Literary Review

A review of: Variation of swallowing patterns with malocclusions, by Ibrahim A. Nashashibi (1987)

Marvin Hanson

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VARIATION OF SWALLOWING PATTERNS WITH MALOCCLUSIONS

Ibrahim A. Nashashibi

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*Abstracted by Marvin Hanson, Ph.D., Professor of Speech Pathology and Chair,
Department of Communication Disorders, University of Utah*

One thousand school children, ages nine to fourteen, were examined for presence of abnormal swallowing habits, for presence of malocclusions, and for interrelationships between abnormal swallowing and malocclusions.

"Abnormal swallowing" was defined as any of three types of patterns: (1) simple tongue thrust, with masseter and labial muscle contractions, and openbite. (2) complex tongue thrust, with teeth apart during swallows, and facial and labial muscle contractions. (3) retained infantile swallow, with strong contractions of facial and labial muscles. A small amount of water was placed under the tip of the tongue and the children were asked to swallow. Malocclusions were grouped together for purposes of statistical analysis, following the Angle classification system. Eight hundred and two of the children had normal molar occlusion. One hundred forty two had Class II malocclusions, and fifty six had Class III malocclusions. One hundred forty one, or 14.1%, of those with normal occlusion, were tongue thrusting. Sixty seven, or 54.6%, of those with abnormal occlusion, were tongue thrusting. The difference was statistically significant at the 0.0001 level. Significant differences between normal and abnormal swallowers were also found in measures of vertical malocclusions, teeth-spacing, presence of other oral habits and degree of lip seal. The author concludes that tongue thrust increases proclination of teeth, spacing of teeth, anterior open bite and incomplete overbite.

Evaluation/Comments:

The findings are interesting and agree with earlier studies. This was a study of normal and abnormal swallowing, yet results and discussion indicate strong relationships between abnormal swallowing and tongue thrust. Procedures for checking for abnormal swallowing did not include any mention of parting the lips to determine position of tongue with respect to teeth. The examiner's finger tips were placed against the temporal muscles as the subject swallowed. It was unclear whether "abnormal" swallowing was synonymous with, or something other than "tongue thrust."

The article is incomplete, nebulous and error-filled. This reviewer had to correct information given in one of the tables in order to compute incidence of abnormal swallowing.

Considerable potentially useful data were obscured by combining several factors (i.e., three types of swallows, all types of malocclusions, all types of oral habits) for statistical analysis. Statistical procedures were not explained. The meaning of the term "significant" was not given: Were relationships, described as "significant," between-group difference, or correlations? The reader has to make some assumptions.

Undoubtedly the strongest criticism of the article is that the author presumes cause-and-effect relationships in a given direction from data that show relationships but that give no evidence whatsoever of cause-and-effect.