"Our study shows that Buteyko breathing technique might be an effective adjunctive intervention in treatment of obstructive ETD, especially for those patients who are refractory to medical treatment and cannot afford Eustachian tube balloon dilation surgery." Author links open overlay panel

Haicang Zeng, Xiaoxin Chen, Yaodong Xu, Yiqing Zheng, Hao Xiong. Buteyko breathing technique for obstructive Eustachian tube dysfunction: Preliminary results from a randomized controlled trial. American Journal of Otolaryngology Volume 40, Issue 5, September–October 2019, Pages 645-649

https://doi.org/10.1016/j.amjoto.2019.05.018

"Eustachian tube rehabilitation" (ETR) was developed in France 20 years ago 14-16. This is a treatment designed to help ET opening by using a combination of methods including improved nasal hygiene and breathing, muscle strengthening exercises and auto-insufflation. "ETR may be a useful treatment tool in the management of OME <Otitis Media with Effusion> and may improve middle ear ventilation, avoiding the need for surgery and exposure to surgical complications."

<u>D'Alatri L, Picciotti PM, Marchese MR, Fiorita A. Alternative treatment for otitis media with effusion: eustachian tube rehabilitation. Acta Otorhinolaryngol Ital. 2012 Feb;32(1): 26-30.</u>

"Our data suggest a correlation between otitis media with effusion, deleterious sucking habits and prevalence of atypical swallowing."

Ralli G, Ruoppolo G, Mora R, Guastini L. Deleterious sucking habits and atypical swallowing in children with otitis media with effusion. International Journal of Pediatric Otorhinolaryngology, 2011; 75:1260–1264. doi:10.1016/j. ijporl.2011.07.002

*This article has excellent photos and descriptions.

"Rix (1946) pointed out that the majority of people swallow 'incorrectly' with their tongues between their teeth. This involves a sucking action of the teeth, which can be recognized in severe cases by their resultant lingual tilting, with a narrow high palatal arch. Such a pattern requires little contraction of the elevator muscles of the mandible, and a reduced contraction of the palatine aponeurosis, with a resulting loss of the pump action on the Eustachian tube and tonsillar crypt."

Mew JR & Meredith GW. Middle ear effusion: an orthodontic perspective. Journal of Laryngology and Otology 1992; Jan;106(1):7-13.

"The results of this study and the prospective clinical trial showed a significant correlation between tinnitus and TMD. The observed treatment outcome suggests that dental functional therapy may have a positive effect on TMD-related tinnitus." Buergers R, Kleinjung T, Behr M, Vielsmeier V. Is there a link between tinnitus and temporomandibular disorders? J Prosthet Dent. 2014 Mar;111(3):222-7. doi: 10.1016/j.prosdent.2013.10.001. Epub 2013 Nov 25.

"Patients in the TMD groups had high incidences of otologic complaints compared with the control subjects without TMD signs or symptoms."

<u>Tuz HH, Onder EM, Kisnisci RS. Prevalence of otologic complaints in patients with temporomandibular disorder.</u> Am J Orthod Dentofacial Orthop. 2003 Jun;123(6):620-3.

"TMD as a potential cause of aural fullness should be considered in otolaryngology practice."

Peng, Yongxin. Temporomandibular Joint Disorders as a Cause of Aural Fullness. Clin Exp Otorhinolaryngol. 2017 Sep; 10(3): 236–240.

"Tinnitus patients seem to suffer especially from myofascial and TMJ pain. A screening for TMD should be included in the diagnostic survey for tinnitus patients." Bernhardt O, Gesch D, Schwahn C, Bitter K, Mundt T, Mack F, Kocher T, Meyer G, Hensel E, John U. Signs of temporomandibular disorders in tinnitus patients and in a population-based group of volunteers: results of the Study of Health in Pomerania. J Oral Rehabil. 2004 Apr;31(4):311-9.

"Besides medical and audiological investigation, patients with tinnitus should also be checked for: 1) presence of myofascial pain surrounding the ear; 2) laterality between both symptoms; 3) initial decrease of tinnitus during muscle palpation. Treating this specific subgroup of tinnitus patients with myofascial trigger point release may provide better results than others described so far."

Rocha CB, Sanchez TG. Efficacy of myofascial trigger point deactivation for tinnitus control. Braz. j. otorhinolaryngol. [online]. 2012, vol.78, n.6, pp. 21-26. ISSN 1808-8694. http://dx.doi.org/10.5935/1808-8694.20120028