with the ring breaker. (Figure 11) A surgical kit specially for this technique (Figure 14) has been developed by the Zepf company in collaboration with the author. Additional bone fragments and cancellous bone chips could also be harvested. (Figure 16) The recipient site was prepared with a trephine drill 1 mm smaller in diameter than the trephine drill used for harvesting the bone. (Figures 19 & 20) The ring graft was then fitted (Figures 21 & 22) and fixed with the Ankylos implant after preparation of the implant site. (Figures 23-26) The remaining sinuses were filled with particulate bone 27 and covered and contoured with a thin layer of slowly resorbing bone replacement material. (Figures 28 & 29) The wound was then closed without tension (Figures 30 & 31) and a six-month healing phase followed. (Figures 32 & 34)

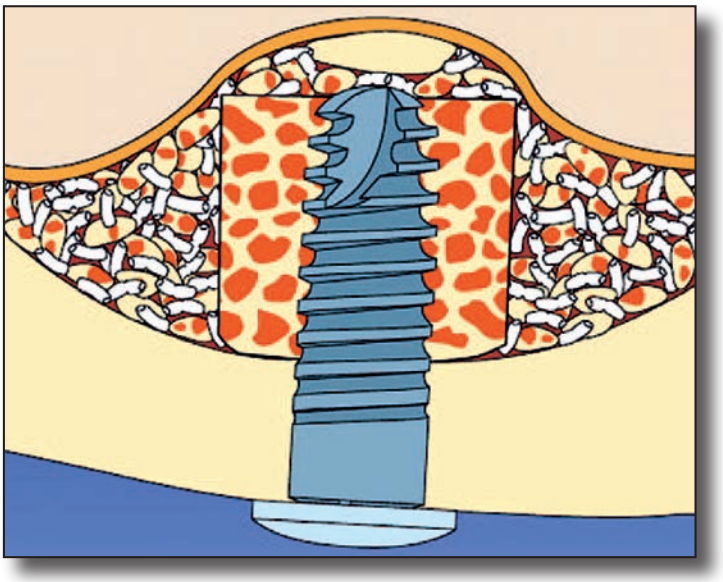
Conclusion

The major complication is dehiscence at the sutures, because this can cause complete loss of the graft (6 cases). This emphasizes the importance of closing the wound with absolutely no tension.

Paresthesia occurred at the donor site in a few patients, but disappeared at the latest after three months. The high success rate (only three implants lost) demonstrates that when the specified criteria are met this method can be recommended for single-session vertical augmentation of three-dimensional defects of varying indication.

In our practice I have by now treated more than 400 patients with this method in all indications. The advantage of this method is that the graft and recipient site are exactly fitted, which means that a very large proportion of vital bone cells are in contact with the graft. This is a very important prerequisite for almost complete revascularization of the graft.

The special thread geometry of the Ankylos implant with its very good primary stability means that 2-3 revolutions into the local bone are sufficient for this technique. **DA**



With use of the ring technique, it is possible to carry out the vertical 3D augmentation for bony deficiencies and the implantation in a single session

A trephine drill is used to remove the body ring and to prepare the host site – inner and outer diameters must match to ensure gap-free fit

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