

The Labial Shield Prosthesis

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The prosthodontist is often called upon to fabricate a prosthesis that is *not* intended to function in the improvement of mastication, phonation, or the patient's appearance. This article describes a prosthesis that is designed to improve the brass musician's ability to play his instrument in the presence of a Class I dental malocclusion. Dental problems can be debilitating to the brass wind instrumentalist.¹ These performers depend upon the precise function of lips, teeth, and tongue for every note produced.^{2,3}

The crowding of the mandibular incisors and the labioversion of the right central incisor creates a situation in which the patient does not have a stable rest for the mouthpiece of his trombone. The patient notes that the instrument slips from side to side when resting on this labially prominent incisor (Figure I). The patient also reports that this tooth has become symptomatic. This is presumably due to the excessive force being placed upon this tooth by the trombone, inducing a state of (occupationally related) primary trauma.⁴



Figure I

The patient was advised that orthodontic treatment could cor-

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rect his malocclusion. However, he was not interested in a permanent correction of the crowding, which he did not consider a cosmetic disfigurement; he was also concerned that he would not be able to play the trombone during therapy due to the presence of orthodontic appliances.

A clasp-retained chromium-cobalt prosthesis was designed and fabricated on casts of the patient's mandibular dental arch (Figure II).



Figure II

This prosthesis has been given the name the "labial shield" prosthesis. The labial shield covers the labial surfaces of the mandibular incisors and simulates a "flush" labial profile when viewed from the occlusal. This is accomplished by keeping the portion of the shield overlaying the labioverted incisor to minimal thickness while giving additional thickness to the portion of the shield overlaying the other incisors. Four layers of die spacer were painted over the labial surfaces of the incisors, and cervical undercuts were blocked out before waxing the shield.

The labial shield is retained via circumferential clasps on the lingual surfaces of the lateral incisors and second bicusps, and sta-

bilized via bilaterally positioned labial connectors. The connectors are placed labially to facilitate removal of the prosthesis and are relieved by a layer of 28 gauge relief wax to avoid impingement on soft tissues.

Use of the labial shield prosthesis creates a broader, flatter labial surface which stabilizes the mouthpiece of the trombone (Figure III). The force generated by

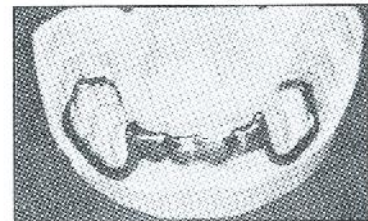


Figure III

pressure of the instrument is distributed over a greater area, thereby lessening the trauma against the labioverted incisor. The patient has also reported that the increased oral volume produced by wearing the labial shield has improved his embouchure.⁵ □

References

1. Prensny, H. David; Shapiro, Gerald I.; and Silverman, Sidney I. "Dental Diagnosis and Treatment for Musicians." *Special Care in Dentistry* 6(5), 1986: 198-202.
2. Corcoran, Declan P. "Dental Problems in Musicians." *Journal of the Irish Dental Association* 31(1), 1985: 4-7.
3. Kopczyk, Raymond. "Dental Considerations For the Brass Player." *International Trumpet Guild Newsletter* 8(3), 1982: 12-13.
4. Abrams, L.; and Coslet, G. *Occlusal adjustment by selective grinding*. H. Goldman and D. W. Cohen (eds), *Periodontal Therapy*, ed 5, St. Louis, C. V. Mosby Co., 1973.
5. Telfer, Stanley W. J. "The Embouchure: Hazards and Aids for Brass Wind Instrument Players." *The Dental Technician (Technical Supplement)* 36(10), 1983: 16-21.