Tutorial

The breath of life

Trudy Wilder
April Gelesko

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common developmental interferences is presented and the one most likely to be the cause for the individual with the tongue-thrust is identified. For the majority of patients

an airway interference of some sort during a developmental stage, or currently, seems to be the primary etiological factor in the tongue-thrust swallow.

The Breath of Life

Trudy Wilder, R.D.H., B.S., C.O.M.
April Gelesko, R.N., C.O.M.

The purpose of this table clinic was to enlighten orofacial myologists to the effect of mouth breathing, the functions of the nose, and benefits of diaphragmatic breathing. As clinicians, we find habituation difficult if not impossible in the presence of airway obstructions and interferences.

The effects of mouth breathing can be seen by increased calculus formation on the teeth as well as dehydration of the oral tissues. Restriction of the maxilla can result from decreased tongue pressures on the palate. Air positive swallows seen with mouth breathing are a major factor in formation of abnormal palatal vault height. As therapists we know that lip incompetency results when an oral airway must be maintained. Studies have also shown up to 40% less oxygen is delivered to the brain per breath via mouth breathing. When nocturnal mouth breathing that results in sleep apnea occurs, 84% of the subjects stop breathing for periods of 6-30 seconds. When we stop breathing we create oxygen imbalances in the blood gases, thus creating a tremendous strain on the heart. Seventy-five percent of heart attack victims mouth breathe at night.

These are only a few of the concerns that demonstrate detrimental effects of mouth breathing. As our table clinic suggested, orofacial myologists should be aware of the nose and normal nasal function. The nose normally produces clean mucous to filter the air every 20 minutes. These secretions should measure approximately one quart a day. Nasal air needs 75-80% humidity. The cilia in the nose perform 10 sweeping strokes per second and the nose processes 500 cubic feet of air daily (which is equivalent to a small roomful). Nose turbulence is 20 m.p.h. but can reach up to 200 m.p.h. during heavy exertion. Colds and nasal allergies will decrease cilia motion and stimulate overproduction of mucous. Isn't it ironic how many patients we see who do not blow their noses? When patients are made aware of the necessity to clean the nose daily, normal nose function will become easier.

The head contains eight sinuses and excess mucous production can affect sinus pressures. This problem is compounded when the patient does not clean the nose.

Sixty-five percent of inferior turbinate hypertrophy is due to allergies. When these turbinates are enlarged, the restricted airflow will affect the entire airway. The most frequently seen pediatric nasal pathology is inferior turbinate hypertrophy.

The nasal passages also regulate the pressure of the air during inspiration and expiration. Proper regulation of the breath is of utmost importance in stress management. Diaphragmatic breathing helps to control stress by gently massaging the internal organs and allowing a more complete transfer of blood gases, especially into the lower lobes of the lungs, where there is greater concentration of blood. Only 6-8 breaths per minute are necessary with this type of breathing, whereas thoracic breathing requires 16-20 breaths per minute. A partial vacuum is created because the chest wall expands, pulling the lungs outward. This creates more strain and stress by pressure produced on the vagus nerve.

When learning better oral functions, our patients need to know the benefits of a patent nasal airway and diaphragmatic breathing. We encourage our allergy patients to seek medical care and use many of the new medications proven effective in increasing nasal airflow.

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Can You Just Say No?

Becky Winchell, B.A.

Perhaps one of the most difficult tasks set before the beginning therapist is selecting the types of cases that will have the most successful outcome for the patient.

It is a task that does become easier with experience, but it is always a challenge! The following is based on my experiences over the last 20 years and represents a