

# Distraction Osteogenesis for Craniomaxillofacial Problems

Daniel Perez, D.D.S.  
Edward Ellis III, D.D.S.  
Omar A. Vega, D.D.S.

## Introduction

Distraction osteogenesis (DO) is a biological process involving the formation of new bone between viable bone segments that are gradually separated by incremental traction. The traction generates tension that stimulates new bone formation parallel to the vector of distraction. Also called “callus distraction” by some, it is unique in that it does not require the addition of a bone graft to produce new bone (1–3).

---

Dr. Perez is an assistant professor, Department of Oral and Maxillofacial Surgery, University of Texas Health Science Center at San Antonio Dental School, San Antonio, TX.

Dr. Ellis III is a professor and chair, Department of Oral and Maxillofacial Surgery, University of Texas Health Science Center at San Antonio Dental School, San Antonio, TX.

Dr. Vega is chief, Department of OMS, Hospital Central de la Policia, Bogota, Colombia.

Address correspondence to Dr. Ellis, Oral and Maxillofacial Surgery, University of Texas Health Science Center, 7703 Floyd Curl Dr., MC 7908, San Antonio, TX 78229-3400.  
E-mail: ellise3@uthscsa.edu; Fax: (210) 567-2995.

## Abstract

Distraction osteogenesis (DO) is a biological process involving the formation of new bone between viable bone segments that are gradually separated by incremental traction. This technology has proved useful in several craniomaxillofacial applications where conventional techniques were previously used. This article describes DO and demonstrates three disparate uses for this technology.

### KEY WORDS:

Distraction osteogenesis, transport distraction, callus distraction

Tex Dent J 2011;  
128(11): 1159-1170.