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Commentary

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The Pros and Cons of Myofunctional Therapy

"Emerging Specialty"

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For some people the words *myofunctional therapy* conjure up images of tent shows and snake-oil salesmen, hucksters and charlatans selling pearl buttons on a string for outrageous sums of money, and all of them advocating a costly and lengthy pseudo-treatment for a problem that does not exist.

For others, the words myofunctional therapy instill a reverence comparable to Lourdes, and the belief that this is a miracle treatment for everything from hemorrhoids to skeletal asymmetry. Somewhere in between these two extreme views lies the *reality* of myofunctional therapy.

A professional, scientific and research oriented group of people has been objectively analyzing the available information as well as contributing to the body of knowledge with their own research. This information has been organized with guidelines and implications for the treatment of oral myofunctional disorders, which in their view, *do* exist.

The objective of this article is to summarize the body of knowledge gathered by this unbiased group and relate it to the controversy over myofunctional therapy. In order to achieve this objective, first a brief history of the documentation of the problem will be related. Then a review of the literature will be directed toward *three* of the *basic issues: Is there such a thing as tongue thrust behavior? If there is such a thing, does it do any harm? and, if such a thing as a harmful swallowing behavior exists, can it be successfully changed?* A *fourth issue* which will be addressed *presumes that maladaptive deglutition (harmful swallowing) exists and can be changed to a normal swallowing behavior*. In this case *what professional* is to change the behavior, and what are the long-range implications for *ensuring quality therapy?*

The first articles written about the possibility of violations of the neutral space theory of dental alignment appeared both in England [1,6,18] and in the United States [12,19,22] in the late 1930s and early 1940s. In these articles observations were made and opinions offered suggesting that a forward movement of the tongue during swallowing would create an abnormal pressure force on the teeth and result in malalignment of the teeth subjected to these forces.

Most of the literature available during the early period of documentation of the problem was written by orthodontists. As with other dental problems, the majority of the solutions offered were treatment-oriented with very little attention focused on research or the academic aspects of abnormal deglutition.

Some of the American pioneers in the field of oral-facial myology during the 1950s were Whitman, [24] Straub, [21] Klein, [12] Moyers,[15] Rogers, [20] and Leech[13]. These men were investigating the effects of such diverse behaviors as *mouth breathing, thumb sucking* and *bottle feeding* in the development of the swallow.

Once again, these men were orthodontists, and their treatment-oriented approach was responsible for speech therapists becoming involved in myofunctional therapy. The orthodondists assumed that because *speech therapists* were trained to do articulation therapy with its concurrent emphasis on tongue placement, that this would be the logical professional person to work with the abnormal behavior.

In the late 1950s, Robert Harrington[8] and several other *speech pathologists* established therapy for abnormal deglutition and other abnormal oral habits as being within the province of their profession, with the *dentist* as the primary referral source providing information regarding the dentition. It was the combined efforts of these two professions that established the body of information which will be used to address the controversy surrounding myofunctional therapy.

A review of available literature addressing the problems of oral habits, including tongue thrust, and their effects on the dentition, results in a bibliography that makes one wonder how so much could be written about a problem that in the eyes of its detractors does not exist. In the field of dentistry, only the controversy over fluoride exceeds myofunctional therapy in documentation and emotion generated.

During the 1960s and early 1970s, a growing awareness of the effect of abnormal pressures on tooth movement and of therapeutic methods of dealing with these pressures created the climate of controversy which now surrounds myofunctional therapy. So-called "graduate" courses, lasting anywhere from one to five days, were offered for exhorbitant tuition fees.

It mattered little what the enrollee had "graduated" from, and many individuals with inadequate background knowledge and little or no training or experience in therapy, were setting up private practices of myofunctional therapy and passing on the exhorbitant fees to their unsuspecting clients. When the lack of expertise resulted in poor therapy, the skeptics were all too happy to say, "It does not work."

In November, 1974, the Joint Committee of Dentistry and Speech Pathology — Audiology[11] issued a policy statement after reviewing the data from all the studies published to that time. From a bibliography of 276 resources, the conclusion was made that there was *insufficient scientific evidence* to establish the validity of *tongue thrust as a clinical entity*.

The Committee *urged* increased *research* efforts and did not recommend that speech pathologists engage in clinical management of deglutition. In January 1975 the American Speech and Hearing Association's Ethical Practice Board issued an interpretation of the Joint Committee's statement[10] in which they made

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clear that an ASHA member engaged in myofunctional therapy would *not* be considered in violation of the Code of Ethics.

