Clinical Perspective

The role of myofunctional therapy in speech pathology

Roberta B. Pierce

Follow this and additional works at: https://ijom.iaom.com/journal

The journal in which this article appears is hosted on Digital Commons, an Elsevier platform.

Suggested Citation

This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

The views expressed in this article are those of the authors and do not necessarily reflect the policies or positions of the International Association of Orofacial Myology (IAOM). Identification of specific products, programs, or equipment does not constitute or imply endorsement by the authors or the IAOM.
The Role Of Myofunctional Therapy In Speech Pathology

Robert A. Pierce, M.A.T.
Huntsville, Alabama

The following paper was presented by the author at a symposium titled “The Application of Myofunctional Therapy in Dentistry and Speech Pathology” held at Meharry Medical Center, Nashville, Tennessee, April 14-16, 1978. The symposium was funded by the Department of Health, Education, and Welfare.

In recent years, there has been a trend toward increased awareness of oral myofunctional disorders by members of the speech pathology profession. We will look briefly at the historical involvement of speech pathologists in the diagnosis and treatment of oral myofunctional disorders.

The pressures exerted on the dentition by the tongue at rest and during swallowing can have a detrimental effect on occlusion. Therefore, the dentist and orthodontist have been the specialists most concerned about these oral habits. As far back as Straub, who played the key role in stimulating awareness of abnormal swallowing patterns in the United States, the dentist has turned to the speech pathologist for assistance in developing treatment (therapy) programs. We had the educational background and expertise which made us a natural selection: (1) our academic training included a thorough knowledge of the anatomy and physiology of the oral mechanism; (2) our experience in therapy situations had given us insight into patient motivation. So, in many instances, 20 years ago, as well as today, the dentist and the speech pathologist have worked together in the area of oral myology.

This is not to imply that all speech pathologists recognize oral myofunctional disorders. Indeed, a very small percentage of the 21,000 members of the American Speech and Hearing Association are actively involved in tongue-thrust therapy. Very few of us were exposed to theory or practice in our university training because very few university professors “believe” in tongue-thrust. The momentum was building when, in 1974, a rather distinguished but misguided group of three dentists and three speech pathologists issued a statement which, paraphrased, said: there is no documented evidence that there is any such thing as tongue thrust, and even if there were, there is no documented evidence of successful treatment. You and I know that’s not true. Dr. Hanson has published an excellent response to this Joint Statement in the Jan. 1976 issue of the International Journal of Oral Myology. It is not within the scope of this presentation to deal with the Joint Committee Statement. I will simply make a few comments regarding its impact on oral myofunctional therapy as it relates to the speech pathology profession.

The purpose of the Joint Committee Statement was to encourage more research into oral myofunctional disorders. The effect of the Joint Committee Statement has been to “dry up” funding for, and interest in, such research. What respectable researcher is going to become involved in such a clandestine and controversial subject?

The purpose of the Joint Committee Statement was to discourage well-meaning therapists from providing services for which they had not been adequately trained. It is very difficult for us in our striving to be recognized as professionals to admit to other professionals, in this case dentists and orthodontists, that we are inadequate and unable to offer help for their patients. Therefore, too many speech pathologists were doing poor quality tongue-thrust therapy—but felt that something was better than nothing. That was an unfortunate and erroneous assumption. I commend the Joint Committee for its role in discouraging poor quality treatment. However, the Statement is not worded so as to affect only those who “dabble” in oral myofunctional therapy. The effect of the Statement has been to dissuade those universities which were beginning to include such training in their curricula. Therefore, rather than preparing the student for the demands which will be made on him/her by the real world—the situation is intensified, forcing the student to seek additional training on his own and at his own expense following graduation.

The outcome of the Statement has been to create a lot of “closet” tongue-thrust therapists, to discourage the half-hearted, and to solidify those of us who believe in tongue-thrust therapy.

The Joint Committee Statement gave a great impetus to those of us who believe in what we are doing. We have banded together to form the International Association of Oral Myology. We gave birth to a new publication, the International Journal of Oral Myology. Each issue has published the kind of research which validates what we are doing. There is such a thing as tongue thrust, and it will not go away simply because some people refuse to acknowledge it.

Why should the speech pathologist have a working knowledge of oral myofunctional therapy? There are some children whose speech patterns are extremely resistant to correction.

