

Residual Ridge Undercuts as an Alternate Method for the Optimal Extension of the Complete Denture Base

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In general, residual ridge undercuts are undesirable when they interfere with the path of insertion of a complete denture and may lead to the improper extension of the denture flanges and abrasion of the alveolar mucosa. The usual treatment of severe undercuts is surgical reduction of the residual ridge.

In cases of moderate undercuts the residual bone can be saved either by incorporation of resilient materials^{1,2} into the denture bases or simply by post-insertion correction. However, extensive, postinsertion relief often leaves poorly adapted denture bases.

This article describes a simple method for locating and blocking out the undesirable undercuts, before processing, by slight alterations, to the master cast. The dental surveyor is used in the procedure.

1. The master cast is surveyed for undercuts with an anterior path of placement (Fig. 1). Only undercuts in the anterior region need not be blocked out, since an anterior path of insertion can usually be obtained (Fig. 2). In some instances extensive undercuts from canine to canine may require blockout in the absence of posterior undercuts in order to facilitate an atraumatic path of placement for the prosthesis. With bilateral undercuts in the tuberosity area one side can be left intact and the other can be blocked out. If anterior and posterior interferences are both present, blocking out of

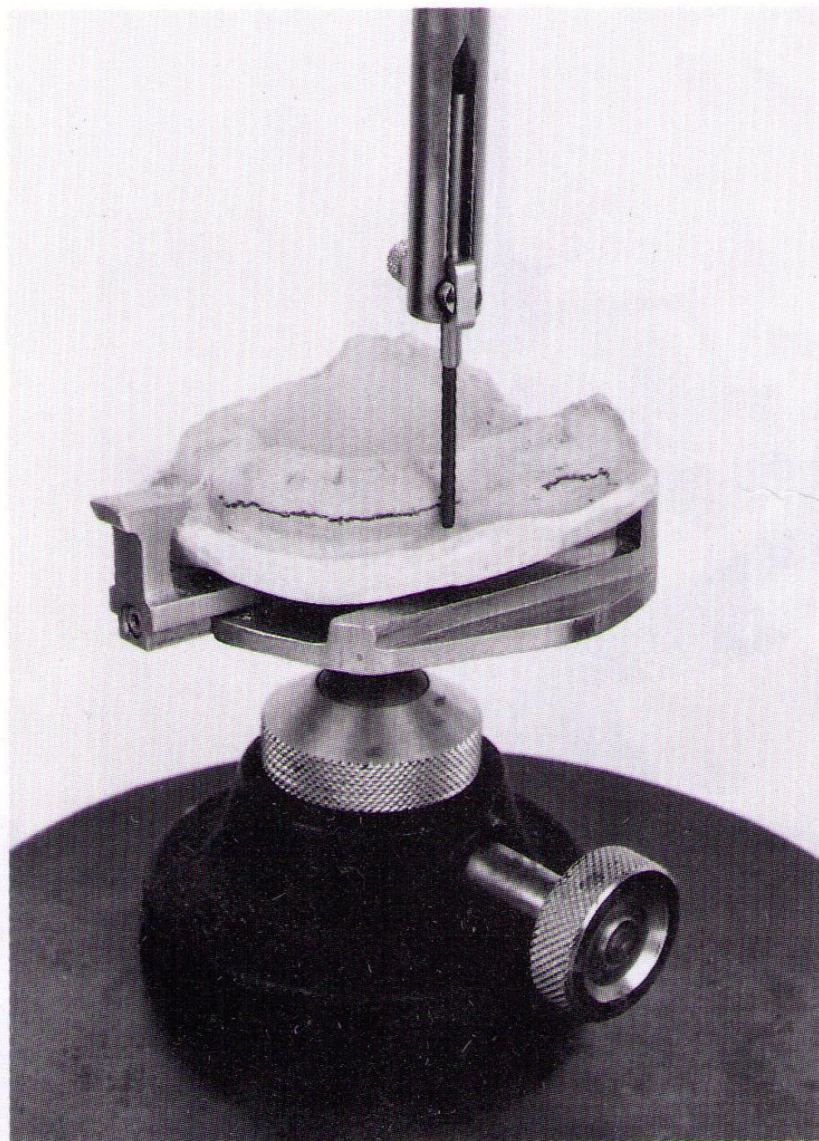


Fig. 1

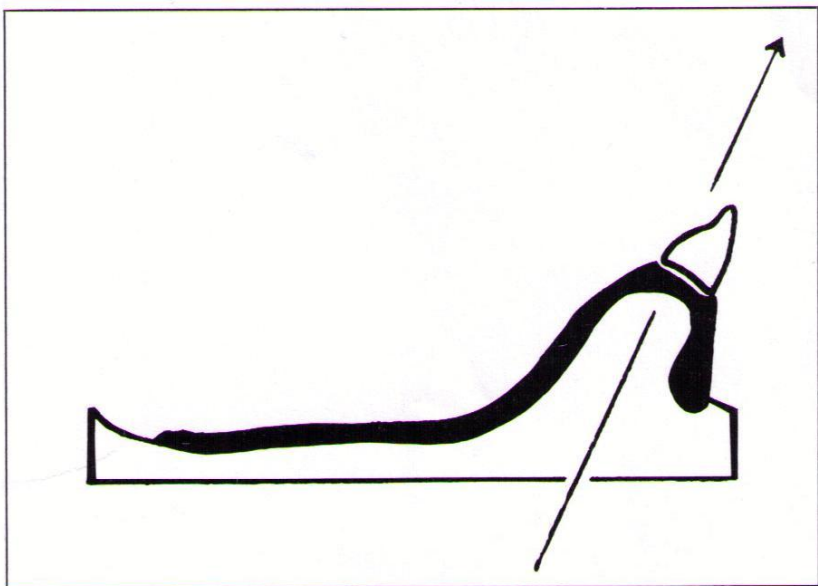


Fig. 2

the posterior undercuts is preferred for esthetic reasons.

2. Retentive cuts are made in those areas of the master cast designed to be blocked out as determined by surveying. The cast is moistened and dental stone is placed over these areas. Excess stone is removed with the suitable instrument of the surveyor (Fig. 3).
3. The final cast is ready for the fabrication of an "atraumatic" recording base and the processing procedure (Fig. 4).

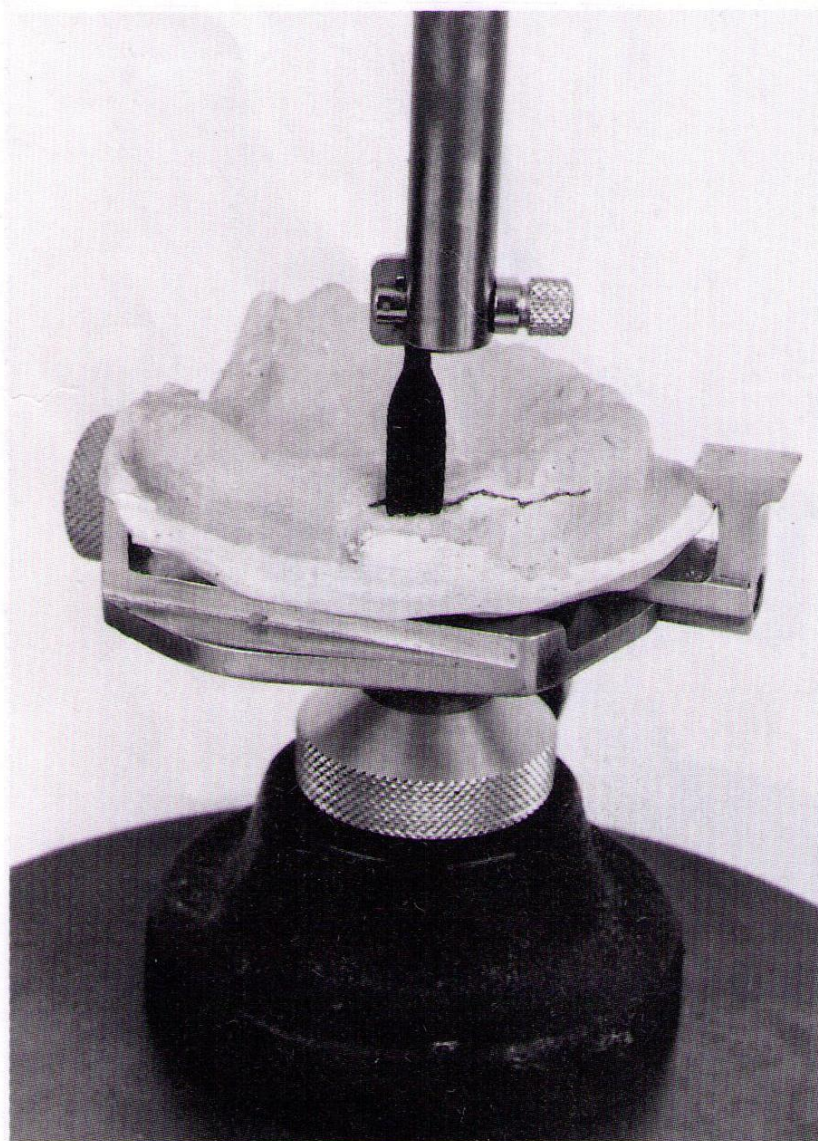


Fig. 3



Fig. 4

Summary

The advantages of blocking out the undesirable undercuts using a conventional dental surveyor before processing are: (1) The location of all the undercuts. (2) Elimination of much of the postinsertion correction that usually leads to improperly extended borders and poor denture base adaption. (3) Fabrication of atraumatic recording bases that prevents damage to the surface of the cast. (4) Reduction of the abrasion of the mucosa over the residual ridge. (5) The method does not require a great deal of time. □

References

1. Brewer, A.A. Relining, rebasing and soft liners. p. 304 In A.A. Brewer and R.H. Morrow (eds.) *Overdentures*. 2nd ed. St. Louis: C.V. Mosby Co., 1980.
2. Whitsitt, J.A., Battle, L.W., and Jazosz, C.J. Enhanced retention for the distal extension-base removable partial denture using a heat-cured resilient soft liner. *J Prosthet Dent* 52(3):447-498, 1984.

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