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THE BICORTICAL SCREW: THE SELF CUTTING, BICORTICALLY SUPPORTED TITANIUM SCREW IMPLANT

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The bicortical implant is a screw type titanium implant used for single-tooth replacement and bridge abutment in maxilla and mandible. It achieves an immediate stable all round anchoring in healthy bone due to the ability of self cutting into bone after shaft preparation with a very slim pilot bur. The bicortical support at the entrance point as well as opposing cortical bone at the root portion, favours its healing without complications with direct bone-to-implant contact. Originally the self cutting bicortical screw was used nearly exclusively for single tooth replacement. Recently have been used as bridge or bar abutment in edentulous front region of mandible and maxilla. In most cases the bicortical screw is inserted immediately after extraction. It is available in smaller (3.5 mm) and larger (4.5 mm) helix diameter with variable number of threads (3,4 or 5) and lengths of 26 mm and 30 mm. Hence it can be used for treatment of children and in extremely atrophied alveolar crest of mandiable.

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A pilot bur 1.2 mm diameter is inserted on the alveolar crest parellel with the oblique jaw bone and the remaining natural teeth. The pilot bur penetrates easily the compact surface bone of the alveolar crest and enters the cancellous bone of the alveolar crest. For mixillary anterior region the bicortical screw is inserted slightly into palatal direction as compared to the remaining teeth. The shape and depth of the pilot bur channel, ie, the prepared implant site is checked with a graduated depth gauge. Due to the conical shape of the special threads and cutting segements on the helix within the threads, the bicortical screw is inserted under slight pressure and slow back and forth movements of the keys under friction into the pilot channel. The advantage of the self cutting bicortical screw is that the fracture of the cortical bone at the entrance and the resorptions around the implant shaft is minimal.

References

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