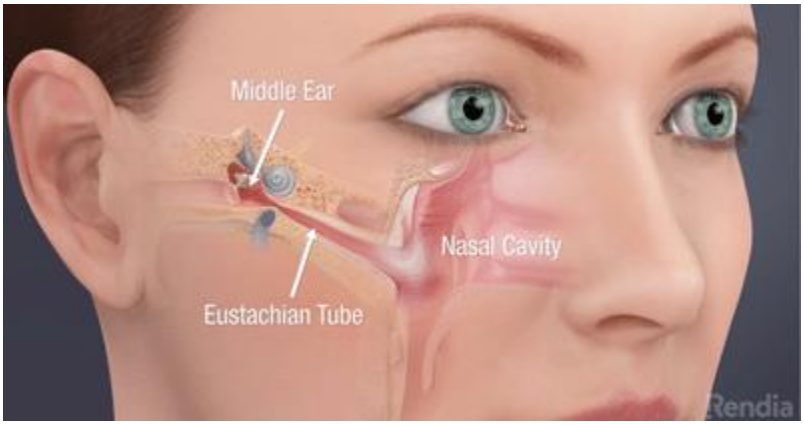
HUNTINGTON EAR NOSE THROAT
HEAD & NECK SPECIALISTS
10 Congress St., Suite 103 Pasadena, CA 91105
P: (626) 796-6164 F: (626) 796-0883
www.huntingtonent.net

Steven A. Battaglia M.D.
Jordan M. Sukys M.D.
Paul J. Fruhner PA-C
Stephanie A. Schwartz PA-C

Eustachian Tube Dysfunction Patient Summary

What is the Eustachian Tube and what does it do?

- The Eustachian tube connects the back of the nasal cavities (nasopharynx) to the area of the ear behind the ear drum (middle ear)
- The tube is lined with mucosa (same as the lining of the nose and sinuses) and surrounded by cartilage (the portion closer to the nose) and bone (the portion closer to the ear)
- The tube helps ventilate the middle ear and protect it from abrupt pressure (e.g. flying or diving)



What is Eustachian Tube Dysfunction?

- Eustachian Tube Dysfunction (ETD) is caused when the Eustachian Tube remains closed for a prolonged period of time or the tube is in a closed position more often than it should be
- This closure of the tube causes symptoms such as: A plugged sensation in the ear/feeling of being under water, muffled hearing, popping/clicking sensation, ringing in the ear, and imbalance

What causes Eustachian Tube Dysfunction?

- ETD is caused by either:
    - The eustachian tube remaining closed after exposure to abrupt pressure changes such as a flight, travel to altitude or diving
    - OR the eustachian tube lining swelling shut after experiencing a condition such as an upper respiratory infection (e.g. common cold, flu, COVID, etc)., sinus infection, or allergies
    - OR, rarely, the eustachian tube can also close and remain shut spontaneously without a triggering condition or illness (spontaneous ETD)

How is ETD diagnosed?

- ETD is mainly diagnosed based on a patient's symptoms and ear examination
- Patients with ETD may demonstrate retraction of the ear drum, middle ear fluid, or a normal ear exam

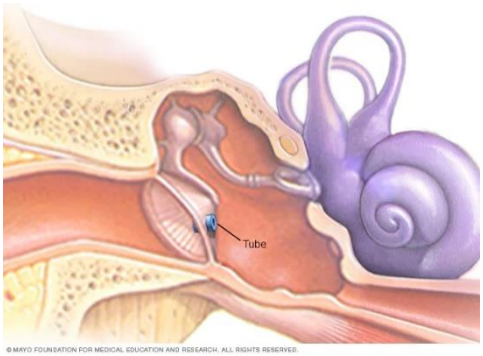
- It is often helpful to see if the patient can insufflate their ear drum (e.g. make it expand outward) with a Valsalva maneuver. If this is demonstrated, it means the Eustachian tube is open at the time of exam
- A hearing test is also used to help measure the exact mobility of the ear drum and pressure behind it. Negative pressure greater than 50-100 dPa is usually indicative of ETD

How is ETD treated?

- Medical management for ETD includes using a number of medications to reducing swelling within and around the Eustachian tube, which include:
    - Nasal steroid sprays (e.g. Flonase 2 sprays daily both side) to decongest the eustachian tube opening in the back of the nose
    - Daily anti-histamine (e.g. Zyrtec, Claritin, etc.) to reduce any allergy related swelling in the nose
    - Short-acting decongestants like Afrin nasal sprays or Sudafed, which should be used for no longer than 3 days at a time, reserved for break through use
    - Oral steroids like a Medrol Dose Pak or Prednisone course if recommended
- These medical options should be used in addition to frequent Valsalva maneuver, where one plugs the nose and blows against a close mouth, 15-20 times daily, to help force the tube to open mechanically

What happens if medical treatments fail?

- If medical treatments do not work over a period of 3 months, then procedural treatments are considered
- One option is placement of a **tympanostomy tube** (performed in the office in adults) into the ear drum to bypass the dysfunctional eustachian tube and ventilate the middle ear

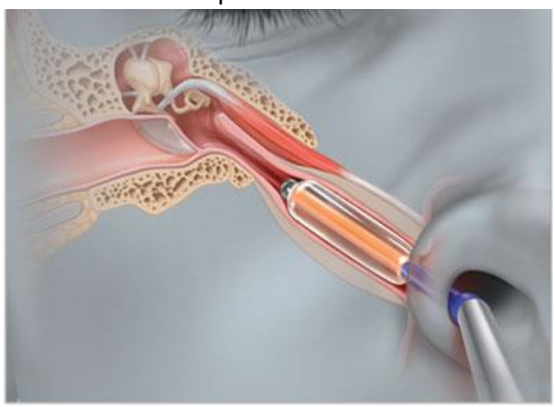


- These tubes are better options for patients with chronic persistent ear pressure as opposed to on and off symptoms

- Downsides of tympanostomy tubes include mild hearing loss while the tube is in place and a chance of leaving behind a permanent hold in the ear drum (rare) after the tube is pushed out

- Tubes usually fall out on their own within about 1 year

- Another option is called a **eustachian tube dilation procedure**



- The dilation procedure aims to increase the eustachian tube opening by compressing the lining and widening the surrounding cartilage
- This procedure can be done in the operating room or under local anesthesia in the office
- Most insurance companies require proof of negative pressure behind the ear drum on hearing test or improvement with previous tympanostomy tube placement, as well as other factors like failed medical management for around 3 months, before they will approve a eustachian tube dilation procedure