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Treatment of Oral Myofunctional Disorders: Organismic and Other Approaches

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The theme for the present paper will be "Treat each patient as a unique individual and as a total person." Therein lies the secret to successful therapy for the patient and enjoyable therapy for the therapist.

I am going to dwell a little on the organismic approach, because it does advocate treating each patient as a total and unique person. The organismic approach was so named by Dr. George Kopp in the 1940's, and although it was best known for its application to stutterers, Dr. Kopp followed its principles in all his work with patients with speech disorders. Briefly, it considers the person as a total organism, consisting of every trait and potential it was born with, the sum total of all its experiences, past and present, and includes its perceptions of probable future experiences. No two patients are even nearly alike, including their voices, their speech patterns, and certainly their oral vegetative functional patterns. Therefore, therapy for those problems cannot be stereotyped, canned, standardized, or rigid and still do its job effectively. In an earlier presentation, I discussed considerations in decision-making regarding the timing of therapy. The same principles apply to the task of devising a meaningful, viable therapy program for a specific patient. Some patients need a system of frequent, tangible reinforcements in order to sustain motivation. Others need only the reinforcement of having achieved the goal of carrying out an assignment. Some patients need their masseters strengthened; others would defeat the therapist in a masseter strength duel, without any exercises. Every patient is different. Yet, I would venture to guess that upwards of 90% of all the oral myofunctional therapy being done in the United States follows programs that vary very little or not at all from patient to patient. So I make a plea for treating each patient as a unique, total person, whose unique disorder needs individualized attention.

Organismic Principles

1. *Tongue thrust is an integrated pattern.* Each of its components contributes to the total problem and must be dealt with in therapy. It consists of any or all of the following: Resting postures of the tongue; chewing and swallowing food; moving and swallowing saliva; drinking; and speech. If we keep the tongue against the anterior teeth at rest it is probably exerting a light, constant pressure against them for about 21 hours each day (Lear and Moorrees, 1969). If we tongue thrust during eating, very strong pressures during chewing and during swallowing occur for a total of another 1½ hours. If we dentalize anterior tongue sounds, there is yet another hour of light to moderate intermittent pressures against the front teeth. That does not leave us much time for drinking and swallowing saliva. Which ever of these components a patient has as a part of his problem are all important contributors to the total integrated pattern.

2. *We tend to do what is physiologically economical.* If our tongue is resting against the front teeth habitually, every minute or so when we have accumulated enough saliva to swallow, we will move the tongue from its position of rest as little as necessary to move the saliva from under the tongue to the back of the mouth and swallow it. In other words, we will make a seal, always necessary for all but drinking swallows, by leaving the tongue against those front teeth as we swallow. That is why resting postures are so important. That is also why, in my opinion, correcting a tongue thrust with proper emphasis given to resting postures of the tongue facilitates the correction of a frontal lisp. The tongue has learned to rest against the upper gums, and moves as little as possible to make the lingua-alveolar sounds, including the /s/ and /z/.

3. *We do not erase old patterns.* Neutral engrams for swallowing are permanent parts of our memory system. When we teach new patterns, we do not make the old ones disappear. We render them inactive, to varying degrees and for varying lengths of time among our patients, but they are always subject to recall in response to old stimuli in familiar situations. That is why it is so important to train parents, friends, or spouses to learn how to spot signs of relapse. That is why we should see our patients until we are certain the teeth are remaining in their corrected positions after all orthodontic retentive procedures are terminated. That is why we do not speak of "curing" a tongue thrust.

4. *Habits gain strength with time.* If all factors other than age were constant, we would treat pre-schoolers exclusively. That is not feasible, of course, for various reasons, but we should at least accept patients at as early an age as is feasible, in order to prevent the habit from gaining strength. This principle should also spur our efforts toward acquiring knowledge about how to prevent oral myofunctional disorders.

5. *A change in any component of a habit pattern effects a change in all other components.* Establishment of correct resting position of the tongue tends to foster correct readiness position hence, correct movements of the tongue during the handling of saliva. Correcting chewing habits helps to correct swallowing habits. This is the reason we so often receive reports of unplanned for, but welcome, changes occuring in our patients. Although we failed to give any attention to pill-swallowing in particular, a patient reports that for the first time in her life she is able to swallow pills effortlessly. A parent is grateful because our therapy has taught her child to be dependable, to act independently of parental pressures. Correct postures established for proper eating and drinking have carried over into general bodily postures. This principle can be our best friend.

6. *If we fail to deal with any part of a total habit, the whole pattern is more*

likely to return. Even though tongue pressures against the teeth during the production of the dentalized /s/ sound, or during drinking, may be very light, it is important that they be eliminated, or they are likely to contribute to total relapse. Proprioceptive cues must be altered. If, for example, a patient with an anterior overjet learned to keep the tongue away from the upper front teeth, but continued to rest and push the tongue against the lower teeth, the proprioceptive cues of the new habit would be so similar to those of the old, that new sensori-motor patterns would not be clearly distinguishable from those we were trying to eliminate. We teach a new pattern, that of contact between tongue and tissue-over-bone, which consists of cues that are different from the old ones.

