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**SPEECH CHARACTERISTICS OF SRI LANKAN CHILDREN WITH
REPAIRED CLEFT PALATES - A PRELIMINARY REPORT**

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Children born with cleft lip and palate develop abnormal speech resulting from velopharyngeal inefficiency and poor articulatory functions. The corrective surgical repair and subsequent rehabilitation can greatly influence the speech. Main features of cleft palate speech associated with velopharyngeal impairment are: hypernasality, nasal air emission, weak pressure consonants and compensatory articulations. Proper assessment of the degree of speech defect becomes imperative in post surgical speech rehabilitation and currently only the listener judgement method is widely used in our country for this purpose. This study was carried out on a preliminary basis to identify the use of an objective method of analysis of defective speech using listener judgment and sound spectrography methods.

Five children selected as a convenience sample from the speech therapy clinic of the Department of Oral Surgery, Faculty of Dental Sciences, University of Peradeniya, Sri Lanka were the subjects. There were three males and two females. Age ranging from 5 to 10 years. All subjects had undergone palatal repair by V-Y pushback method from the same institution around 18 months of their age and were following speech therapy by trained nursing staff.

Each child underwent 1. Listener Judgement Examination in which a clinical assessment of speech was made. 2. Pure Tone Audiometry to rule out any hearing problem and 3. Voice Recordings for computer analysis of speech. Similar voice recordings were obtained from two normal children aged 5 and 10 years of age as controls. Using the Computer facilities available in the First Department of Oral and Maxillofacial Surgery, School of Dental Medicine-Tsurumi University, Japan, Spectrographs and sound statistics were generated for each of the isolated "ko" sound in the sample of voice recordings of subjects and controls.

Results of Audiometry did not reveal presence of any hearing defect among the subjects. In Listener Judgement two subjects aged 5 and 10 years showed poor speech with marked nasality. Computer generated Sound Spectrography of these two subjects showed increased bandwidth of formants and increased resonant areas when compared with the controls. Sound Statistics also showed that the Breathiness values were high in both of these cases.

Non Parametric analysis of results confirmed that in cases which showed poor speech according to the Listener Judgement there was a marked difference in the computer generated spectrographs and sound statistics.

These results show that computer generated sound analysis may be useful in the management of speech defects along with other clinical assessment methods.