

# A Self-Retaining Lingual Flap Guarding Device During Surgical Removal of Impacted Mandibular Third Molar

Yuvaraj Vaithilingam<sup>1</sup> · T. S. Balaji<sup>1</sup> · Nithin Jude Joseph<sup>1</sup> · Varsha Murthy<sup>2</sup> · Suresh Kumar<sup>3</sup>

Received: 18 October 2016 / Accepted: 9 March 2017 / Published online: 21 March 2017  
© The Association of Oral and Maxillofacial Surgeons of India 2017

## Abstract

**Introduction** Lingual nerve damage is one of the common complications following mandibular third molar surgery. On considering the impact of lingual nerve damage on the patient's quality of life, it is necessary to exercise caution to minimize its occurrence.

**Material and methods** Although many lingual retractors are available, in this article we describe an indigenously designed lingual retractor for use in mandibular third molar surgery.

**Conclusion** The indigenous lingual retractor described in this article provides advantages like clear access and excellent retention unlike conventional retractors.

**Keywords** Lingual flap retractor · Third molar surgery · Lingual nerve damage

Lingual nerve damage (LND) is an expected complication following mandibular third molar surgery. The incidence of this troublesome complication is variable with temporary LND ranging from 0 to 22% and the permanent LND ranging from 0 to 2%. This variability is attributed to anatomical and technical factors at the time of surgery

[1, 2]. On considering the impact of LND on the patient's quality of life and its medicolegal implications, it is essential to exercise caution to minimize the occurrence of temporary and permanent LND. A plethora of lingual retractors such as Howath's, Molt's, Ward's, Hovell's, Meader's, Browne's, Walter's and Rowe's retractors have been described in the literature for the specific purpose of avoiding LND [3, 4]. Here, an indigenously designed lingual guard retractor is described for use in mandibular third molar surgery.

## Technique

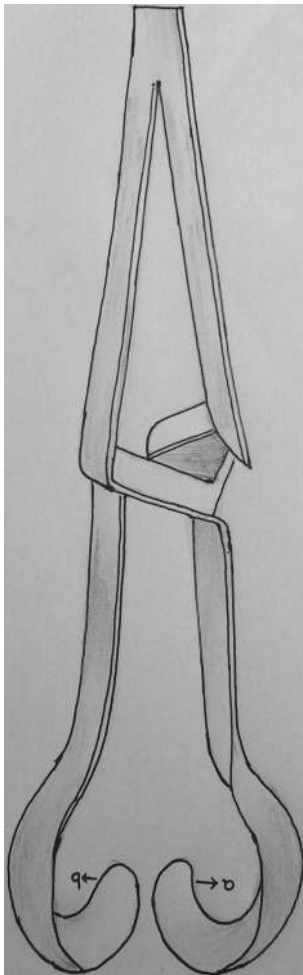
This indigenous retractor contains a spring-loaded reverse action clamp with two prongs which are rounded off to avoid sharp edges and bulky profile (Fig. 1). Following the completion of buccal trough of bone, the prongs of this retractor are gently placed on the buccal and lingual bone below the raised mucoperiosteal flap. The prong serves as a barrier preventing any iatrogenic injury to the adjacent lingual nerve. Unlike other retractors, this retractor is self-retained actively by a spring action and holds the bone firmly with no pressure applied on the lingual flap (Figs. 2, 3). Further, the prongs ensure a stable position of the retractor and prevent an inadvertent over-insertion under the lingual mucoperiosteum which can occasionally occur with a conventional lingual retractor. The surgeon has a clear access to the distolingual bone which can now be removed with a rotary instrument with minimal risk to the lingual nerve. Following completion of bone removal, the retractor can then be removed to permit the placement of appropriate elevators and forceps for delivery of the tooth.

✉ Yuvaraj Vaithilingam  
getyuv@gmail.com

<sup>1</sup> Department of Oral and Maxillofacial Surgery, Indira Gandhi Institute of Dental Sciences, Cuddalore Mainroad, Pondicherry 607402, India

<sup>2</sup> Department of Prosthodontia, Indira Gandhi Institute of Dental Sciences, Pondicherry 607402, India

<sup>3</sup> Department of Oral and Maxillofacial Surgery, Adhi Parasakthi Dental College and Hospital, Melmaruvathur, Tamilnadu, India



**Fig. 1** Schematic diagram of the lingual retractor. *a, b* Lingual and buccal prongs to engage between the alveolar bone and mucoperiosteal flap

**Acknowledgements** I sincerely thank Dr. Krishnan B, Associate Professor, Department of Dentistry, JIPMER, for his help in preparing this manuscript.

**Compliance with Ethical Standards**

**Conflict of interest** None.

**Additional Information** This instrument is registered for patency under intellectual property India 5833/CHE/2015 ON 29-10-2015.

**References**

1. Valmaseda-castellón E, Berini-aytés L, Gay- C (2000) Lingual nerve damage after third lower molar surgical extraction. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 90(5):567–573



**Fig. 2** Clinical picture of lingual retractor in place guarding the lingual flap. *a, b* Lingual and buccal prongs to engage between the alveolar bone and mucoperiosteal flap. *c* Hinge (reverse action clamp)



**Fig. 3** Picture of lingual retractor. *a, b* Lingual and buccal prongs to engage between the alveolar bone and mucoperiosteal flap. *c* Hinge (reverse action clamp)

2. Pogrel MA, Goldman KE (2004) Lingual flap retraction for third molar removal. *J Oral Maxillofac Surg* 62:1125–1130

3. Renton T, Mcgurk M (2001) Evaluation of factors predictive of lingual nerve injury in third molar surgery. *Br J Oral Maxillofac Surg* 39:423–428

4. Bernard GW, Mintz V (2003) Evidence-based means of avoiding Lingual nerve injury following mandibular third molar extractions. *Braz J Oral Sci* 2:179