

PALATOMETRIC PATTERNS IN SPEAKERS WITH REPAIRED CLEFT PALATES OR SEVERE HEARING IMPAIRMENT

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Palatometry (electropalatography) provides visual information about tongue-palatal contact during speech production. Subjects wear custom-designed artificial palates with up to 96 electrodes, and dynamic or static computer displays show tongue contact patterns. A pilot speech therapy project is currently being conducted at UBC with five adults and six children who have a variety of impairments or combinations of impairments: repaired cleft palate, sensorineural hearing loss, and/or motor speech disorders. In this symposium we will focus our discussion on similarities and differences between the speech of two adults (one with a profound hearing loss, and one with a repaired cleft palate), and two children (one with a profound hearing loss and a cochlear implant, and one with a hearing loss and partially repaired cleft palate). At assessment, all subjects tended to have the most difficulty with alveolar and palatoalveolar phones. Discussion will focus primarily on these speech sounds.

Data presented comes from assessment, treatment, and followup speech samples. Assessment and followup probes

involved taperecordings and narrow phonetic transcriptions of about 100 words from single word, sentence, and paragraph elicitations, plus palatometric tracings of about 50 single words. The followup probes were conducted following each of two 8-session treatment blocks (of about one month each). At the end of each treatment session, a palatometric tracing of the best final production was also stored, allowing for longitudinal data collection over the 8-10-week period.

At assessment, tongue placement was typically retracted for subjects in this group. Sibilants, if produced at all, had lateral release or no/abnormal grooving. As the clients learned to use the visual feedback to change tongue placement, normalization of speech occurred over time.

Both palatometric and perceptual data (including subject self-ratings) will be presented. Comparisons will be made across subjects and with data from a normal adult speaker. The following figure shows production of [t] by a normal speaker (right of figure) and someone with a repaired cleft palate.

