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Labial-Lingual Posturing Function

Ad Hoc Committee on Labial-Lingual Posturing Function

This report was prepared by the members of the ASHA Ad Hoc Committee on Labial-Lingual Posturing Function: Robert M. Mason (chair), Michelle M. Ferketic (ex officio), Sheila S. Gideon, Marvin L. Hanson, Ralph L. Shelton, Ida M. Wiedel, and monitoring vice president for clinical affairs, Teris K. Schery. The report was approved by the ASHA Executive Board in June 1989 (EB 65-89).

In keeping with the American Speech-Language-Hearing Association Executive Board policy of periodic review of products and positions statements (EB 123-87), the Ad Hoc Committee on Labial-Lingual Posturing Function was charged to (1) review current information about oral myofunctional phenomena as related to communication disorders, (2) prepare a position statement on the role of speech-language pathologists in the management of oral myofunctional disorders, and (3) make recommendations for developing standards of practice.

This Ad Hoc Committee recognizes the interdisciplinary interest in speech-language pathology and dentistry in conditions, terminology, and practices associated with patterns of oral-facial-pharyngeal posture and function related to speech and occlusion. Many speech-language pathologists provide oral myofunctional services.

The Ad Hoc Committee reviewed pertinent studies on oral myofunctional processes. Although there are many unanswered questions, evidence supports the existence of certain phenomena and relationships:

- All infants exhibit a tongue thrust swallow as a normal performance;

- This pattern changes with growth and maturation to the extent that many different swallow patterns can be identified from infancy to childhood;
- At some time in development, a tongue protrusion swallow is no longer the norm and can be considered undesirable or a contributing and maintaining factor in malocclusion, lisping, or both;
- A related condition that has a stronger link to malocclusion is a forward resting posture of the tongue. Such chronic postures can interfere with the eruptive sequence of the dentition and lead to malocclusion. This is consistent with orthodontic theory and research that long-acting forces against the teeth result in tooth movement whereas short-acting (intermittent) forces are not as likely to cause tooth movement;
- There is descriptive evidence that during the course of oral myofunctional therapy, some individuals have corrected or controlled a tongue thrust swallow and an anterior resting posture;
- Diagnostic attention should be directed toward determining whether a tongue-thrust swallow and a forward tongue resting posture coexist in a given patient. When these conditions coexist, a greater link to malocclusion would be expected than from a tongue-thrust swallow alone. However, there is insufficient evidence to show that a forward tongue posture and tongue-thrust swallow are more detrimental than a tongue-forward resting posture alone. There is also some evidence that a tongue-forward resting posture or a tongue thrust swallow and lisping coexist in some persons. Correction of tongue function or posture may facilitate correction of the lisp, or the interdentalization of the /t/, /d/, /n/, and /l/ phonemes;

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- In normal development, slight separation of the lips at rest (“lip incompetence”) is normal in children. With growth, the lips typically achieve contact at rest in the teenage years. Some individuals, however, persist in a lips-apart posture after development has advanced sufficiently to permit lip closure. Such individuals may be candidates for treatment;
- There is some evidence that lip exercises can be successful in facilitating a closed-lip posture;
- Sucking habits (e.g., finger, thumb, tongue, lips) can influence dental development. When tongue thrusting and thumb sucking coexist into mixed dentition, developmental correction of the tongue thrust would not be expected until the thumb, finger, or sucking habit ceases; and
- Variables in addition to learning influence tongue posture. They include posterior airway obstruction, which may involve tonsils, adenoids, nasal blockage, high posterior tongue position with a short mandibular ramus, or a long soft palate. Many morphologic features or combinations of features can reduce oral isthmus size and obligate the tongue to rest forward. Diagnostic procedures should distinguish such patients from those with other forward tongue postures or functions. The obligatory tongue forward posture group would seem unlikely candidates for myofunctional therapy in the absence of medical treatment. Any indicated remedial medical procedures are usually carried out prior to consideration of myofunctional therapy.

Treatment: Current Procedures

1. Age of patients: Typically patients are seen between the ages 8 years through 16 years, with a range of age 4 through 50 years.

2. Timing of treatment: A majority of patients are treated following orthodontic treatment, but concurrent and pretreatment is also common.

3. Scope of treatment: Many patients treated for oral myofunctional diseases are referred by dental practitioners. Dentists (especially orthodontists) provide occlusal and morphologic information, treatment and follow-up.

The speech-language pathologist evaluates the structure and function as the first step in treatment planning.

Sucking habits, when present, are usually eliminated before treatment for tongue thrust begins. The emphasis in treatment is on lingual and labial resting postures, but most approaches include a number of muscle retraining exercises, followed by instruction in the handling and swallowing of solids, liquids, and saliva. Speech treatment is given when indicated, directed principally toward the normalization of fronted lingual-alveolar consonants. Patients are seen for follow-up sessions for various periods but usually until completion of all orthodontic treatment.

4. Length of treatment: 14 to 20 sessions or more are typical, over 3 months to a year, depending on approach, age, and maturity of patient, and timing in relation to orthodontic treatment.

