Tutorial

Assessment of Orofacial Behaviors Utilizing Self-Report

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Table Clinics

EDITOR'S NOTE: One of the significant events at the annual conventions of the IAOM is the Table Clinic presentations. The excitement and appreciation generated by these contributions to the annual conventions motivated the suggestion that they be prepared for publication in the Journal. We are grateful for the following inclusions in our professional literature.

Assessment of Orofacial Behaviors Utilizing Self-Report

Majorie Snow, R.D.H., M.A., C.O.M.

In the absence of X-ray vision, it is often difficult for the orofacial myology clinician to get accurate information regarding the actual behaviors being diagnosed in the initial evaluation of a patient. For this reason, a method of self-report assessment, without cueing on the part of the therapist, was devised to determine the actual placement and movement of the lips, tongue, and teeth during rest, preparatory, and swallow behaviors. The patient and parent/s, and even siblings, may participate in this assessment. In addition to the self-assessment, a comparison of the tongue-thrust and normal rest and swallow patterns are included in this portion of the evaluation. Following the description of the comparative behaviors, an analysis of the developmental history of the patient is made resulting in a logical explanation for the retention of the more infantile behaviors and, usually, establishing an etiological basis for the current rest and swallow postures based either on habit from previous physical restraints preventing normal development or from existing developmental restrictions. This approach is both educational and non-judgemental in its presentation of the reason for the referral and the evaluation appointment. From the therapist's point of view, the information gained is valuable in determining the treatment plan, and in describing the precise behaviors to the referral source in the post-initial communication.

Some of the additional benefits from self-assessment include an understanding on the part of the patient and parent of the actual physiology of the swallow and rest postures which are normally on an unconscious level, and the resulting effect that this can have on the development of the orofacial complex. Because these behaviors are identified by the patient and usually a parent who has a normal swallow and rest posture, the most common response to this section of the evaluation is "this makes sense" as opposed to a perception that this is one more step in a never-ending cycle of referrals from one specialist to another, all of whom are costing a great deal of money. Another benefit is the fact that frequently the parent or a sibling is identified as having the same problem as the patient. In the event that this happens, the parent and child have the option of going through therapy together, and possibly making it more pleasurable for both of them. A final, and equally important benefit, is the elimination of blame from a child who has displayed poor table manners or a lips-apart rest posture and been criticized for it for years.

METHODOLOGY:

This process may be accomplished with or without the use of an illustrated flip-chart titled "Tongue-Thrust: What Is It?" and an accompanying response book with the printed questions and answers. For the purposes of this article, it will be assumed that the therapist does not have the audio-visual material. The participants will be seated at a table with a paper towel, a pen or pencil, paper to write on, and a cup of water available.

INTRODUCTION AND RATIONALE FOR THE ACTIVITY:

"Because swallowing is an unconscious behavior, we need to bring it to a conscious level to see what is happening. So, I will ask you to think about swallowing, and count the number of saliva swallows you actually do, without swallowing on purpose, in one minute. I will time you and tell you when to start and stop. This will bring swallowing to a conscious level and help you to answer questions later on. Swallowing is divided into three stages: resting, get set, and go. We will see what happens in each of these stages after our minute of counting. There are no right or wrong answers to these questions — only your answers."

ACTIVITY:

1. On a piece of paper record the number of times you swallowed in one minute. NOTE: The actual number is unimportant and don't be surprised if some children report 800 or some other outrageous number.
2. The next step is to report the position of your lips, tongue, and teeth when you are just resting. Imagine that you are watching your favorite TV program and answer the following questions:
 - a. Are your lips closed or apart?
 - b. Are your back teeth together like a puzzle or is there a space between them?
 - c. Does your tongue rest on the floor of your mouth, float in the middle, or touch the top of your mouth?
3. Take a small sip of water from the cup; hold it in your mouth as though you were going to swallow but don't; then answer the same three questions (This is the "Get-Set" or preparatory stage).
 - a. Are your lips closed or apart?
 - b. Are your back teeth together or apart?

