A CLINICAL AND HISTOMORPHOMETRIC STUDY OF CALCIUM SULFATE (DENTOGEN®), COMPARED TO FREEZE DRIED BONE ALLOGRAFT (FDBA) FOR ALVEOLAR RIDGE PRESERVATION

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There is significant ridge resorption following tooth extraction. Freeze dried bone allograft (FDBA) is most widely used for ridge preservation and calcium sulfate has begun to show popularity. The objective of this study is to evaluate if *DentoGen*® (calcium sulfate) is as effective in preserving post extraction ridge dimensions compared to FDBA.

Thirty consecutive single rooted extraction sites were selected that met the inclusion criteria for the study. Post extraction clinical measurements were made with a pre-fabricated stent and dental calipers. The sites were then divided randomly into the test group (calcium sulfate*)* or the control group (FDBA). Patients were recalled after 3 months, sites were reentered and clinical measurements were again made. A trephine bone core was harvested and sent for histomorphometric analysis.

A total of 21 subjects with 41 potential sites were recruited to this study (IRB approval # 1003-56). Following extraction, 29 sites met the inclusion criteria. To date, no significant change in vertical ridge height pre to post surgery was noted within the test and control groups (0.53 $\pm$ 1.63mm, 0.35 $\pm$ 1.13mm, respectively). There was a significant decrease in buccal-lingual ridge width within both groups, (-1.23 $\pm$ 1.14mm test group. 0.93 $\pm$ 0.94mm control group) There was no significant difference in the preservation performance between the two treatment groups for both ridge width and vertical height. Histological samples are currently being analyzed.

Results suggest no statically significant differences between the use of calcium sulfate versus FDBA in preserving post extraction ridge dimensions.