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## Comparison of the new bone formation under the SCHNEIDERIAN MEMBRANE without and with different grafting materials.

### BACKGROUND

Tooth loss in the maxilla causes bone deficiency in width and height. A lot of grafting techniques and materials are described to create a sufficient implant bed. The quality of the bone is very poor - a fragile, crestal corticalis, a thin intern maxillary corticalis and between a little trabecular bone without any resistance.

### MATERIALS & METHODS

The technique is a minimal invasive sinuslift with crestal approach, using the split control kit (Meisinger) and Astra Tech implants. Under local anesthesia and a midcrestal incision mucoperiosteal flap, pilot drill until the intern maxillary sinus corticalis is reached, measure the distance between extern and intern corticalis. Work with the split control system: the Screw configured burs of increase diameters condense the bone, which is compressed and not removed.

The depth is plus one or two millimeter to fracture the intern corticalis, vasalvatest and raising the Schneiderian membrane (SM). In three cases Bio Oss collagen was condensed under the SM, in two cases Bio Oss, in one case autologous bone from the operating area and in five cases without graft materials and membrans. Astra Tech implantat insertion using torques between 25 and 30 N/cm (bicortical anchoring), control panoramic radiographs. The Implants penetrated 2-4 mm into the sinus.

### RESULTS

All Implants gained endo-sinus bone. There were no complications! All implants are still in function and there is no crestal bone loss. The cases with autologuous bone and Bio Oss Collagen (Geistlich) show similar results with implants completely embedded into bone.

### DISCUSSION

*This technique is an alternative to the classic osteotome sinus floor elevation. No bone is removed and all the material, that usually is washed out when preparing the implant bed with drilling, is pressed under the SM, has a high bone building potency.*

1 WITHOUT GRAFTING MATERIALS



Fig. 1.1 before implantation



Fig. 1.2 after implantation

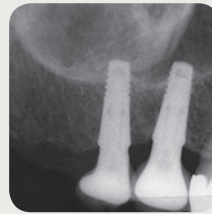


Fig. 1.3 after loading

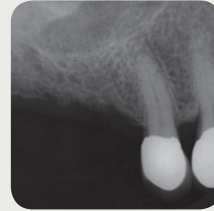


Fig. 1.4 before implantation

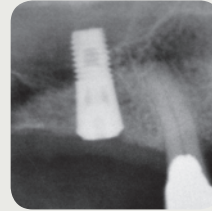


Fig. 1.5 after implantation

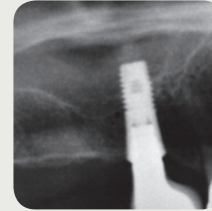


Fig. 1.6 after loading

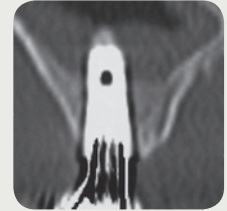


Fig. 1.7 CT

2 WITH BIO OSS AUGMENTATION

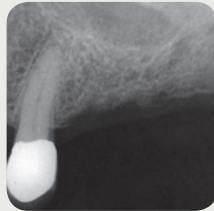


Fig. 2.1 before implantation

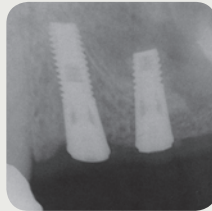


Fig. 2.2 after implantation

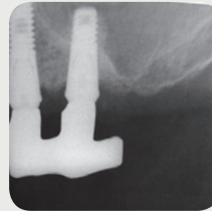


Fig. 2.3 after loading

3 WITH ANTOLOGOUS BONE

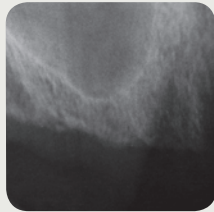


Fig. 3.1 before implantation

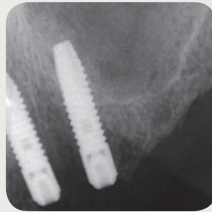


Fig. 3.2 after implantation

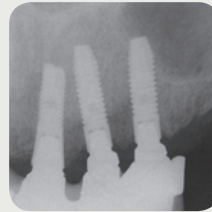


Fig. 3.3 after loading

4 WITH BIO OSS COLLAGEN AUGMENTATION



Fig. 4.1 before implantation

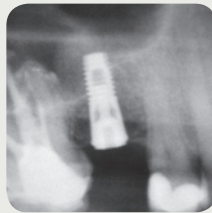


Fig. 4.2 after implantation

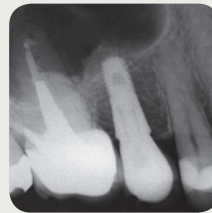


Fig. 4.3 after loading



Fig. 4.4 before implantation

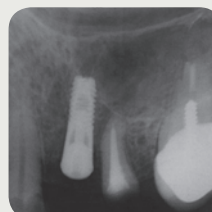


Fig. 4.5 after implantation



Fig. 4.6 after loading