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Experiences with the nanostructured bone substitute NanoBone[®] in particular and block form: Prospective histological and clinical trial with 3 years follow-up

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This study presents the results of different augmentation procedures using the new and nanostructured bone substitute (BS) NanoBone[™] with special regard to the histologic features and demonstrates that former therapy protocols can be changed to remarkable shorter healing periods which can be carried out with reliable results. The structural changes were analysed histologically and the cellular ingrowth of bone forming cell lines and blood vessels could be verified. Based on 86 sinus floor elevations (SFE) and 75 lateral augmentations (LAT) performed on average 3 or more years ago there is no measurable difference in bone height and dimension. Histomorphometry of SFE samples showed about 40 vol.% of de novo bone formation after only 2-3 months which must be compared to other BS.

The preliminary results following augmentations with NanoBone Blocks[™] are encouraging and suggest that this might be a way to abandon the transplantation of bone blocks of other origin.