Many speech pathologists, like dental specialists, have become interested in tongue thrust as a result of failure—the failure of “traditional” articulation therapy techniques to bring about permanent changes in articulation skills. Many a child glides easily through auditory training, placement techniques, correct production of the sounds in the initial, medial, and final positions, even flawless recitation of structured sentences, poems, stories, etc., ad infinitum and stubbornly stalls at carry-over. Carry-over is a term used by speech pathologists to refer to the habituation or generalization of newly acquired articulatory pattern, so that the child uses the sounds correctly in unguarded conversational speech. It is relatively easy to teach an individual how to produce a sound correctly. It is difficult to make the correct production a habit. If the child places his tongue against his teeth at rest and during swallowing, he is not likely to raise it up to the alveolar ridge for speech. The therapist can stand on her head; the child can stay in speech therapy
twice a week until he finishes high school; and the lisp will remain, unless some attention is paid to resting posture and swallowing.

This is not to imply that all articulation problems are caused by tongue thrust. Certainly there are many etiological factors involved and only a small percentage may be directly related to oral myofunctional disorders. However, I believe that every speech pathologist should be an oral myologist.

Several studies have established the coexisting relationship between speech problems and swallowing habits. Lisping has been found to be much more prevalent among tongue thrusters than among the general population. The Fletcher, Casteel, and Bradley study2 established that approximately 25-35% of the tongue thrusters they identified exhibited distortion of the sibilant sounds. Approximately 5-10% of the non-thusters exhibited sibilant distortion.

Many professionals view a triad of oral anomalies: tongue thrust, malocclusion, and lisp. The sounds most likely to be misarticulated by tongue thrusters are the lingua-alveolar phonemes, /l, d, l, n, s, z, zh, ch, zh, and j/. Not too surprisingly, these are the sounds which should be produced by placing the anterior tongue against the alveolar ridge. The tongue thruster is likely to place his tongue too far forward for production of these sounds.

We use the terminology "acoustically correct" but "cosmetically incorrect," when the phonemes sound right but are produced by faulty tongue placement. A person can say a perfectly good /l/ or /d/ sound by hitting against his front teeth, but he leaves the impression of having "too much tongue."

Lisping

Of primary concern to speech pathologists and oral myologists are the frontal and lateral lisp.

The frontal lisp consists of substitution of a /th/-like phoneme for the sibilant sounds, particularly /s/ and /z/. The coexistence of lisping and tongue thrust is so frequent that many authorities consider a frontal lisp to be a diagnostic criterion for tongue thrust. However, tongue thrust may or may not be accompanied by lisping.

In the lateral lisp, the tip of the tongue pushes against the alveolar ridge or palate, forcing the airstream over the sides of the tongue in the buccal, or cheek, area. The /s/ should be produced with the tongue tip in close proximity to the alveolar ridge, with the airstream directed through a small longitudinal groove down the midline of the tongue.

Speech pathologists have frequently found the lisp, particularly the lateral lisp, to be extremely resistant to modification. Indeed, it will remain so unless the total problem is diagnosed and remediated.

Overstake3,4 investigated the effectiveness of tongue thrust therapy and speech therapy for children exhibiting a triad of problems. Each subject in his study had—

1. deviant anterior swallowing, classified as tongue thrusting;
2. orthodontic problems of an open bite or overjet variety;
3. interdental /s/ defects.

Initially, there were seventy-six children enrolled in the experimental group and seventy-six matched controls from the public schools with the same triad of problems but who received no treatment. The experimental group was randomly divided into Subgroup I and Subgroup II. The children in Subgroup I received tongue thrust therapy only. The children in Subgroup II received tongue thrust therapy and speech therapy. At the end of the nine-month treatment period, forty-eight of the original seventy-six subjects remained (Subgroup I-28 subjects; Subgroup II-20 subjects).

Overstake analyzed the effect of tongue thrust therapy and of a combination of tongue thrust and speech therapy on articulation. In Subgroup I (tongue therapy only), twenty-four out of twenty-eight, or 86%, had improved the /s/ sound in unguarded, conversational speech. In Subgroup II (tongue and speech therapy), fifteen out of twenty, or 75%, had improved a normal /s/. His findings strongly suggest that the tongue-thrust therapy procedures he used did alter both swallowing and speech behavior. Overstake’s study has interesting implications for the articulation problems associated with deviant swallowing. Quoting from his conclusions:

1. Deviant swallowers with inter-

dental /s/ speech defects tend to correct such speech defects automatically, as their swallow behavior changes toward swallowing considered to be normal, without any intervening speech therapy.  
2. Combined swallowing therapy and speech therapy tend to correct interdental /s/ speech defects, but no more expeditiously than swallowing therapy alone.  
3. Children with the triad of problems of deviant swallowing, malocclusion, and lisp, profit significantly from swallowing therapy in the alleviation of all three problems.

