

# PUBLIKATIONEN

**IMPLANTAT**PRAXIS & ÄSTHETISCHE ZAHNHEILKUNDE

»Dimensional alterations of extraction sites after different alveolar ridge preservation techniques – a volumetric study«,

Thalmair T, Fickl S, Schneider D, Hinze M, Wachtel H. J Clin Periodontol 2013; 40: 721–727. doi: 10.1111/jcpe.12111.

## ABSTRACT

#### OBJECTIVES:

The aim of this randomized controlled clinical study was to assess soft tissue contour changes after different alveolar ridge preservation procedures.

#### MATERIAL AND METHODS:

Following tooth extraction, 30 patients were randomly assigned to the following treatments (Tx) - Tx 1: xenogenic bone substitute (pre- hydrated collagenated cortico-cancellous porcine bone) and free gingival graft; Tx 2: free gingival graft alone; Tx 3: xenogenic bone substitute; Tx 4: no further treatment (control). Impressions were obtained before tooth extraction (baseline) and 4 months after surgery. Cast models were optically scanned, digitally super- imposed and horizontal measurements of the contour alterations between time points were performed using digital imaging analysis.

#### **RESULTS:**

All groups displayed contour shrinkage at the buccal aspect ranging from a mean horizontal reduction of 0.8 0.5 mm (Tx 1) to 2.3 1.1 mm (control). Statistically significant differences were found between Tx 1 and Tx 4 as well as Tx 2 and Tx 4. A significant positive influence of the free gingival graft on the maintenance of the ridge width was recorded (p < 0.001).

#### CONCLUSION:

In this study, alveolar ridge preservation techniques were not able to entirely compensate for alveolar ridge reduction. Covering the orifice of the extraction socket with a free gingival tissue graft seems to have the potential to limit but not avoid the post-operative external contour shrinkage based on optical scans.

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### Dr. Marc Hinze Spezialist für Implantologie & Parodontologie