- c. Does your tongue rest on the floor, in the middle, or on the roof?
- d. Now swallow!
4. Take another small sip of water and pull your bottom lip down as you swallow (demonstrate how to pull the lip down but not the actual swallow as this would be cueing). Instruct the participants to lean over the towel as they do this. Possible responses include:
 - a. My lips were held together tightly. I could not pull down my lower lip and still swallow.
 - b. I could pull down my lower lip and still swallow because my tongue sealed off the front of my mouth.
 - c. I could pull down my lower lip and swallow without using my tongue to seal off the front of my mouth.
5. This is the "Closed Eye Test." With eyes closed for better tactile feedback, the participants are asked the following questions and their responses are recorded appropriately:
 - a. What does the tip (demonstrate the part of the tongue called tip) of your tongue touch when it is just resting in your mouth?
 - b. Take a small sip of water, concentrate on the tongue tip, and swallow. Where did the tip go when you swallowed?
 - c. Take another small sip of water, concentrate on your back teeth, and swallow. Were your teeth together or apart?
 - d. Take another sip of water (the bathroom is very close), and with eyes closed try to decide whether the tongue is moving up, down, backward, forward, or not at all when you swallow.

NOTE: You will find that the younger patients give much more accurate feedback in a minimal amount of time than do the adult patients. Adults seem to be less able to discriminate the tactile sense of the questions being asked.

EVALUATION CRITERIA: TONGUE-THRUST SWALLOW USUAL ANSWERS

- A. Rest posture —
 1. My lips are apart.
 2. My teeth are apart (normal).
 3. My tongue is on the floor or in the middle.
- B. Get-Set —
 1. My lips are together or apart (either one).
 2. My teeth are apart.
 3. My tongue is still on the floor or in middle.
- C. Go —
 1. I was unable to pull down the bottom lip because the water would come out.
 2. I was able to pull down the bottom lip and still swallow because I sealed off the front of my mouth with my tongue.
- D. Closed-eye test —
 1. The tip of my tongue rests on the floor of my

- mouth behind my bottom teeth, between my teeth or against the back of my top teeth.
2. The tip of my tongue pushed up against my teeth or out between them.
3. My back teeth are apart when I swallow.
4. My tongue moves or pushes forward when I swallow.

NOTE: Not all of the responses have to be exactly like the ones listed — for example, not all tongue-thrusters are mouth breathers or have a lips-apart posture.

EVALUATION CRITERIA: NORMAL SWALLOW USUAL ANSWERS

- A. Rest —
 1. My lips are together
 2. My teeth are apart
 3. My tongue rests on the roof of my mouth and the tip is on the gums behind my teeth (some may report a tip position behind the bottom teeth and still swallow normally but they are counseled to elevate the tip to the roof in order to avoid activating neck muscles if they clench their teeth).
- B. Get-Set —
 1. My lips are together.
 2. My teeth are together in the back (may not be with liquid swallow at this point).
 3. The middle of my tongue is on the roof.
- C. Go —
 1. I was able to swallow with my bottom lip pulled down and my tongue was not visible.
- D. Closed-eye test —
 1. The tip of the tongue rests behind my top front teeth.
 2. When I swallow, the tip stays still and does not move in any direction.
 3. My back teeth were braced together or touching lightly as I swallowed.
 4. The movement of my tongue seemed to be backward.

COMPARISON:

At this point a comparison of the tongue-thrust and normal swallows is made with the emphasis on using the muscles of mastication for the normal swallow and muscles of expression for the tongue-thrust swallow. Also, it is pointed out that the normal swallower gets a seal from the tongue being positioned on the palate and is able to swallow with the lips pulled down because of the bracing of the teeth whereas the tongue-thruster relies on a lip seal and the pushing of the liquid or bolus against the teeth.

CONCLUSION:

Developmental stages of swallowing are reviewed and it is pointed out that unless something interferes with the normal stages of development, the individual progresses to a normal swallow without instruction. A list of most

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

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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