In November, 1975, Dr. Marvin Hanson, a faculty member of the University of Utah's Speech and Hearing Department, addressed the ASHA annual convention in Washington, D.C. In his address, which was later published in the International Journal of Oral Myology,[7] Dr. Hanson lamented the unintentional harm caused by the joint statement, and proclaimed that a poll of the formulators of the policy statement indicated that they meant to encourage research, not to discourage therapy.

Another deterrent to the credibility of myofunctional therapy was an article written by Proffit and Mason [16] which appeared in the February 1975 Journal of the American Dental Association. While the authors recognized the clinical entity of tongue-thrust behavior, they concluded that it did not create malocclusions, as the *teeth*, according to their study, were *insensitive to pressures from the tongue and lips during swallowing*.

In their opinion, tongue thrusts were created by reduction of the airway space at the faucial isthmus and in the pharynx. The result of the reduced airway space was a forward positioning of the tongue which the authors concluded would, in many cases, spontaneously change to normal with the involution of lymphoid tissue at puberty.

It was this *forward resting posture of the tongue, not the swallow*, which Proffitt and Mason attributed as the *cause of malocculsions*. Since the publication of this article, Dr. Mason has moved from his previous position at the University of Kentucky to Duke University in North Carolina. He is presently an associate professor of orthodontics and in 1979 joined the International Association of Oral Myology.

An excellent article on "Principles and Procedures of Orofacial Examination"[14] is one of his contributions to the Journal. He also was an active participator, with Dr. Marvin Hanson, in a teaching seminar at the June 1981 IAOM convention in Arlington, Texas.

During the period of time that the previously mentioned attacks were being made on the credibility of MFT, another group of individuals referred to in the introduction of the article were engaged in objectively analyzing the literature, conducting original research and practicing refined therapy techniques. Most of the professional, scientifically oriented data was coming from clinicians in the west and southwest areas of the United States.

In 1974, Richard Barrett of Tuscon, Arizona, and Marvin Hanson of Utah, (mentioned previously in this article) published a textbook *Oral Myofunctional Disorders*[2] (second edition published in 1978).

An exhaustive research of all available literature on tongue thrust was conducted by the authors, and it will be their conclusions that are used to answer the questions raised in the first part of this article. Chapter nine, pages 133-161 of the second edition of *Oral Myofunctional Disorders* has a list of 76 references which were used to form the authors' conclusions.

In addition to the references, the chapter contains graphs, charts and tables of data describing the information reviewed.

Only a *summary* of these conclusions will be offered here, and anyone wishing to analyze the data in more detail is referred to the text.

First: Is there such a thing as tongue thrust? Barrett and Hanson conclude that incidence studies give convincing evidence that tongue thrust is a describable and real behavior. These studies indicate that the prevalence of tongue thrust is in inverse ratio to age.

Research also indicated that there is no tongue-thrust "syndrome," and that the only consistent variable in tongue-thrust behavior is a thrusting of the tongue. The evidence also suggests that thrusting of the tongue is an abnormal behavior after the permanent incisors have erupted.

Second: If there is such a thing as tongue thrust, does it do any harm? An in depth and analytical review of the literature resulted in Barrett and Hanson's conclusions that tongue-thrust behavior was present in a significant number of Class II, division I malocclusions and in more than 90 percent of the cases with open bites.[23]

There is also sufficient *documentation* of *orthodontic relapse* in patients whose tongue-thrust behavior was not corrected to indicate a *positive correlation between malocclusion and tongue thrust*. Because of the scarcity of cause-and-effect studies, the authors conclude that more research in this area is necessary, and that the majority of the existing conclusions are based on clinical judgement without rigorous control of the variables. Consequently, while clinical evidence shows a high correlation between violation of the neutral space and tooth movement, cause-and-effect cannot be empirically established without better research.

The third issue: If clinical evidence shows a correlation between tongue thrust and malocclusion, can such a behavior as swallowing be changed? Again, according to Barrett and Hanson, the change from tongue-thrust swallowing to normal deglutition is a *developmental pattern* that *most individuals accomplish without effort or awareness*.

The principles of *behavior modification* are very *effective* in changing swallowing patterns on both a conscious and unconscious level. Many variables influence the success of therapy, but it has certainly been proven possible to change an abnormal swallow pattern permanently into a normal swallow.

In summary, then, using the principles of behavior modification, it is possible to teach an individual a behavioral pattern which most people acquire automatically. It may also be concluded, based on the Barrett and Hanson review of the literature and clinical experience, that *changing the swallow pattern aids in correction of malocclusions and articulation errors*.

The fourth issue alluded to in the introduction of this article addressed the *qualifications* and background *education* of the individual who will be called a myofunctional therapist. As previously stated, much of the controversy surrounding the evolution of myofunctional therapy has been the result of inadequate training of the therapist.

