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EAR, NOSE AND THROAT HEAD AND NECK SURGERY

## PATULOUS EUSTACHIAN TUBE

Patulous eustachian tubes often present a frustrating problem for patients and clinicians. The incidence is reported to be between 0.3-6.6% of the general population.

Patients with patulous eustachian tubes complain of aural fullness, humming tinnitus, and autophony. They also may hear their own breath sounds, which is known as tympanophonia. The sound is synchronous with nasal respiration and resolves when the patient is supine or when upper respiratory tract inflammation occurs. The sounds may be aggravated by mastication.

Symptoms are usually absent when the patient is supine or relieved when the patient bends forward with the head between the knees. For this reason, patients should not be examined in a supine position. Physical examination may reveal a tympanic membrane that moves during forced breathing through one nostril, and an amorphic sound may be heard using a diagnostic tube in the patient's ear.

The eustachian tube is usually closed, and closure is maintained by the elasticity of its cartilage, mucosal lining, surrounding muscles and fat. Alteration of any of these anatomic components may cause patulous eustachian tubes.

Conditions associated with patulous eustachian tubes include: Dehydration (either acute or chronic), radiation therapy, hormonal therapy, pregnancy, nasal decongestants, fatigue, stress, and weight loss.

Patulous eustachian tubes in the most severe form may be patent at all times, whereas a less severe form has been reported, where the tube is anatomically closed at rest, but may open easily during exercises or in association with a decrease in peritubal extracellular fluid.

Many patients can be treated with simple reassurance after a thorough history and physical examination. Treatment or removal of underlying factors may reverse the problem. Such as weight gain by patients who have lost weight.

Many medical regimens have been described including agents which produce intraluminal and extraluminal swelling, including: insufflation of boric acid and salicylate powder as described by Bezold, application of nitric acid and phenol, oral administration of saturated solution of potassium iodide (10 drops in juice TID), premarin nasal spray (25 mg in 30 cc NS).

In patients who do not improve with medical therapy and who want further treatment, several surgical interventions have been used including electrocauterization of the eustachian tube orifice, peritubal injection with gelfoam, paraffin, avitene, or teflon paste, transposition of the tensor veli palatini muscle medial to the pterygoid hamulus, myringotomy with ventilation tube placement, and insertion of an indwelling catheter and subsequent ventilation tube placement. Catheter placement is through either an anterior tympanomeatal flap or through a myringotomy.