EPG in Speech and Language Pathology


- “Change in tongue position can be more accurately monitored and evaluated by the client as well as by the clinician linking the client as a powerfully active participant in treatment” (p.73).
- Most clients achieved accurate placement for targeted sounds within 4 sessions and generalized to spontaneous speech within 3 months.


- “EPG therapy derives its effectiveness from enabling children to develop conscious control of the internal cues associated with tongue control” (p.520)

Articulation/Phonology Disorders


- “EPG is an instrumental technique able to record directly the actions of one of the major articulators involved in speech production, namely, the tongue. If children with APD have motoric deficits, then the articulatory data from EPG will reveal the typical features of motor speech disorders. Such features might include poor positional accuracy for lingual gestures, difficulties with timing or intergesture phasing between the tongue apex and tongue body, or variable execution of lingual gestures (Kent, 1997).” (p.284)

Articulation Disorders


- “EPG can reveal inaccurate articulation gestures hidden from perceptual analyses and assessment alone.”
- Evidence suggests that visual feedback, like that provided by EPG, can resolve long standing articulation errors.

• “In visual biofeedback intervention, instrumentation is used to provide information about aspects of speech that are subtle or difficult to perceive under ordinary circumstances. Visual biofeedback provides a visual display of the child’s speech and model of the correctly articulated sound, enabling the child to attempt to modify his or her production to achieve a closer match with the visual model.” (p.208)

• 10 children between 0-11, all had traditional treatment for at least 2 yrs, and by lack of progress were designated as “treatment resistant” (p.210). All participants were 0% accurate for /r/ production at baseline. After 2-6 sessions with biofeedback all participants reached 70% accuracy producing vocalic /r/ in isolation.

Cleft Palate


• “EPG has proven its effectiveness in changing abnormal articulatory placement in cleft palate speech.” (p.44)

• This article provides two case studies as examples of the kind of treatment results experienced by CleftNet clients/therapists. Both had favorable results.

Down Syndrome


• Under the heading indications for Future Research and Clinical Services the author states that error patterns in speech production of those with DS are “complex and may be understood more fully from the use of instrumental methods, such as acustic analysis, aerodynamic recordings, EPG, and movement transduction.” (p. 186)

• “Perceptual methods-such as ratings of vocal quality and articulation tests-have provided basic information on characteristics of spoken language in DS, but the use of the instrumental techniques of acustic and physiological methods have been limited. EPG is one of the most frequently used of these techniques and has contributed especially to an improved understanding of lingual articulation.” (p.191)
Hearing Impairment


- “The internal cues (e.g., tactile, kinesthetic) associated with tongue movements are too subtle for children to perceive clearly or accurately. Although perception of these cues is not prerequisite to normal speech production or to its acquisition in typical development of children, nevertheless, EPG therapy derives its effectiveness from enabling children to develop conscious control of the internal cues associated with tongue control.” (p.520)

- Results show that a completion of 7 sessions the subject, a 9 year old girl with hearing impairment and multiple distorted sounds, was able to produce all sounds correctly judged both by EPG data and acoustically.

Accent Reduction


- Results support advantages of using the Palatometer for accent reduction.