osseotouch
TOTAL CONTROL

magnetic
MALLET

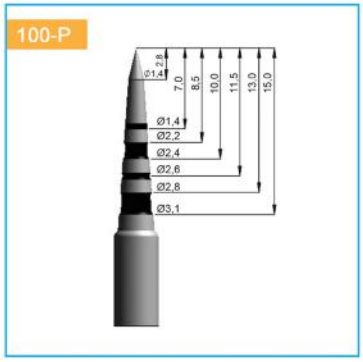
BONE EXPANSION IN DELAYED IMPLANT PLACEMENT

Osteotomes Kit

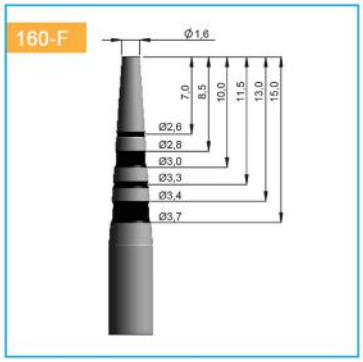
The Osteotome Kit offers a set of instruments of different conical geometries and progressively wider diameters. The osteotomes utilized with the Magnetic Mallet equally compress the trabecular bone laterally and apically in order to improve the density of bone for the implant osteotomy. The process is completely heat-free, therefore does not need any irrigation. Furthermore none of the bone mass is removed, resulting in a extremely bone conservative procedure.

The Osteotome Kit offers 5 different sizes and the same instruments curved for better access to the posterior regions for a total of 10 instruments. 3 additional sizes are available as “special instruments” for a total of 8 straight and 8 curved osteotomes

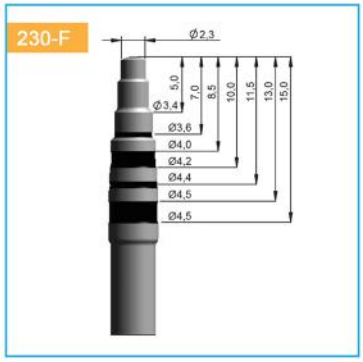
OSTEOTOME DIA. 100 MM SHARP TIP



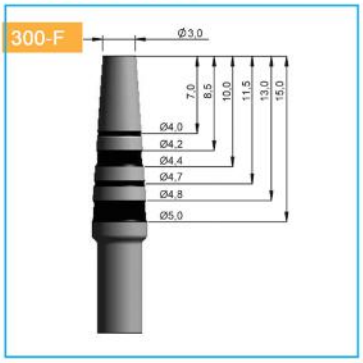
OSTEOTOME DIA. 160 MM



OSTEOTOME DIA. 230 MM

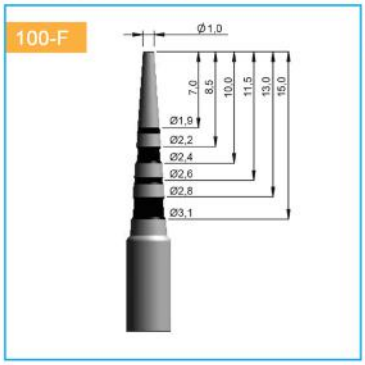


OSTEOTOME DIA. 300 MM

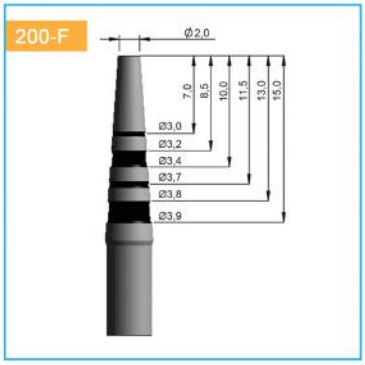


OSTEOTOME DIA. 360 MM

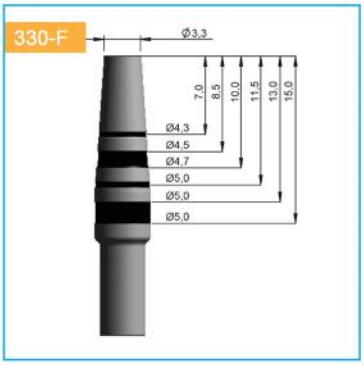
OSTEOTOME DIA. 100 MM



OSTEOTOME DIA. 200 MM



OSTEOTOME DIA. 330 MM



Surgical Procedure

Between 2 and 3 months after tooth extraction it is possible to remodel new tissues in previous defect with the osteotomes and create a new implant site.

After exposing the bone crest with a modified partial thickness flap using a surgical beaver, the edentulous bone crest is covered by the preserved suprabony connective tissue and the underlying periosteum. **The implant site is first marked with Osteotome 100P (sharp tip) setting force 1 or 2 for standard handpiece and force 1 for plus handpiece, according to bone density.** The maneuverability of the hand-piece and a clear field of view not cluttered by the irrigation will allow to choose the optimized axis of the implant site.

The implant site will be created expanding the bone tissue both laterally against the pre-existing lateral walls and apically. The osteotomy is progressively expanded with the force imparted to the osteotomes by the Magnetic Mallet with a maximum run of 1.1 mm at each pulse.

