3 days can cause rebound congestion; avoid prolonged use.

### Swallow often

Swallowing activates the muscles that pull open the eustachian tubes. You swallow more often when you chew gum or allow mints to melt in your mouth. Yawning is an even better activator. (Sleeping during descent increases your chances of experiencing ear discomfort; you may swallow less frequently and may not keep up with pressure changes.)

If yawning and swallowing are not effective, try the following: Pinch your nostrils shut. Fill your mouth with air. Using your cheeks and throat muscles, force that air into the back of your nose as if you were trying to blow your thumb and fingers off your nostrils. Hopefully, you will hear a pop. If no pop, repeat several times. *Do not* use force from your lungs or diaphragm; the pressure may be too high.

### When should I postpone flying?

Consider postponing travel that involves changes in atmospheric pressure if you have any of the following symptoms:

- Inability to breathe through your nose
- A thick, heavy discharge from your nose
- A sinus headache
- An earache.

These symptoms often indicate that your

eustachian tubes are blocked and changes in atmospheric pressure will cause you problems.

### **What are the symptoms of ear problems after a flight?**

If you experience dizziness, nausea or headache several hours or even a day or two after an airplane flight or mountain trip, the cause may be an ear problem. Often such symptoms are erroneously attributed to food or other vagaries of travel. In fact, these can be symptoms of damage to your ears from pressure changes. If the symptoms continue, see a doctor, preferably one who specializes in ears.

### **Scuba diving**

Scuba dive only if you are totally free of cold and allergy symptoms. Avoid airplane travel and mountain climbing for 48 hours after your last dive. There are enormous pressure changes from deep under the water to 7,000 feet, the usual cabin altitude of a jet cruising at about 30,000 feet.

### **Contact lenses in the air**

Air travel can irritate the eyes of lens wearers. Pressurized cabins dehydrate the air and rob the eyes of moisture needed for comfortable lens wear. The lower air humidity in planes also causes tears to evaporate and thus eliminates the chief source of oxygen under the lens.

To ensure that eyes remain comfortable in flight, you can follow these tips:

- Be sure that lenses have been thoroughly cleaned before takeoff.
- Read in intervals. Eyes do not blink as much when reading, which can further reduce the amount of tears and lubrication.
- Remove the lenses before sleeping, even the shortest of naps.
- Use lubricating eye drops frequently during the flight.