

## Tonsils and Adenoids

Adenoids can be seen on a lateral head x-ray shortly after birth. The adenoid mass grows rapidly, is (normally) large by age 3, and reaches peak growth by around age 6 and then remain large until around age 12 (sooner, or starting by age 9 in some individuals) when they begin to spontaneously regress (involute away) on their own. For individuals without a history of upper respiratory infections (URI), the involution process for tonsils and adenoids continues until they are small or sparse by around age 20. Although the growth cycles of the adenoid mass and faucial tonsils are similar, one cannot accurately evaluate the size of the tonsils and presume that adenoid size follows the same pattern of growth and involution for that individual.

From birth to around age 6, tonsils and adenoids contribute to the development of the body's immunologic system, but after age 6, these contributions decrease. Accordingly, while a tonsillectomy and adenoidectomy (T&A) was common practice years ago at an early age, physicians are now much more reluctant to remove tonsils and adenoids just because they are large since their role in the development of the immunological system has been recognized and is now appreciated.

Enlarged faucial tonsils can and will compete for space with the tongue when the faucial tonsils fill in and constrict the oral isthmus area. When this occurs, the tongue, as the most adaptable organ of respiration, gets out of the way by repositioning itself forward either at rest or by protruding forward as food approaches a very small oral isthmus. The only way for food to pass through a constricted oral isthmus in some children is for the tongue to move forward and thus increase the vertical dimension of the oral isthmus.

In such instances, a forward rest position for the tongue or a "tongue thrust" during swallowing in the presence of a constricted oral isthmus, is an appropriate adaptation by the tongue that should not be changed in therapy - at least until the oral isthmus has enlarged either from tonsillar removal or the normal process of involution that tonsils go through along with the adenoid mass. By the way, the term "tongue thrust" is a poor one since it implies inaccurately that the tongue is pushed forward with an increased amount of force. This is not the case. The important clinical point here is that when tongue thrusting or a forward rest posture is seen in children, the dimensions of the oral isthmus should be carefully evaluated to determine whether the tongue is adapting to a need to enlarge the oral isthmus during swallowing or at rest so that food can successfully pass through the oral isthmus into the oropharynx.

Accordingly, not all tongue thrusting is a bad thing and in some instances, tongue thrusting and a forward rest posture is a logical and appropriate adaptation. Likewise, many adults with TMJ pain use a tongue thrust as a way of protecting the joints from pain and further damage. Not all thrusting in TMJ patients should be changed or eliminated.

I appreciate any physician and surgeon who is reluctant to remove tonsils and adenoids. Tonsil and adenoid size can often decrease or enlarge according to the weather or if there are underlying allergic conditions. There are, however, indications for an adenoidectomy such as if the Eustachian tubes are closed over by adenoids, thus creating middle ear effusions and conductive hearing loss. Likewise for enlarged tonsils, if the tongue is obliged to rest in a forward position, with mouth hinged open, dental changes can be expected to follow.

In some cases, a total adenoidectomy may result in persistent hypernasality that may require additional surgery to correct. Such individuals usually have presenting intraoral signs that would contraindicate a recommendation for a total adenoidectomy. Such signs include bifid uvula (which is a microform of a cleft of the soft palate), sub mucous cleft of hard and/or soft palate, a velar dimple (or buckling area of an elevated velum) displaced forward as seen during velar elevation, or poor elevation of the velum. An alternate surgical procedure for such cases where adenoids encroach around the Eustachian tubes is a lateral (or partial) adenoidectomy whereby only the adenoid tissue encroaching around the Eustachian tubes is removed while the median strip of adenoids is retained to maintain normal velopharyngeal closure. Lateral adenoidectomies are now often done with the laser.

Robert M Mason, DMD, PhD Speech-Language Pathologist, ASHA Fellow Former Chief of Orthodontics Emeritus Professor of Surgery Division of Plastic and Reconstructive Surgery Department of Surgery Duke University Medical Center Private Practice in Orthodontics Durham, NC (now residing in North Myrtle Beach, SC)