Behavior Modification. Because of the position of advantage that old habits have over new behaviors, the latter have to be *reinforced.* Behavior modification is a systematized approach to the establishment of desired behaviors through selective reinforcement. The approach is only at odds with organismic principles in its exclusive attention to *present* behaviors. Otherwise it serves as an excellent vehicle through which organismic principles can be applied. The first step in behavior modification is the establishment of baseline(s). This is a detailed description of the patient's present behavior. Baseline serves to individualize therapy by selecting those behaviors which need to be altered. Baseline (referring to the example given earlier) tells you a given patient's masseter does not *need* to be strengthened. It tells you that a patient is a chronic bubble-gum chewer, and needs attention in that area. It tells you that the patient does not have as a part of his particular problem excessive circumoral muscle activity accompanying chewing or swallowing, so that in later sessions when you want to know whether he is retraining what he has learned, you do not falsely conclude that he is doing well because as you watch him you do not see excessive circumoral muscle activity. So taking a careful and complete baseline is essential, and is consistent with organismic principles.

The second step in behavior modification therapy is to change the behavior, through selective reinforcement. The behaviors being instituted are rewarded, and those being extinguished are either ignored or punished, according to your own preference and according to the effectiveness of punishment on the particular patient. Only those behaviors found in the diagnostic session and through later observations to be in need of modification are modified. I want to stress this repeatedly, because it is a principle so frequently violated. The modification of each part of the total habit pattern affects all the other components of the total pattern. The clinician structures the therapy in such a way as to make this spreading effect more likely. For example, he pays attention early in therapy to tongue and lip resting postures, knowing that this work will affect progress in all other phases of therapy. Similar care is taken in structuring phases of instruction within a skill being taught. When I begin to teach proper handling of saliva, for instance, the first exercise in the series is what I call "squeaky sucking." The patient is taught to hold the tongue on the "spot," and the lips lightly together, as he sucks back water that has been squirted into his mouth. The squeaking sound tells you that sucking is occurring and that the lips are not too tightly together. The second exercise in the series is to do the same thing without a squeak (quiet sucking). When the patient demonstrates he can move water back correctly, he is next given sugarless mints to hold in the buccal cavity to stimulate saliva flow. When there is sufficient saliva to deal with, he applies the technique he has learned in his practice with water to move the saliva posteriorly. He swallows with his lips apart and watches the mirror to see that there is not forward movement of the tongue. The fourth step in the series is to do the same without the benefit of the mint, but now keeping score on himself by using a pocket counter to record correct saliva "moving" and swallowing. Each step makes the next step easier.

The final step in behavior modification therapy is to habituate, to strengthen the new responses, or, in the terminology of the behaviorists, to "extend stimulus control." A good clinician is working on this phase of therapy beginning with the diagnostic session, and continuing with each session thereafter. **Everything we do is aimed at subconscious habituation.** But increasingly more attention is given to this phase as therapy progresses from exercises to swallowing assignments. Again organismic principles are helpful, because the more you become acquainted with the total patient, the better you are equipped to know what kinds of assignments and rewards will help most in achieving carry-over. Now, progress charts are kept by the patient. I very systematically begin to give the patient more and more responsibility for determining his own practice needs, and choosing his own assignments. Usually, about five months after the beginning of therapy, I appoint the patient to be his own therapist, and I become the therapist supervisor.

Use of a Program. The question arises, "If I am to individualize therapy, should I then abandon all programs and "shoot from the hip" for each patient? In keeping with the message of the keynote address, we do not need to adopt an "either-or" attitude, i.e., either use a program or not use one. We can use a program as a *basis* for our work with each patient, but adapt it freely to the needs of the individual, omitting exercises and assignments which would be superfluous or counterproductive, and adding any the program does not include which would help meet the needs of the patient. I prefer to have exercises printed on separate sheets, each with plenty of room for me to scribble pertinent comments, rather than to have a therapy manual, because of the flexibility of the former over the latter. I can say this without risk of offending anyone, because I have co-authored a therapy manual, and used it for several years.

The Hanson Approach. I have explained that I prefer an organismic approach, that I apply behavior modification principles, that I retrain perceptual cues, train habits sequentially, and include attention to dentalized linguo-alveolar sounds. These are the most important characteristics of my approach to therapy. In addition, I continue to use isometric exercises for strengthening muscles, and apply distinctive feature theory to the correction of tongue tip sounds. This means that when there are several tongue-tip sounds being produced dentally, I have the patient work on the single *feature* the defective

sounds have in common, that of dentalization. Instead of correcting the sounds one at a time, we focus on that single feature. The procedure I follow most often is to have the patient imagine there is a tiny coil spring holding the tongue tip to the "spot." As he talks, he is to allow that spring to pull his tongue tip back to the spot as often as possible. I usually begin with reading practice on easy material and proceed to more difficult material, then to easy conversation, etc. This has been a very effective way to eliminate dentalization of the alveolar sounds.

