

# Vestibular bone window for the extraction of impacted lower third molars: Four case reports

Miguel Peñarrocha Diago <sup>1</sup>, Sónnica Galán Gil <sup>2</sup>, Maria Peñarrocha Diago <sup>3</sup>

(1) Professor of Oral Surgery. Director of the Master of Oral Surgery and Implantology. Valencia University Medical and Dental School. Valencia

(2) Resident, Master of Oral Surgery and Implantology. Valencia University Medical and Dental School. Valencia

(3) Associate Professor of Oral Surgery. Valencia University Medical and Dental School. Valencia. (Spain)

## Correspondence:

Prof. Miguel Peñarrocha Diago  
Dental School. Valencia University  
C/ Gascó Oliag 1  
46010 Valencia. Spain  
E-mail: miguel.penarrocha@uv.es

Received: 17/12/2007

Accepted: 13/02/2008

## Indexed in:

-Index Medicus / MEDLINE / PubMed  
-EMBASE. Excerpta Medica  
-SCOPUS  
-Índice Médico Español  
-IBECs

Peñarrocha-Diago M, Galán-Gil S, Peñarrocha-Diago M. Vestibular bone window for the extraction of impacted lower third molars: Four case reports. *Med Oral Patol Oral Cir Bucal*. 2008 Aug 1;13(8):E508-10.  
© Medicina Oral S. L. C.I.F. B 96689336 - ISSN 1698-6946  
<http://www.medicinaoral.com/medoralfree01/v13i8/medoralv13i8p508.pdf>

## Abstract

Four patients attending for the extraction of an impacted lower third molar are reported. The aim of this paper is was to describe a technical approach, which facilitates impacted lower third molar extraction, minimizing the osteotomy, thus reducing secondary postoperative manifestations and avoiding possible periodontal defects on the distal side of the second mandibular molar. To facilitate the extraction of the crown, roots or the complete molar, a small osteotomy in the form of a window can be made in the vestibular cortical, approaching the extraction through the resultant mesial space.

**Key words:** *Third molar extraction, postoperative manifestation.*

## Introduction

Impacted lower third molar extraction can produce postoperative manifestations such as pain, swelling and trismus (1), which depend on a series of factors fundamentally related to the difficulty of the surgical procedure involved (2) and also to the osteotomy required to extract the molar (3). The depth of the impacted mandibular third molar is regarded as a predictor of difficulty for the extraction (4) influences the time needed for the intervention and increases postoperative manifestations (3).

Furthermore, following third molar extraction, there is a risk of creating secondary complications such as a periodontal defect on the distal aspect of the mandibular second molar (5), especially if the impaction is deep (6, 7).

The aim of this article is to report four clinical cases to describe a technical approach, which facilitates impacted lower third molar extraction, minimizing the osteotomy, thus reducing secondary postoperative manifestations and avoiding possible periodontal defects on the distal side of the second mandibular molar.

## Clinical cases

Four patients attended for the extraction of an impacted lower third molar. Patients' features are shown in Table 1.

Mandibular third molar extraction is usually performed under local anaesthesia using mandibular block supplemented with buccal infiltration. A standard incision is made, from the anterior border of the ramus to the distofacial corner of the second molar following the buccal gingival sulcus along the second molar and a full-thickness mucoperiosteal flap is raised, achieving a wide surgical field. Bone surrounding the third molar is removed with a round bur in a handpiece to free the distal and vestibular

**Table 1.** Patients' feature.

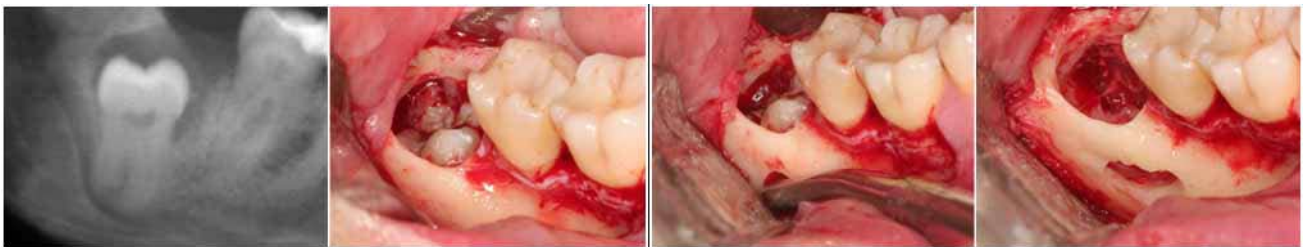
Patient	Gender	Age	Pell & Gregory
1	Male	42	Class II
2	Female	21	Class II
3	Male	25	Class II
4	Female	48	Class II



**Fig 1.** Vestibular bone window for the extraction of the molar from mesial: a) distal angulation position of the third molar; b) osteotomy in the form of a window in the vestibular cortical, to mesially approach the extraction; c) curved roots; d) postoperative panoramic radiography.