The sequence of the osteotomes to utilize has to be predetermined according the with and height of the implant site to prepare. **For this surgical procedure, the forces are set to 2 or 3 for standard handpiece and 1 or 2 for plus handpiece, according to bone density.**

The final diameter of the osteotomy is between 0.5 mm and 1.2mm underprepared depending on the local bone density and type of implant.

Fig 2. Osteotomes for bone modelling

The sequence of the osteotomes progressively condenses the internal bone creating high density bone tissues along a substantial length of the implant site preparation. The platform of the implant is inserted at the level of the alveolar crest. A minimal insertion torque of 30 Ncm is to be considered. Subsequently soft tissues are sutured.

The buccal flap is apically repositioned and stabilized with sutures tied to the margin of the palatal flap and anchored buccally with a loose loop to the periosteum at the level of the alveolar mucosa. This suture design avoids tissues traction in the repositioned buccal flap. The gap between the superficial margin of the buccally repositioned tissue and lower part of the palatal tissue, healed by secondary intention in order to increase the size of the keratinized mucosa.

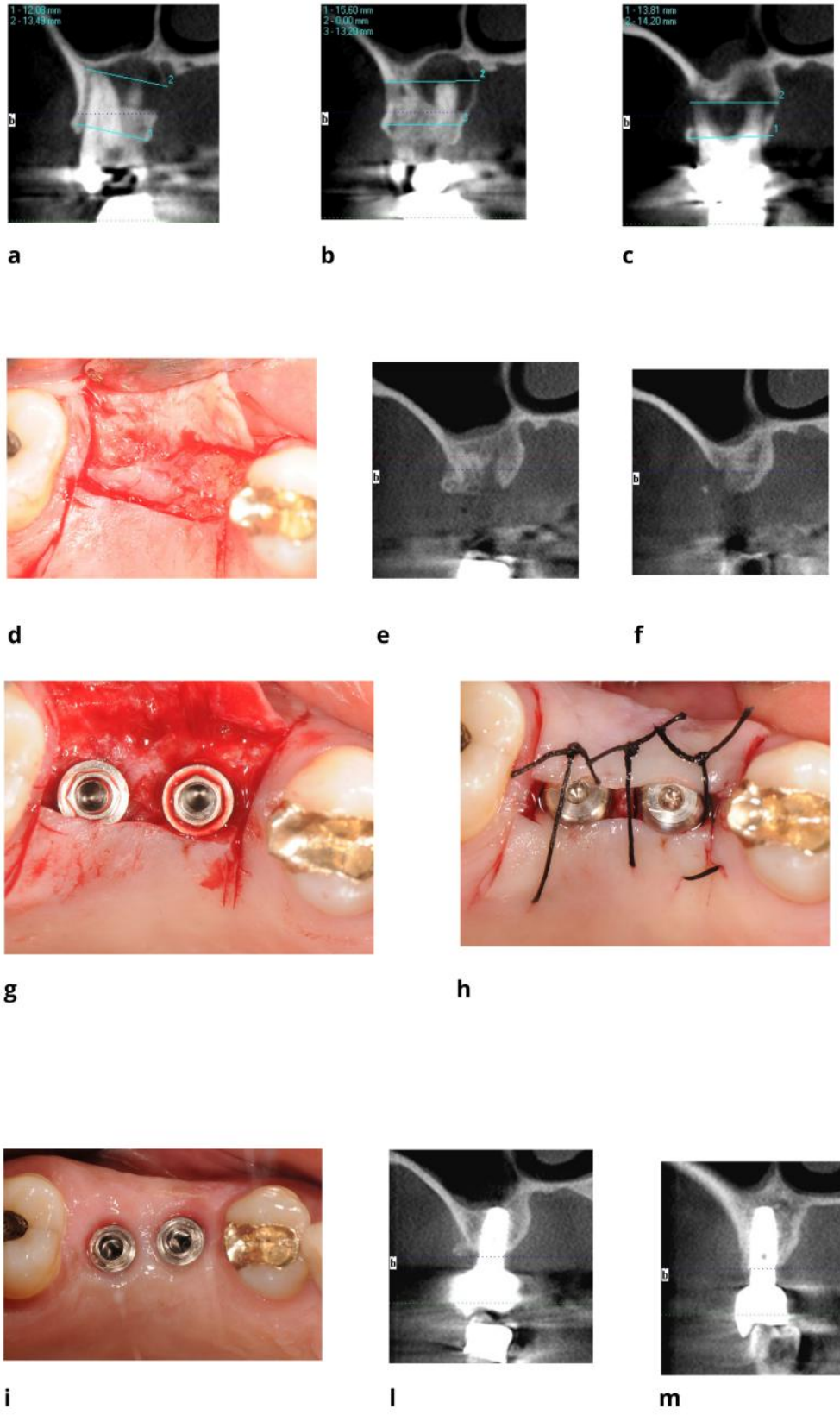


Fig. 3. Cone beam scans before tooth extraction. Note the absence of buccal bone plate. (a-c). Clinical photographs three months after surgical procedure (d). Cone beam scans three months later. After three months it is possible to observe the bone volume increase (e,f). Bone incision and bone expansion are carried out followed by implant placement (g). Gingival flap is positioned (h). clinical case 6 months later (i). Cone beam computed tomogram scans obtained after 3 years of implant placement from the site illustrated in figure a-c. Note bone maintenance around dental implants (l,m)