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EUSTACHIAN TUBE DYSFUNCTION (11/08)

The Eustachian tube is a tube that connects the middle ear to the back part of the upper throat. The tube is made up partly of collapsible cartilage, so at most times this tube is closed (meaning that the middle ear and the nose are two separate cavities). However, the tube opens during certain actions, such as swallowing, yawning, and sneezing. When the tube opens, the pressure within the middle ear cavity equalizes to the pressure at the back of the nose (which is connected to the outside world and is therefore at atmospheric pressure). Most of the time, this equalization of pressure occurs so readily that we never notice any changes. However, when we experience sudden changes in pressure such as during takeoff or landing on an airplane, this difference in pressures between the middle ear and the atmosphere is felt as a “popping” sensation. This is why the old wives’ tale of chewing gum on a plane to prevent ear popping actually works- by increasing our chewing and swallowing, we force our Eustachian tubes to open more often and equalize the pressures more easily.

What Is Eustachian Tube Dysfunction?

This refers to any situation in which the opening and closing of the Eustachian tube (and therefore the equalization of the pressures) does not happen as it should. Usually both ears are affected, but at times only one ear may be affected. A person with Eustachian tube dysfunction may also have significant difficulty in adjusting to pressure changes, such as air travel and especially scuba diving. The most common causes for this include:

- Allergies
- Sinusitis/ upper respiratory infection
- Enlarged or inflamed adenoids
- Smoking or exposure to second-hand smoke
- Exposure to environmental irritants
- Chronic sniffing
- Idiopathic (no obvious cause)
- Temporomandibular joint (TMJ) syndrome

What Are the Symptoms of Eustachian Tube Dysfunction?

Generally, the symptoms are much more annoying than they are dangerous. These include:

- Awareness of your own voice when you speak
- Hearing loss
- Plugging or fullness in the ear
- Ear pain
- Tinnitus (ringing)
- Ear popping
- Dizziness or lightheadedness

Treatment

- Generally, treating the underlying cause will relieve this problem.
- Discontinue smoking and/ avoid second hand smoke exposure.
- Perform repeated Valsalva maneuvers (pinching the nose, closing the mouth while “bearing down” to pop the ears open).
- Nasal saline irrigations
- Sinusitis treatment (antibiotics, sinus surgery)
- Nasal steroid spray use (often takes up to **4 months of regular use** before 50% of patients notice reduction or resolution of ETD).
- Adenoidectomy
- In rare instances, placement of a ventilation tube is performed to allow equalization of the middle ear pressure.
- Immunotherapy for underlying allergies (subcutaneous allergy shots or sublingual allergy drops).
- **Decongestants and antihistamines are proven to be ineffective for this condition by numerous medical studies!**

Air Travel Suggestions

Often the most difficult time for patients with Eustachian tube dysfunction is during air travel. Some strategies that may reduce problems include:

- Chewing gum
- Frequent Valsalva maneuvers
- Ear Plane® (800-EAR-6151) pressure-regulating ear plugs (available at most pharmacies and travel stores).
- *Sudafed* 1 hour prior to travel (contraindicated in patients with history of significant heart disease, stroke or high blood pressure).
- *Afrin (Oxymetazoline) Nasal Spray* 2 sprays to each nostril approximately 30 minutes before takeoff and landing.
- Take direct flights to minimize the number of descents from high altitude.