Occlusal Restoration after Orthopedic Jaw Repositioning


The initiation of treatment with an anterior repositioning splint for patients with disk displacement with reduction sometimes requires prosthodontic and/or orthodontic care. Often, the anterior teeth are the only teeth in contact with no contact of the posterior teeth. This is an unstable occlusal relationship and should be stabilized with uniform contacts in centric relation/centric occlusion and the development of optimal anterior guidance. This paper will describe the prosthodontic management of the posterior open bite.

Clinical Phase

This patient (Figure 1) presented with bilateral early to midopening clicks. A splint was constructed according to arthrographic findings described in a previous paper. The anterior repositioning splint was worn for six months; at that time a lower removable partial denture was to be constructed to manage the posterior open bite. (Figure 2) The first consideration is making jaw relation records. Most patients reprogram to the new anterior position, and records can be made as described by Dawson. The jaw is manipulated bilaterally, and a fast setting registration material such as Ramitec* is placed between the posterior teeth (Figure 3) to record the new protrusive jaw position.

Two lower final impressions are taken for construction of a metal framework (Figure 4). One is poured in refractory material for direct casting and the second poured in die stone for seating of the metal framework.

Laboratory Phase

The maxillary cast is mounted with a face bow transfer (Figure 5). The lower refractory cast is

* Ramitec—Premier Dental Products Company, Norristown, Pennsylvania 19401

Figure 1
Protrusive portion of the mandible after splint therapy.

Figure 2
Note posterior open bite.
mounted with the jaw relationship records (Figure 6), and the die stone cast is also mounted from the same record (Figure 7). Waxing is now accomplished in the usual fashion producing uniform contacts in centric occlusion, no working or balancing contacts with anterior disocclusion (Figure 8). Casting is carried out in the usual manner, fit to the die stone cast, and the occlusion is adjusted. (Figure 9).
Clinical Phase

Areas of impingement are checked with disclosing wax and final occlusal adjustment is completed.

Conclusions

A method of closing a posterior open bite for patients treated with anterior repositioning splints for disk displacement with reduction or surgical correction of a displaced disk has been described. This procedure affords several advantages over a fixed partial denture: (1) extensive tooth preparation is not needed, (2) the necessary occlusal adjustments are easier than construction of a fixed partial denture, and (3) the need for long-term studies should dictate the use of conservative restoration procedures such as removable partial dentures.

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References

Gies Foundation Seeks Donations

The William J. Gies Foundation for the Advancement of Dentistry has launched a campaign to double its endowment for the funding of several new programs. The foundation currently funds awards for work in the fields of editing, oral surgery, periodontology, and Latin American Dental Research, supports a yearly Dental Teacher Training Fellowship, and provides grants and support for various universities and the Journal of Dental Research.

Gies (1872–1956), a Columbia University biochemist, was responsible for reorganizing dental education under the aegis of universities. He was founder and editor of the Journal of Dental Research, founder of the International Association of Dental Research, organizer of the American Association of Dental Editors, the Journal of the American College of Dentists, and the Dental Section of the American Association for the Advancement of Science.

The Board of Directors of the Gies Foundation has a campaign goal of $300,000, which will allow the foundation to establish a variety of new programs, including a dental research fellowship, a rotating lecture program on dental ethics, and programs to encourage the authorship and publication of historical and current biographies of dentists who have made contributions to arts, sports, literature, public service, and other nondental fields, as well as a biography of Gies himself.

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