Clinical Brief

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Occlusal Restoration after Orthopedic Jaw Repositioning

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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.[1] 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.[2] 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.

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

Laboratory Phase

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

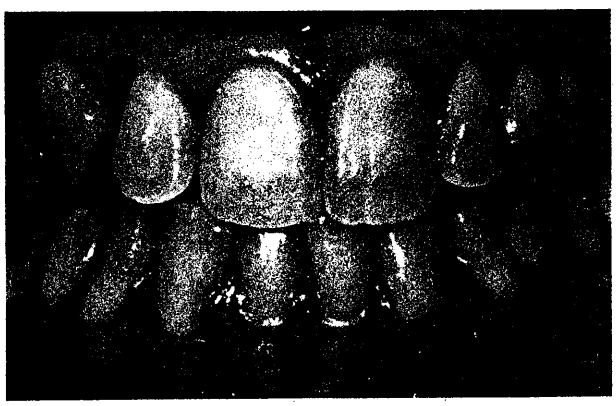

Figure 1
Protrusive portion of the mandible after splint therapy.

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**).

Figure 3
Jaw registration records with Ramitec to record protrusive position.

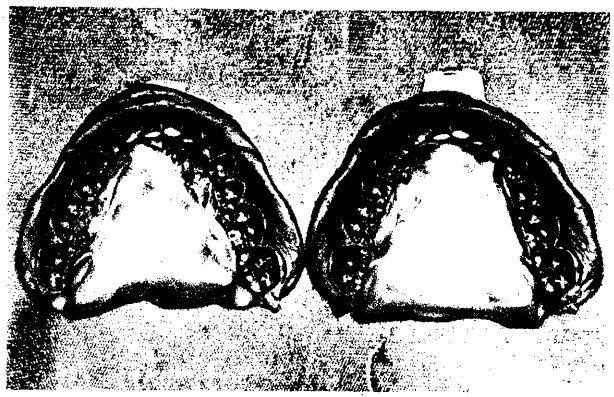

Figure 4
Two lower Impregum impressions to be poured in die stone and refractory investment.

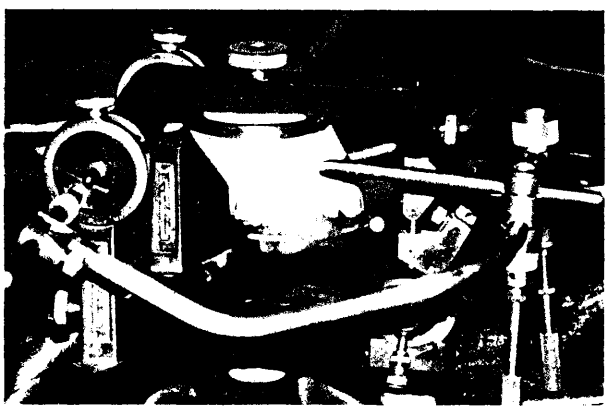

Figure 5
Maxillary cast mounted with face bow registration.

Figure 6
Refractory cast mounted.

Figure 7
Die stone cast mounted.

Figure 8
Over partial waxed for direct casting on refractory cast.

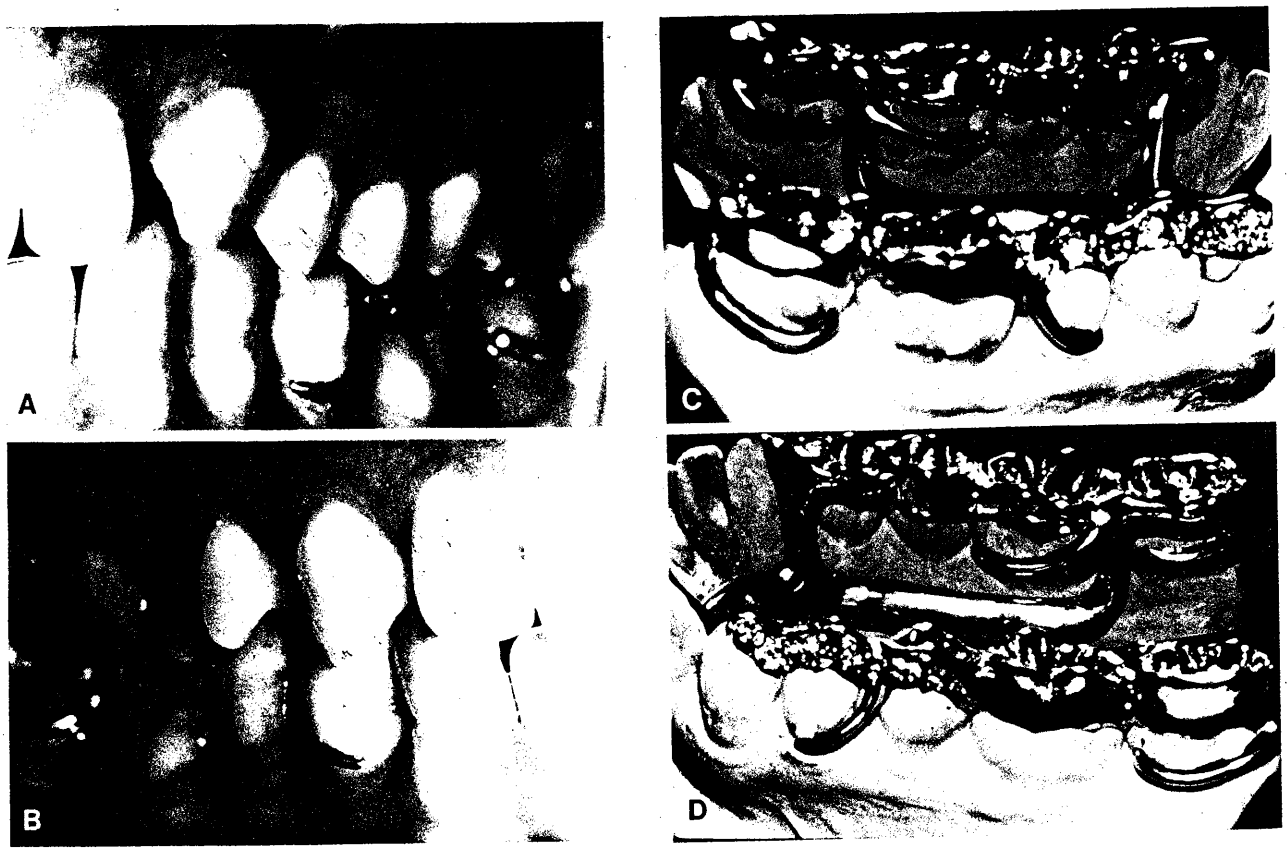

Figure 9
A. Right lateral view with casting in place. B. Left lateral view with casting in place. C. Right view of casting on die stone cast. D. Left view of casting with die stone cast.

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

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2. Dawson, P. E., *Evaluation, Diagnosis, and Treatment of Occlusal Problems.* St. Louis: The C.V. Mosby Co., 1974, pp 54–61.

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