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Commentary

A review of: Correction of defective sibilant phonation created by a complete maxillary artificial denture, by Carl A. Hansen and Michael T. Singer

Elnita Stanley

CORRECTION OF DEFECTIVE SIBILANT PHONATION CREATED BY A COMPLETE MAXILLARY ARTIFICIAL DENTURE

by Carl A. Hansen, DDS and Michael T. Singer, DDS
from *General Dentistry;* September-October, 1987

Reviewed by Elnita Stanley, Ed. D.
Professor, Dept. of Counseling and Special Education, Stephen F. Austin State University, Nacogdoches, Texas

This article deals with lisping caused by dentures. Instructions are given for recognizing defective sibilants at the first trial fitting and for corrective contouring of the maxillary prosthesis to prevent further speech deterioration.

Hansen and Singer note that the sibilant sounds, /s/, /z/, /sh/ and /zh/, are commonly distorted by a removable maxillary prosthesis. They find that these distortions rarely improve with time and, therefore, should be dealt with at the time of denture fitting. For acceptable sibilant articulation, they advocate developing convex palatal contours lingual to the maxillary teeth during waxing. These contours must be carefully preserved during the finishing and polishing stages of the prosthesis.

During the trial insertion stage of denture construction, the clinician should attend to speech production as well as the fit and aesthetics of the prosthesis. The clinician must be aware of both acceptable and unacceptable sibilant production and be knowledgeable about prosthetic modifications which may improve speech articulation.

Normal sibilant formation requires that: 1) a hissing sound be produced as the outgoing airstream passes between the grooved tongue and the anterior palatal area, and that 2) the sides of the tongue contact the hard palate laterally. Major prosthetic causes of sibilant distortion are: 1) improper positioning of the denture teeth, and 2) lack of sufficient convex contouring of the lingual alveolar process anteriorly and/or posteriorly.

Hansen and Singer list three sibilant misarticulations commonly associated with dentures. An overly sharp, whistling sound occurs when the airstream is narrowed too much. A softened sibilant, or central lisp, occurs when the airstream is too broad, resulting in a substitution of /sh/ for the /s/ sound. A lateral lisp is produced when air is emitted along the sides if the tongue, resulting in a "slushy" sound.

The authors suggest the use of palatograms as the "...key to a simple and accurate diagnosis when the dentist is confronted with defective sibilant articulation" (p. 357). Step-by-step procedures are described in the making and use of the palatograms in order to determine the needed prosthetic modifications. Detailed instructions for altering processed resin palatal contours of the maxillary prosthesis are given in order to correct each type of lisp described.

If sibilants are defective after completion of the prosthesis, the clinician alters the flow of the airstream through modification of the palatal contours. Hansen and Singer "...have observed that when the position of the maxillary anterior denture teeth provides acceptable esthetics and the posterior tooth arrangement contributes toward reasonable function, any sibilant distortion caused by the prosthesis can be corrected by altering palatal contours" (p. 357).

This is a detailed and well-referenced article which should be of interest to members from all disciplines represented in the IAOM membership. Certainly it suggests another area in which the speech pathologist and the dentist may work together.