



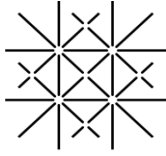
# Osseo-distraction of infraoccluded dental implants ó an interdisciplinary approach

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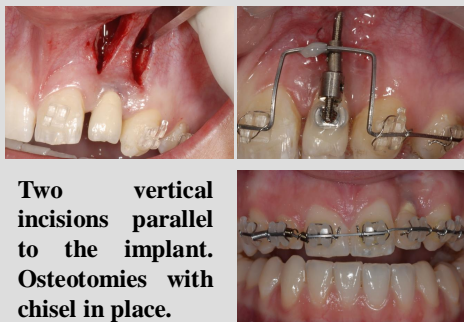
## Introduction

Dental implants placed in the upper anterior region in young adults can become infraoccluded after some time since vertical bone growth of the maxillary alveolar ridge continues even after the age of 30. In such cases the vertical deficit of the incisal edge combined with a displaced gingival margin result both in aesthetic and functional problems. Two cases are presented which were treated with an interdisciplinary approach involving orthodontics, periodontics and oral surgery.

### Case 1



Female, 27 years of age, 9 years after implant placement in regio 22.



Two vertical incisions parallel to the implant. Osteotomies with chisel in place.



A connective tissue graft was placed to improve the mucosal contour. A new ceramic crown was fabricated and a fixed retainer was bonded.

### Literature

THILANDER B., Orthodontic space closure versus implant placement in subjects with missing teeth. J Oral Rehabil 2008

### Case description

In two female patients, single tooth implant restorations in the maxillary central and lateral incisor region were found in an infraoccluded position.

### Treatment

Two vertical full thickness incisions were made mesial and distal to the implant. An osteotomy was performed with a chisel and curved osteotomes. A distractor was cemented to the implant crown and to a sectional heavy steel orthodontic archwire. 4 days later, the distraction of the implant-osseous block was initiated. The distraction procedure was monitored by the orthodontist for two weeks until an implant extrusion of 3-4 mm with a palatal inclination was achieved. The fixed appliance was then used to retain the distracted implant until bone healing was completed. After debonding a connective tissue graft was inserted to improve the gingival margin in one of the cases. New crowns were fabricated and the incisors retained with a fixed wire retainer.

### Results

The vertical implant displacement by 3-4 mm together with the surrounding soft and hard tissues resulted in marked improvements in both function and aesthetics. Patients have been followed for 6 months to 3 years and no relapse has been observed.

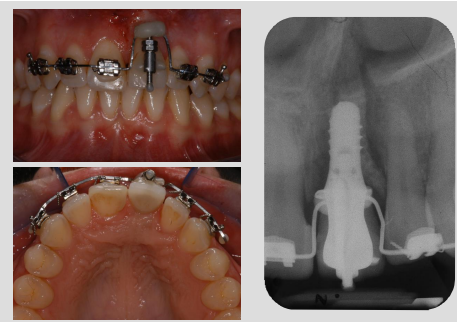
### Conclusion

An interdisciplinary approach of osseo-distraction and subsequent restoration of an infraoccluded single implant provides a satisfactory solution for patients where aesthetics and function are compromised.

### Case 2



Female, 24 years of age, 7 years after implant placement in regio 21.



Distractor cemented to implant crown and 17x25 steel orthodontic archwire.



A new ceramic crown was fabricated and a fixed retainer was bonded. Clinical situation 3 years after distraction.

### Literature

KOFOD ET AL., Treatment of an ankylosed central incisor by single tooth dento-osseous osteotomy and a simple distraction device. AJODO 2005