Implications for Speech Therapy

Mason and Proffitt5 have recommended that when tongue thrust and lisping are present in a child of elementary-school age, the therapist should correct the articulation problem using traditional articulation techniques, with no concern for the tongue thrust. That would be fine—if traditional articulation techniques would work. Sometimes they do and, as suggested previously, sometimes they don't.

The Overstake study3,4 has interesting implications for the therapist attempting to determine the best course of treatment. His results seem to indicate that if the swallowing pattern and of the habitual resting posture of the tongue may be sufficient to stimulate self-correction of articulation in many patients.

Regardless of whether or not Overstake's findings can be generalized, there appears to be an undeniable association between forward positioning and movement of the tongue during swallowing and during speaking. The speech clinician who recognizes and understands this relationship, who is trained in oral myofunctional therapy techniques, and who knows when and how to use new techniques effectively, will probably suffer less frustration at the hands of "simple" articulation cases that turn out to be not so simple.

REFERENCES


2. S. Fletcher, R. Casteel, and D. Brad-
Dear Editor:

Thank you for the new issue of the IIOM. It is good. I was pleased to see your paper on “Tongue Thrust,” etc. (“Tongue Thrust in Breast-fed and Bottle-fed School Children: a Cross-Cultural Investigation,” IIOM, v. 6, no. 1, January, 1980), but I am wondering about your Navajo sample. You stated that they were “almost entirely breast-fed” which is good, but not necessarily the same as exclusively breast-fed.

Some years ago I excluded from a study breast-fed children who received supplemental bottle which we found about only after rigorous questioning. They were originally referred to me as breast-fed. This is important. It is not only the mechanics of bottle feeding that makes a difference but also the contents of the formula. Cow’s milk is not human milk. It can trigger allergic reactions, edema of the mucous membranes, enlargement of adenoids, obstruction of respiratory passages. It can affect growth and development of oral and facial structures. It can be an etiologic factor in malocclusion as well as dysphagia and stomatopnea. Galen Quinn and Jim McNamara documented well the impact of air space on facial anatomy.

Yours for optimal health,
Victor Penzer, D.M.D.,
Editor
Holistic Dental Journal
Newton, Massachusetts

Dear Dr. Penzer:

Thank you very much for your letter and your comments concerning the Navajo sample. A search of medical records indicated that 93% of the Navajo children had been breast-fed from birth. The remaining seven per cent were put on formula because of stomach or other ailments. Hospital personnel stated that they believed that this small group of children was on formula only during the four to five days that they were in the hospital. Reportedly, these children were put on breast-feeding schedules immediately upon discharge. This report is logical for a variety of reasons. For example, breast-feeding was the traditional method of feeding. Furthermore, there was a severe drought in the Crownpoint-Northeastern New Mexico area during the age of infancy of these children. Refrigeration was scarce. Mother’s milk was the only source of plentiful, sanitary nutrition for these youngsters. Therefore, we feel that these seven per cent can be described as “almost entirely breast-fed” as they were breast-fed for a period lasting from eighteen to thirty-six months following the four to five days on the bottle.

Granted, the mother’s milk is exceedingly important during the first few days of a child’s life, and the seven per cent of the Navajo sample under discussion did lose that important benefit. However, they did have from 18 to 36 months of mother’s milk and of vigorous exercise of the oral musculature.

We were also told that the Indian children did not receive supplemental feedings. The reasons are the same as given above. Ninety-three percent, 102 children, from theNavajo sample were exclusively breast-fed in infancy. Seven percent, or eight children, were given formula for only the first four to five days of their lives and were reported to have been exclusively breast-fed thereafter. Had a few of the eight children in question experienced allergic reactions to the formula, the speedy removal of the allergen should have reversed the symptoms.

The results of our investigation showed significantly less tongue-thrust swallowing in the Navajo sample than in the non-Indian sample. If some of the eight children did experience allergic reactions to cow’s milk during their school years, their exclusion from our sample should serve to increase the level of significance.

Thank you for your question. We appreciate your interest in our study.

Respectfully submitted,
Elnita Ostrom Stanley, Ed.D.,
Stephen F. Austin State
University
Nacogdoches, Texas
Dale L. Lundeen, Ph. D.
University of Northern
Colorado
Greeley, Colorado

THE ROLE OF . . .

(continued from page 12)

C. Overstake, “Investigation of the
efficacy of a treatment program
for deviant swallowing and allied
problems,” IIOM, 1975, 1:87-104.

C. Overstake, “Investigation of the
efficacy of a treatment program
for deviant swallowing and allied

R. Mason and W. Proffit. “The
tongue thrust controversy: back-
ground and recommendations,”
J. Speech and Hearing Dis., 1974,
39:115-32.