

# Technique for Recording Neutral Zone with a Soft Liner

Nupur Rath<sup>1</sup>, Nadeem Yunus<sup>2</sup>, Khurshid A. Mattoo<sup>3</sup>

<sup>1</sup>Department of Prosthodontics, Divya Jyoti College of Dental Sciences, B.R. Ambedkar University, Uttar Pradesh, India, <sup>2</sup>Department of Prosthodontics, Jamia Millia Islamia Dental College, JMIU, New Delhi, India, <sup>3</sup>Department of Prosthodontics, College of Dentistry, University of Jazan, Jazan, KSA

## ABSTRACT

With the ever-changing science of dental materials, old techniques must be revisited to find better results. Numerous materials have been used to record and transfer neutral zone in complete dentures. We present a technique of recording the neutral zone with a soft liner that is primarily meant to be used under the denture for preserving residual alveolar ridges.

**Key words:** Heat cure, soft liner, soft resin, tissue conditioner

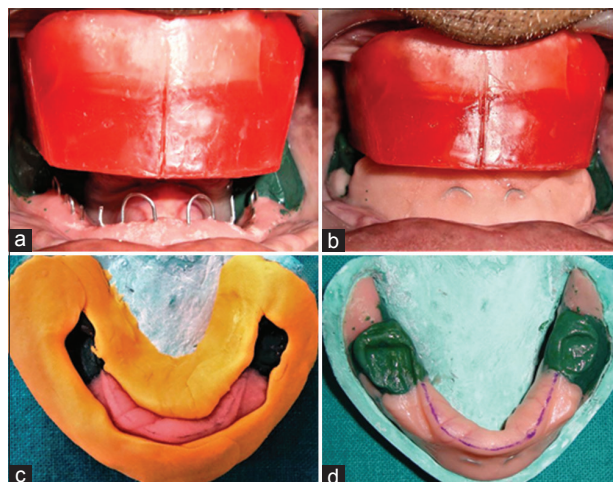
## INTRODUCTION

The importance of the neutral zone in complete denture fabrication is the balance of muscular forces that this area possesses, which helps the clinician to place the teeth in an area where minimal destabilizing forces will act on the denture. It is also referred to as the dead space or zone of minimal conflict.<sup>[1,2]</sup> The technique is extremely useful in patients with severe atrophic ridge, advanced age, those who suffer from neuromuscular disorders such as parkinsonism, and even those who have undergone surgical resections as part of cancer removal.<sup>[3,4]</sup> Since the technique is old and reliable, the mere advancement that has taken place is the use of different dental materials for recording the technique. These materials over the years have ranged from modeling compound, a mixture of high-fusing and low-fusing impression compounds, various wax formulations, and tissue conditioners. We present a technique of recording the neutral zone using a heat cure soft liner (GC soft) that remains soft unless it is not heat treated, thus allowing an added advantage of recording the neutral zone over a wide period of time.

## TECHNIQUE

- Step 1: After recording the jaw relation for complete denture prosthesis, both maxillary and mandibular denture bases are mounted on an articulator. The

mandibular occlusal rims are stripped of modeling wax, and a zigzag 19-gauge stainless steel orthodontic wire is adapted over the ridge area of the entire denture base at least from molar to molar area. Both occlusal rims are placed in the patient's mouth to verify the alignment of the retentive framework [Figure 1a].



**Figure 1:** (a) Mandibular denture with the retentive wire in place (b) Soft liner attached and molded to mandibular denture base (c) Putty index formed of labial, buccal and lingual denture surfaces (d) External form after removal of putty index

### Address for correspondence:

Khurshid A. Mattoo, Department of Prosthodontics, College of Dentistry, University of Jazan, Jazan, KSA.  
E-mail: drkamattoo@rediffmail.com

© 2019 The Author(s). This open access article is distributed under a Creative Commons Attribution (CC-BY) 4.0 license.

- Step 2: Heat cure soft liner is mixed as per the manufacturer's recommendations and the materials are placed in the retentive framework of the mandibular occlusal rims and are then placed in the patient's mouth. The patient is asked to perform oral functions such as sucking and plucking so that the surrounding orofacial musculature molds the liner that is soft at this stage [Figure 1b]. The mandibular denture is removed and replaced again in the patient's mouth. Once it is assured that the patient has been able to record the neutral zone; the mandibular denture is placed in warm water (60–70°C) bath to allow polymerization of a soft liner.
- Step 3: The denture base with the recorded neutral zone is then placed on the master cast and putty consistency of elastomeric impression material is then mixed and adapted over the labial, buccal, and lingual surface of the denture base [Figure 1c].
- Step 4: The putty index is then removed and kept as a record that can be transferred to the labial and buccal surfaces of the trial or final denture during subsequent stages of denture fabrication [Figure 1d].

## CONCLUSION

Recording of neutral zone adds to retention and stability by allowing surrounding musculature to seat within the recorded areas. Using a soft liner has extra advantages than conventional materials. It allows more working time for both patient and dentist and is not dependant on temperature changes.

## REFERENCES

1. Fish EW. Using the muscles to stabilize the full lower denture. J Am Dent Assoc 1933;20:2163-9.
2. Mathews E. The polished surfaces. Br Dent J 1961;5:407-11.
3. Ohkubo C, Hanatani S, Hosoi T, Mizuno Y. Neutral zone approach for denture fabrication for a partial glossectomy patient: A clinical report. J Prosthet Dent 2000;84:390-3.
4. Gahan MJ, Walmsley AD. The neutral zone impression revisited. Br Dent J 2005;198:269-72.

**How to cite this article:** Rathi N, Yunus N, Mattoo KA. Technique for Recording Neutral Zone with a Soft Liner. J Clin Res Dent 2019;2(2):1-2