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Research Note

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Cynthia F. Landis

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Clinical Exchange

Preliminary Observation of Rest Posture Habituation Time

Cynthia F. Landis, M. A., CCC-SP

Introduction

Dysfunction of the orofacial musculature/functions can occur for many reasons including genetic and developmental issues, oral habits, airway patency issues, neurological disorders, infectious/progressive diseases, etc. In this author's experience, developing an optimal oral rest posture of the lips, tongue and jaws provides an excellent base from which to work with a variety of disorders. It facilitates many of the speech pathologists's and orofacial myologist's goals for improvement of speech and vocal functions as well as swallowing skills.

While support for training a proper oral rest posture is a well-established part of most tongue thrust treatment programs, this is less often recognized as a useful strategy in treating other speech and vocal impairments. Helping an individual optimize her or his static oral resting posture facilitates achievement of fluid, efficient and economic movement patterns needed for accurate and fluent speech and voice production.

Data on the habituation period needed for developing an optimal oral rest posture in individuals presenting with non-tongue thrust orofacial/speech/voice disorders is lacking. It was hypothesized that a target desirable oral rest posture could be established in adults within approximately three weeks, but that this would take children a lengthier period of time. The following is a summary of preliminary observations obtained from 10 adult clients and 10 pediatric clients on a hospital speech pathologist's outpatient caseload.

Procedures

Subject selection. Ten adults and ten children were randomly selected from an ongoing outpatient caseload. Adult diagnoses included: three vocally impaired clients, three left CVA's, and four right CVA's in the adult population. Pediatric diagnoses were quite varied and included: articulation, fluency, hypotonia (of non-specified origin), Tourette's Syndrome, autism, velopharyngeal insufficiency, closed head injury and developmental apraxia.

Training format. All clients received the same training protocol. During each patient's initial evaluation session, instruction in proper oral rest posture was given. This included demonstration and assistance in achieving or approximating a target posture where the anterior, superior surface of the tongue is lightly sealed against the anterior hard palate, beginning at the incisal papilla and extending posteriorly. A written definition/handout was given to patients who were able to read. Sticker reminders and reinforcement strategies were given to all clients. Reinforcement strategies included placement of an orthodontic elastic or similar-sized, ring-shaped cereal bit on the tongue tip and elevation of this item to the target "spot" for gradually increasing periods of time (one to thirty minutes in length as skill permitted) When cereal was used, patient was instructed to replace the bit when it became too soft to maintain as a unit. Specific oral motor exercises/strategies were selected for individuals based on needs identified in the therapist's initial orofacial functional evaluation. It should be noted that not all clients are able to immediately achieve accurate posturing, and this required that they receive progressive training to at the very least approximate the target posture. Oral motor strategies included exercises for reduced or excessive tension in the lips or mentalis and exercises to increase tone and fine motor coordination in the tongue and orofacial musculature.

Findings

Data was obtained for the number of times home practice was reported to have been completed per week over a three week period. Additional data was recorded at six weeks when possible. Also recorded were speech pathologist's observations of patient's frequency of proper oral rest posture during active listening in a 30-60 minute session, and percent of time that patients estimated their own achievement of automaticity with the target posture.

Adults:

Subject:	Average # of times home practice comleted	Speech path's observ. of target oral rest posture	Patient's self rating on auto-maticity
	@3wks/6wks	@3wks/6wks	
Voice Imp:			
1.	5(71%)	100%	100%
2.	5(71%)	90%	90%
3.	7(100%)	100%	100%
Left CVAs:			
4.	7(100%)/7(100%)	80%/80%	70%/80%
5.	7(100%)/7(100%)	40%/60%	40%/60%
6.	7(100%)	100%	100%
Right CVAs:			
7.	7(100%)/7(100%)	70%/70%	70%/70%
8.	7(100%)	80%	90%
9.	7(100%)	100%	100%
10.	7(100%)	100%	100%

Children:

Subject:	Average # of times home practice comleted	Speech path's observ. of target oral rest posture	Patient's self rating on auto-maticity
	@3wks/6wks	@3wks/6wks	
Articulation:			
1. (9yo)	5(71%)	50%	50%
2. (11yo)	5(71%)	70%	80%
Fluency/Artic:			
3. (12yo)	4(57%)/6(86%)	49%/75%	80%/90%
Hypotonia (non-diag. synd.):			
4. (6yo)	6(86%)	40%	40%
Tourette's Synd:			
5. (6yo)	6(86%)/6(86%)	50%.60%	50%/60%
Autism:			
6. (7yo)	5(71%)/6(86%)	50%/60%	40%/60%
Velophatyngeaal Insufficiency:			
7. (7yo)	5(71%)	20%	30%
Closed Head Injury:			
8. (16yo)	0%)/5(71%)	0%/0%	0%/20%
Developmental Apraxia:			
9. (4yo)	6(86%)/5(71%)	50%/50%	50%/50%
10. (7yo)	6(86%)/5(71%)	50%/50%	50%/50%

Discussion

These preliminary findings can only be considered limited observations requiring further study, larger numbers of subjects, and data recorded over lengthier periods of time. The following interpretive impressions can be considered:

Vocally impaired adults and adults status post right CVA appear generally able to develop a target optimal oral rest posture within three weeks of consistent practice Individuals status post left CVA are less reliably successful in three as compared to six weeks of practice. It would seem that the motoric aspect of impairment commonly involved in CVA is likely responsible for this lengthier (and less complete) habituation time. Adults generally appear more consistently motivated in carrying out daily home practice than children. However, voice disordered patients as a group may be less compliant with follow-through on home practice than individuals with other disorder 5. Adults estimates of their achievement of the target oral rest posture frequently match those of the trained professional.

Children with a variety of diagnoses affecting speech production generally do not achieve consistent optimal oral rest posture within three weeks. At six weeks, some improve but continue to be only partially (50-75%) successful. Most successful results are noted for older children showing articulation and fluency disorders. Least successful results occur with disorders which have more significant motoric components, i.e. hypotonia, velopharyngeal insufficiency, and closed head injury. With the exception of the closed head injured adolescent, older children (without severe motoric speech problems) appear most successful. This would make sense as they are approaching adult performances. Some children appear to overestimate their success.

It is this author's subjective experience that developing optimal oral rest posture and improving orofacial tone, symmetry and function expedites treatment for a variety of communicative disorders. Further studies are needed to support and widen the use of these and other oral motor treatment techniques.

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