**Fig 2.** Dislodging the roots through the bone window: a) distal angulation position of the third molar; b) raised mucoperiosteal flap; c) crown sectioning and osteotomy in the form of a window in the vestibular cortical; d) dislodging the mesial root through the mesial bone window; e) distal root extraction; f) the alveolus is inspected and curettaged for granulation tissue; g) postoperative panoramic radiography.



**Fig 3.** Vestibular bone window and creation of a bony bridge: a) deep impact third molar; b) raised mucoperiosteal flap and vestibular osteotomy; c) extraction through the window; d) vestibular bone window to minimize osteotomy.



**Fig 4.** Vestibular bone window to minimize the osteotomy: a) mesial angulation position of the third molar; b) osteotomy and creation of a bony bridge; c) panoramic radiography after extraction.

side of the wisdom tooth using a copious amount of saline irrigation. Depending on the position, the third molar is split using a tungsten fissure bur.

Four patients with impacted lower third molar are reported to explain the bone window technique for the extraction of impacted lower third molars. To facilitate the extraction of the crown, roots or the complete molar, a small osteotomy in the form of a window can be made in the vestibular cortical, approaching the extraction through the resultant mesial space (Fig.1). It is very important not to damage the distal root of the second molar when creating the window.

A straight elevator is introduced through the window, pushing the mesial root upwards to dislodge it (Fig.2). By creating a bony bridge, disto-buccal to the second molar, the soft tissue is prevented from collapsing (Fig.3). On minimizing the osteotomy and preventing soft tissue collapse the formation of a periodontal pocket in the distal root of the second molar is avoided (Fig.4).

The alveolus is inspected and curettaged for granulation tissue, followed by copious saline irrigation and completion with the usual suture procedure.

## Discussion

This technique creates a small bone window that allows the extraction of deep impacted third molars. By creating a bony bridge disto-buccal of the lower second molar, we prevent soft tissue collapse and help to avoid periodontal pockets on the second molar distal side. In using this technique we intend to minimize the time required for the osteotomy, postoperative pain, swelling and trismus, and periodontal risks to the second molar.

## References

1. Buyukkurt MC, Gungormus M, Kaya O. The effect of a single dose prednisolone with and without diclofenac on pain, trismus, and swelling after removal of mandibular third molars. *J Oral Maxillofac Surg.* 2006 Dec;64(12):1761-6.
2. Capuzzi P, Montebugnoli L, Vaccaro MA. Extraction of impacted third molars. A longitudinal prospective study on factors that affect postoperative recovery. *Oral Surg Oral Med Oral Pathol.* 1994 Apr;77(4):341-3.
3. Seymour RA, Blair GS, Wyatt FA. Post-operative dental pain and analgesic efficacy. Part I. *Br J Oral Surg.* 1983 Dec;21(4):290-7.
4. Osborn TP, Frederickson G Jr, Small IA, Torgerson TS. A prospective study of complications related to mandibular third molar surgery. *J Oral Maxillofac Surg.* 1985 Oct;43(10):767-9.
5. Dodson TB. Is there a role for reconstructive techniques to prevent periodontal defects after third molar surgery. *J Oral Maxillofac Surg.* 2005 Jul;63(7):891-6.
6. Kugelberg CF, Ahlström U, Ericson S, Hugoson A, Thilander H. The influence of anatomical, pathophysiological and other factors on periodontal healing after impacted lower third molar surgery. A multiple regression analysis. *J Clin Periodontol.* 1991 Jan;18(1):37-43.
7. Gröndahl HG, Lekholm U. Influence of mandibular third molars on related supporting tissues. *Int J Oral Surg.* 1973;2(4):137-42.