5. Nature of approaches: Most speech-language pathologists apply behavior modification principles, basing treatment on evaluative findings, altering behaviors systematically, extending control of stimuli and responses, and establishing maintenance.

Recommendations

Because of the complexity of issues and variables involved with oral myofunctional disorders, the Ad Hoc Committee recommends an interdisciplinary approach to the planning, treatment, and further study of those disorders. Some combination of observations from dental specialists, usually orthodontists, and speech-language pathologists should precede treatment for some oral myofunctional disorders. Referral to other medical specialists, such as otolaryngologists, pediatricians, or allergists may also be indicated. A diagnosis is needed that distinguishes learned behavior from obligatory function due to physical deviation.

We recommend development of continuing education activities designed to promote competency in the treatment of oral myofunctional disorders. We also encourage developments in university curricula to reflect basic and applied information pertinent to:

1. Oral-facial-pharyngeal structure, development and function;

2. Interrelationships among oral-vegetative functions and adaptations, speech, and dental occlusion, using interdisciplinary approaches;

3. Nature of atypical oral-facial patterns and their relationship to speech, dentition, airway competency, and facial appearance;

4. Relevant theories such as those involving oral-motor control and dental malocclusion;

5. Rationale and procedures for assessment of oral myofunctional patterns, and observation and participation in the evaluation and treatment of patients with oral myofunctional disorders;

6. Application of current instrumental technologies to document clinical processes and phenomena associated with oral myofunctions and disorders; and

7. Treatment options.

The Ad Hoc Committee believes that part of the ongoing controversy over the treatment of oral myofunctional disorders is linked to terms that have unnecessary negative connotations. While we recognize that there should be an interdisciplinary consideration of terminology, certain words should be avoided in clinical use until a better operational description for the process involved is developed. Many terms are emotionally loaded, undefined, and best avoided. They include: reverse, infantile, visceral, perverted, deviate, and deviant as related to a swallowing pattern.

Other terms such as mouth-breathing, macroglossia, tongue-tie, and habit invite drawing faulty inferences and should be avoided as diagnostic labels. The use of the term “mouth-breathing” requires instrumental assessment. A lips-apart, mouth-open posture need not be indicative of mouth-breathing, nor of an airway problem. The speech-language pathologists should be encouraged to use terminology and make observations that are descriptive and operational rather than categorical and inferential. *Lip incompetency* and *tongue thrust* are useful when defined relative to observation.

A primary goal of oral myofunctional therapy, as practiced by the speech-language pathologist, is to retrain labial and lingual resting and functional patterns. This treatment may or may not influence speech remediation for a given patient.

The speech-language pathologist’s treatment plan should avoid statements predicting changes in tooth position and about outcomes of treatment based on dental occlusal changes.

Research Needs

While we accept the existence of oral myofunctional phenomena and the potential for change in some patients, many unanswered questions remain. Existing treatment research is limited in quantity. Much research is flawed by the use of *ex post facto* methods of study. Other studies contain confounding variables. Basic and applied descriptive and experi-

mental research studies are needed. Detailed case studies would also be helpful. Research should be directed to the nature, evaluation, and treatment for oral myofunctions and disorders and related factors.

Future inquiry into these disorders may identify subgroups characterized by different combinations of functions, occlusion status, speech status, and forces obligating or predicting anterior tongue position. We anticipate that members of these subgroups will need different treatments or respond differently to treatment. Data are needed regarding both status and change in patients’ oral myofunctional characteristics and disorders.

Basic biologic and descriptive research of a multivariate nature could increase understanding of oral myofunctional disorders. Information is needed about relationships among all of the following:

- Tongue morphology, position and movement;
- Lip morphology, position and movement;
- Oral-facial skeleton, including occlusion;
- Variables obligating tongue fronting;
- Biologic activity at the attachment apparatus of the teeth;
- Speech motor control;
- Oral adaptation and compensation; and
- Speech production.

Topics

Other topics of inquiry should also be pursued. Basic biologic research is pertinent. Some questions would require longitudinal studies for adequate answers.

Conclusion

The provision of myofunctional therapy by speech-language pathologists is, generally, a part of all articulation management where retraining muscle position is involved. In the narrower sense in which oral myofunctional therapy is considered here, which includes some non-speech remediation, the provision of myofunctional procedures by speech-language pathologists remains an option for those whose interests and training qualify them.

While we have made recommendations regarding the clinical practice and education of the speech-language pathologist, the complexity of the problem exceeds the established data in this area of inquiry. As with other disorders related to oral physiology and

anatomy, answers accepted today are likely to be replaced. Clinical practice should be in a state of continuing development and should be guided by data and theory as well as experience. Practitioners and investigators alike should proceed with an attitude of inquiry and awareness of limitations.

The Ad Hoc Committee concludes that:

1. Oral myofunctional therapy is an appropriate activity and within the purview of speech-language pathology.

2. Speech-language pathologists providing oral myofunctional therapy are required to have appropriate preparation and to maintain currency in this area; and

3. Continued research in the areas of oral myofunction and oral myofunctional disorders is needed.

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