Another feature of my program is that I have been experimenting for several months with neuromuscular facilitation techniques, as adapted from the Rood procedures for cerebral palsy by Dr. Mervyn Falk (1977) of Wayne State University. I have modified his exercises to simplify the materials required, but essentially the techniques are the same. For four to six weeks the patient performs three basic exercises, namely, tapping and stroking the tongue, and icing the hard palate. The tapping on the dorsum of the tongue "facilitates" the reflexive movement of elevation of tongue tip and sides, to form a depression in the upper surface of the tongue. This is done for 30 seconds, several times a day. The stroking is done along the sides, or edges of the tongue, beginning posteriorly and proceeding forward to the tip, alternating from side to side. For both tapping and stroking, the patient uses a tongue depressor. Each side of the tongue is stroked for 15 times each practice. The purpose of the stroking is to reflexively narrow the tongue.

"Icing" may be done with a smooth ice cube, with the end of a popsicle, or with a frozen cherry or grape. For about 20 seconds, the patient strokes the hard palate, from back to front, along the median line, as far forward as the "spot." This simply makes the roof of the mouth cold, encouraging the tongue to protectively lift and remain resting against the palate.

My experience to date with the "Rood" exercises has convinced me of their effectiveness, particularly the tapping and stroking exercises.

My basic program, which I modify liberally for each patient, consists of a consultation, plus ten weekly lessons, plus a series of recheck visits spaced gradually farther and farther apart. I see the patient until all orthodontics are completed, or for a minimum of three years. The last few visits may be from three to six months apart. Ordinarily at least twenty visits are involved. A summary of the program follows.

Practice requirements are explained during the initial (consultation) visit, and lingual and labial resting posture assignments are made as needed. "Remember" cards and reminder signals are given. The first seven lessons contain exercises, designed to enhance awareness of postures, teach correct functions, and increase muscle strength when necessary. Except for the Rood exercises, which are carried out from four to six weeks, the exercises change weekly. A "plus-minus" system for systematically habituating correct resting postures is applied for four to five weeks. Instruction on soft food swallows begins on Lesson six, and progressively more inclusive food chewing and swallowing assignments are given for the next five lessons. The patient is taught to drink correctly both continuously and "sip-at-a-time," and learns to drink through a straw and from water fountains. Drinking instructions are given in Lessons seven and eight. The process of teaching saliva handling extends from Lessons six through ten.

Lessons eight through ten consist of assignments, rather than exercises, designed to strengthen habits and "extend the stimulus control." After the tenth lesson, appointments are spaced farther and farther apart: two weeks, then three, then four, six, eight, twelve, etc. At recheck visits I check the patient's practice records, ask the parents for feedback, and try to observe carefully for signs of relapse. I ask the referring dentist to watch the patient carefully as he works with him, and to send the patient back to me if he detects any signs of abnormal tongue habits.

I continually change even this basic program; at least every nine months I print a new set of lessons. The program has been effective in modifying habits and in preventing relapse.

Other Programs. I will briefly refer to the approaches followed by three of my colleagues, whose work I respect very much. The first is William Zickefoose. Mr. Zickefoose has been making cassette recordings a basic part of his program for the past year or more. He records the therapy session, with special instructions explaining in detail what the patient is to do. The patient listens to her therapist as she does her assignment at home. This assures the therapist that his instructions are being heeded. It repeats the stimuli of the original learning experience to the patient as she practices, which makes for effective learning. Finally, it keeps parental participation in practice to a minimum, which Bill believes is a welcome change to most of his patients. He has been having a great deal of success with this program, and recommends it strongly for your trial.

Second is Mervyn Falk, whose neuromuscular facilitation procedure has been alluded to above. The unique thing about Merv's program is that these "Rood" procedures constitute the major part of his treatment. He introduces exercises for masseter strengthening and awareness when needed, and uses other exercises occasionally, but principally relies on the reflex training exercises to modify the patterns. He has documented the successfulness of his program in a controlled study.

Third is Joseph Zimmerman. The success of Joe's therapy is mainly due to the personality of Joe. His enthusiasm and his ability to transfer this enthusiasm to his patients makes failure difficult. Particularly noteworthy is his approach to habituation. He effectively uses analogies to teach the importance of continued awareness and striving during the carry-over phase of therapy. One such analogy compares the habituation process to climbing a mountain. At the bottom of the mountain is the old, unwanted habit. At the summit is a very high awareness level. The patient is taught to beware of sliding back down the mountain. He describes to his patients certain "enemies" to the therapeutic process, such as discouragement, frustration, and forgetting. Above all, he makes therapy fun, while still maintaining in the mind of his patient a seriousness toward the task.

There are so many ways to correct oral myofunctional disorders, and we haven't learned the best ones yet. Trying to find new and better ways is an adventure. Rigidly following the first program you ever learned is a drag. Oral myologists are sure to prove their work valuable over the years if they accept the challenge to continually improve the quality of their therapy by always looking for a better way.

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