

# Lateral osteotomy technique for placing implants- a case re-port

Correia F<sup>1</sup>, Gouveia S<sup>2</sup>, Felino A<sup>1</sup>, Pozza D<sup>3</sup>, Faria Almeida R<sup>1</sup>

1-Faculdade de Medicina Dentária da Universidade do Porto.  
2-Informática de Aveiro (IEETA) e Centro de I&D em Matemática e Aplicações (CIDMA), Universidade de Aveiro  
3-Faculdade de Medicina e Faculdade de Ciências da Nutrição da Universidade do Porto



Palavras Chave: Bone grafting, Sinus augmentation, Sinus Floor Augmentation, Bone Substitutes, Bone regeneration, Case reports

## Objectives of the procedure:

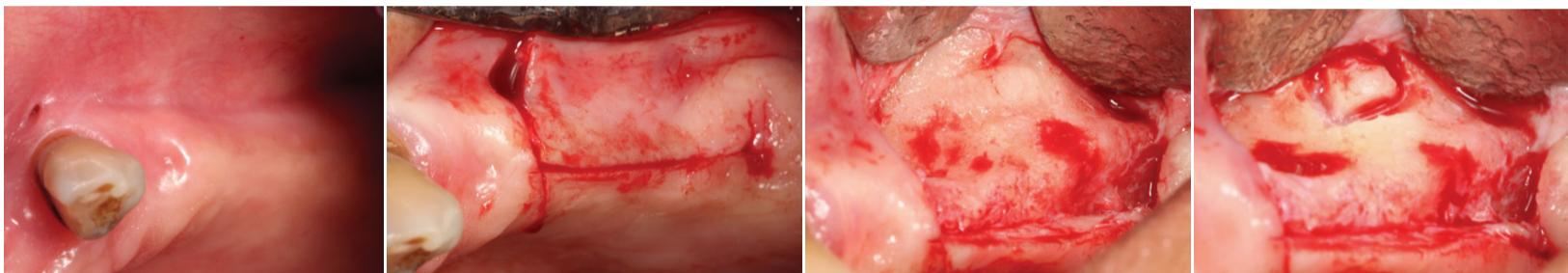
Gain bone volume in the maxillary sinus region.

## Presentation of the case

Female patient, 61 years old, with no systemic diseases, smoking 10 cigarettes/day.

Lateral osteotomy technique described by Caldwell-Luc and modified by Tatum, increases bone volume in the posterior region of the maxilla and allows the implants placement.

We performed a "Newman" incision between the 2<sup>nd</sup> premolar and 2<sup>nd</sup> molar opening the flap in order to open a bone window with a piezoelectric device

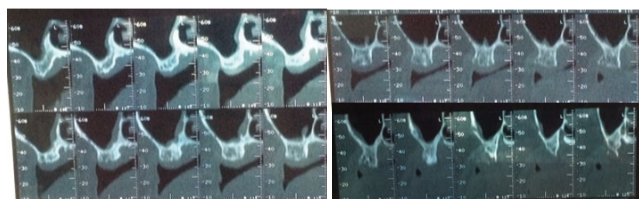


Elevation of the Schneider membrane, filled up the maxillary sinus with xenograft (Osteobiol Mp3®), the bone window was covered with a collagen membrane (Evolution®) and sutured with simple stitches and Supramid 4/0.

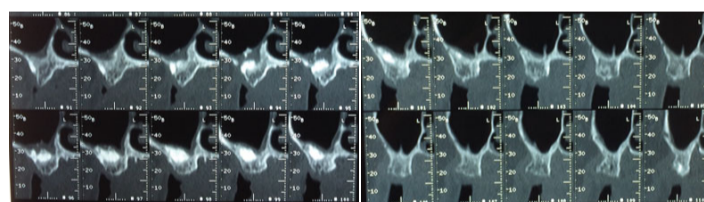


## Immediate results, short and medium term:

After 6 months the bone gain and placed the implants was observed at the CT, the patient is rehabilitated.



Initial



6 months

## Discussion

The lateral osteotomy is a surgical technique widely used, reliable(1) and indicated when the residual bone height does not permit the placement of stand-ard length implants or the use of less invasive techniques.

The biphasic technique is used for residual bone heights between 1-4mm or for implant without primary stability(2).

Bone grafts goal is to maintain space, mechanical stability and to guide bone formation, are crucial for osteogenesis. Six months of healing are suggested (3,4).

The use of membrane to cover the lateral osteotomy together with roughened surface implants, shows the best implant survival rates (98.3%)(5).

## Conclusions

The lateral osteotomy technique is predictable, has great results in increasing the bone volume of posterior maxilla.

## Bibliografia

1. Esposito, M., et al., Effectiveness of sinus lift procedures for dental implant rehabilitation: a Cochrane systematic review. Eur J Oral Implantol, 2010. 3(1): p. 7-26.
2. Tasoulis, G., S.G. Yao, and J.B. Fine, The maxillary sinus: challenges and treatments for implant placement. Compend Contin Educ Dent, 2011. 32(1): p. 10-4, 16, 18-9; quiz 20, 34.
3. Canullo, L. and C. Dellavia, Sinus lift using a nanocrystalline hydroxyapatite silica gel in severely resorbed maxillae: histological preliminary study. Clin Implant Dent Relat Res, 2009. 11 Suppl 1: p. e7-13.
4. Li, J. and H.L. Wang, Common implant-related advanced bone grafting complications: classification, etiology, and management. Implant Dent, 2008. 17(4): p. 389-401.
5. Pjetursson, B.E., et al., A systematic review of the success of sinus floor elevation and survival of implants inserted in combination with sinus floor elevation. J Clin Periodontol, 2008. 35(8 Suppl): p. 216-40.