

## Simple, stable, easy to use device for distraction osteogenesis

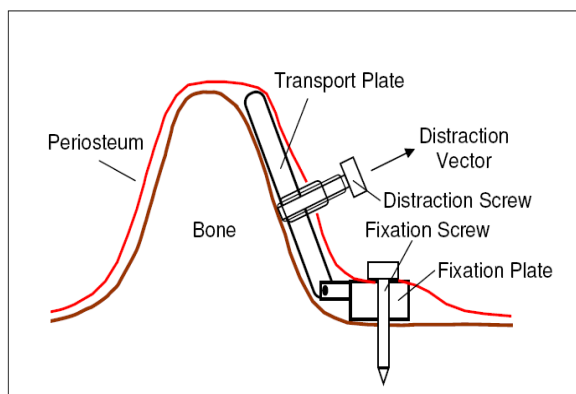
A new, very efficient and straight-forward-use device for distraction osteogenesis (DO) has been developed. The concept can easily be adapted to many different indications. First in-vivo experiments show great promise, particularly in the field of maxillo-facial surgery and the field of dental implants.

**Keywords** minimal invasive surgery, bone augmentation, dental implants

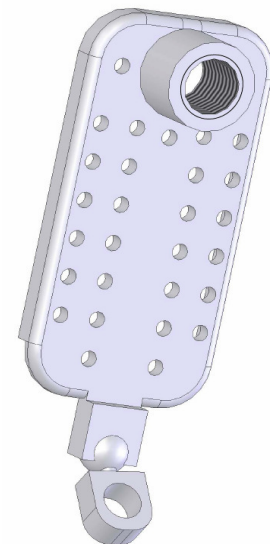
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**Background** In various medical indications bone augmentation is required. The techniques used to date like autogenous bone grafting and guided bone regeneration are relatively invasive and prone to complications like morbidity and soft tissue dehiscence. These clinical conditions are unlikely for DO. However, distraction should be avoided in cases where osteotomy would result in a transport segment consisting only of cortical bone, due to the difficulties in device placement and increased likelihood of resorption. In cases of severe vertical or lateral resorption of the alveolar ridge, controlled angular movement exhibits substantial advantages over straight unidirectional distraction, but to date no clinically satisfactory device is available for this application.

**Invention** A new device with promise to overcome many of the above stated drawbacks of the so far known devices has been developed (see figure). Different modes of realization are possible, as a function of the required properties for the given medical indication. With this kind of device bone augmentation can be achieved in a stable manner, through a pivot connection between transport and a fixation plate. An angular displacement is easily achieved by turning the distraction screw. The device is applicable in the management of craniofacial deformities. The invention shows particular promise in the field of periosteal DO.



Mode of operation of the new distractor



3-D view of device

**Applications** Alveolar bone augmentation, oral implantology, maxillo-facial surgery etc.

**Patent Status** International patent application filed

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