

# Speech and voice Characteristics of Cleft Palate Subjects With and Without Prosthesis

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Articulatory, phonatory and resonatory deviations are part of all the speech abnormalities exhibited as "a rule rather than a chance" among the cleft palate population. Several remedial methods are employed to correct the speech abnormalities. Use of prosthesis is one such remedial procedure where by the cleft or a fistula (as a result of unsuccessful surgery) is closed by external means.

Earlier investigators have reported substitution, omission and distortion as part of articulatory problems in cleft palate individuals. They have also reported that distortion is the most common articulatory problem, but omission is the least common. This is because, when a person with a cleft attempts to articulate, chances of omitting it is least. The sound is either nasalized or distorted. There are instances of similar problems due to a fistula even after surgery. So, prosthesis use has been recommended as part of the solution to correct the articulatory problem. Prosthesis use has also been supported as it is claimed to be facilitating the resonatory and phonatory characteristics.

This study was undertaken to find out the changes in speech characteristics, if any, due to the prosthesis. A single subject design was employed taking four subjects with cleft lip and/or palate. After a successful fit is obtained, the speech sample was taken and analysed.

Analysis was done in terms of the type and manner of articulation, the perceived nasality and the fundamental frequency.

The results indicated that, with the prosthesis,

1. There is no significant improvement in the articulatory characteristics
2. There is no significant improvement in the perceived nasality
3. There is no significant change in the fundamental frequency.
4. Contrary to the earlier findings, the study showed substitution as the most common problem compared to either omission or distortion.
5. In the whole word distortions, this study indicated of some improvement in terms of approximating to the correct word.

## Conclusion:

Prosthesis use has been claimed by many as to induce some change in the speech characteristics of cleft palate subjects.

The results of the present study indicated no significant change in the overall speech characteristics of cleft palate subjects between without and with prosthesis condition. The reasons for this contradictory finding are

1. Fixing an appropriate prosthesis will only provided the individual to achieve the structural adequacy but not functional adequacy. Therefore, speech problems remain for some time even after wearing a prosthesis. This will highlight the need for speech therapy which aims at functional adequacy.

2. Harkins, 1947; Peterson, 1974; Dalston, 1977; Beery Rood and Schramm, 1983 have opined that just wearing a prosthesis for some time will induce movement of the posterior, lateral pharyngeal walls and also strengthen the movement of soft palate. In the present study the speech samples were recorded as soon as the patient was comfortable with the prosthesis, that is, within 2 or 3 days. Probably this is another reason why the subjects of the present study did not show significant improvement after wearing a prosthesis. The

hypothesis of Beery et al (1983) can be investigated in future research by recording the speech samples at different times say for example, after 2 weeks, 4 weeks, 6 weeks following fixing of prosthesis.

3. Just fixing a prosthesis may not induce any change in their articulatory pattern because of habit formation, which can only be broken through speech therapy. Again here changes in speech characteristics following fixing of a prosthesis and speech therapy can be taken for future research.