In 1979-80 a group of myofunctional therapists formed the

Myofunctional Therapy Study Club of Michigan in order to address the recommendation of the State Public Health Code Revision Project[17] in which all allied health professionals, including myofunctional therapists, were required to seek certification, registration or licensure.

The members of the study club established guidelines for a professional with a baccalaureate degree in an allied health profession who would take the equivalent of a master's degree in courses relating to oralfacial myology therapy. This training would also include supervised clinical training in therapy techniques.

The *curriculum* would be designed to *supplement* areas deficient in the undergraduate area, such as dentistry for speech therapists and articulation therapy for dental hygienists. There would also be an *emphasis on behavior therapy* and *research techniques*.

A code of ethics was formulated and the current test used for certification of therapists by IAOM was submitted as a minimum competency guide. The Health Occupations Council reviewed the documents submitted as well as the background and history of the tongue-thrust controversy.

In August of 1980, the Health Occupations Council Subcommittee on Myofunctional Therapy issued a final report based on their findings.[9] The committee recommended that *myofunctional therapists not be licensed* or registered based on their conclusion that *economic harm, not physical harm,* would be the *result of incompetent treatment*.

Since licensure recommended by the Health Occupations Council is designated to protect the health of the public, they felt there was *no necessity* for requiring *such controls* for myofunctional therapists. The committee did, however, recognize myofunctional therapy as an emerging profession and was very supportive of the group's efforts to establish standards for education, training, competence and ethical practice. They indicated their willingness to share the resources and expertise of the council if the group continued the voluntary efforts of standardizing myofunctional therapy.

The controversy surrounding tongue thrust and other maladaptive habits is *not whether they exist, if they create problems or if they can be treated*. The controversial *issues* have repeatedly been documented as *inadequate research* and *inadequate therapy*.

The problem is primarily a dental problem, and it should address preventive and interceptive techniques as well as post-permanent dentition therapy. The *professional best prepared* to provide these intervention skills is the *dental hygienist*.

The implications suggested by these statements are that dental hygienists receive training as myofunctional therapists at both the associate degree and baccalaureate levels. It is also implied that the dental hygiene profession recognize myofunctional therapy as an expanded duty function and become involved in creating educational guidelines for specialty training at the master's degree level.

As a result of the Public Health Workshop at Westbrook College, Portland, Maine, in 1973,[4] myofunctional therapy has been successfully introduced into the clinical and didactic curriculum for dental hygiene students at Kalamazoo Valley Community College.

The students receive enough background and training in their associate degree program to work as myofunctional therapists under the supervision of a certified myofunctional therapist. The method of certification established by the IAOM includes completing a year-long independent-study test comprised of 66 questions of which 62 are primarily dentally oriented.

Clinical competence is ascertained by a site visit where a certified oral myologist observes the petitioner's skills. All petitioners must have a minimum of a baccalaureate degree in an allied field.

A *certified oral myologist* has the option of independent practice. The opportunities for research and contributing to the body of dental knowledge would be limited only by the therapist's training.

Dental *malocclusions* are one of the *primary dental problems* in America. The *prevention, interception,* and *treatment of maladaptive habits* contributing to these malocclusions is a satisfying and *rewarding contribution* to the populace seeking dental care.

These are a few of the reasons *dental hygienists* should consider myofunctional therapy as an *expanded-duty function,* and that the dental hygiene profession should take an *active* part in establishing training and educational guidelines for the emerging profession of oral myology.

Not all hygienists will want to be oral myologists — independently practicing or working for a certified oral myologist — but all *hygienists* should be able to *detect* maladaptive oral habits and refer their patients to competent clinicians for therapy. The ability to detect and refer or to treat these problems, potential or real, should be an ethical concern of the dental hygiene profession which prides itself on offering preventive dental services to the public.

A recent study by Margaret Christensen and Marvin Hanson at the University of Utah, Salt Lake City,[3] suggests that myofunctional therapy at the age of six can be successful, and that perhaps this early period is a natural time to change habit patterns, before they become too deeply ingrained.

The Kalamazoo Valley Community College program includes an emphasis on *pre-school intervention techniques* which parents can perform at home. The dental hygienist, who sees children at an early age and on a routine basis, could *alert parents* to potential problems and plan intervention techniques as alternatives to the child's practicing maladaptive behavior, until he is considered old enough for therapy.

The controversies and implications of myofunctional therapy should be concerns of the dental hygiene profession. Research is *imperative* but not to the extent that lack of rigorous control of variables results in rigor mortis for the evolving profession.

The dental hygiene profession *could resolve the controversies* and address the implications by *establishing didactic and clinical*

experience in myofunctional therapy for dental hygiene students at *all levels of their education.*

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