Ears and Airplane Travel

Brown Health Services 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, this tube is loosely closed and opens briefly during swallowing or yawning, which allows air pressure to equalize between the middle ear and outside. But when the tissue around the tube is swollen, i.e. congested as with a cold or allergies, that normal function is impaired.

Most commonly, ear problems occur during the descent of an airplane, when air contracts. 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:

- Decongestants like pseudoephedrine (Sudafed) help shrink swollen tissue and reduce secretions
- If you usually have ear pain when flying, for best results take them about an hour before you will encounter changes in atmospheric pressure.
- If you are already having cold or allergy congestion you could start taking it (and the nasal spray) 24 hours before the flight. They are available at pharmacies without a prescription.
- Many decongestants are sold in combination with antihistamines, and antihistamines cause drowsiness, which can be dangerous if you plan to drive or dive. People with special medical problems and pregnant women should always consult a medical provider or pharmacist before taking medication.
- Nasal decongestant sprays (for example - Afrin or a generic equivalent) are effective. Use them about 10 minutes before you think you may experience a problem.

- Spray once into each nostril; after 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, and do not use it for more than 3 days at a time as overuse can cause rebound congestion.

Swallowing and Yawning:

- 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 that has not improved with over-the counter medications
- 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 problems.
Additionally do not travel by airplane if you currently have COVID 19 infection or the flu.

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.