

Principles and Long-Term Results of Hard Tissue Grafting with intra oral harvested Autogenous Bone

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Two & 3 dimensional bony defects need for the reconstruction special surgical procedures to assure at long term an acceptable functional and esthetical result. The long-term success depends of a precise pre operative diagnostic, atraumatic surgery, the amount of vascularisation and vitality of the grafted area, correct implant geometry and position as well as a systematic soft tissue augmentation improving also the quality of the surrounding gingiva. Autogenous bone grafts harvested from the mandible, and used following the split bone block technique (or shell technique) are offering many possibilities for intra operative facilities leading to a high vascular support of the grafted area which is important for stable long-term results. Splitting the thick cortical block to 2 or 3 thin blocks is augmenting the number of blocks allowing the reconstruction of larger atrophic crest and giving a better adaptation to the recipient site with individual determination of the width and the volume of the grafted area. Filling the space and gaps between the thin block and the remaining crest with particulate bone chips is reducing the time needed for revascularization of the graft improving its vitality compared to the original thick block. Implants inserted in this grafted bone after only 3months, present in long term similar osseointegration as implants placed in non-grafted bone.

In addition, the minimal invasive bone augmentation with the carrot technique is presented and explained in details.

Soft tissue management, however, remains an important factor for the good healing of the grafted area. Passive and tension-free soft tissue closure and the use of innovative technique e.g. pedicle palatal connective tissue flap or Tunnel technique are playing a pivotal roll to reduce complications. Different pedicle or free soft tissue graft are assuring the required volume of the soft tissue allowing papilla reconstruction techniques as well as stable peri-implant soft tissue situation.