Possible applications of a new implant system

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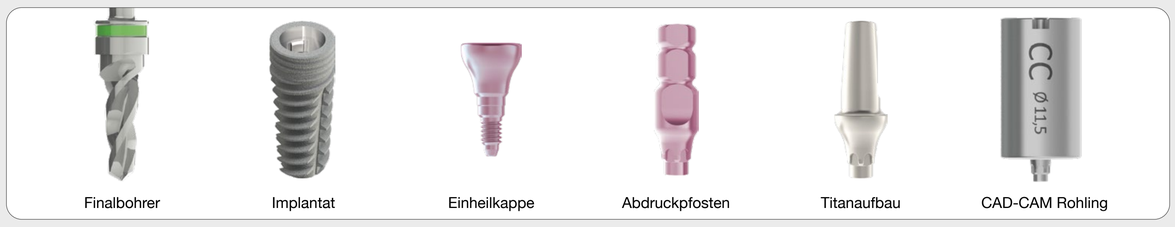
Task definition

This evaluation is intended to demonstrate the use and suitability of a new endosseous implant system under clinical conditions. The implants are surgically placed in the partially edentulous or edentulous jaws of patients for functional and aesthetic oral rehabilitation. Subsequently, the prosthetic restoration with single crowns, bridges, partial or total dentures is carried out. The procedure was documented and evaluated in three phases „preoperative - intraoperative - postoperative“. In the pre-operative phase, the initial situation was recorded with radiological findings and a treatment plan was drawn up. In the selection of patients, different indications were considered, such as direct implantation after extraction, late implantation or in connection with direct or previous augmentation. During the intraoperative phase, the implants were placed in a first step and subsequently left hidden in the patient‘s mouth for several months for osseointegration. In the second step, the treated regions were reopened in order to shape the soft tissue with healing caps. Finally, the patients received prosthetic treatment in the postoperative phase. As a result, the prosthesis was complete and the treatment was successfully completed. All steps had to be documented in writing, radiologically and photographically. In addition, the cases included were accompanied and documented over the following period.



Finalbohrer | Implantat | Einheilkappe | Abdruckpfosten | Titanaufbau | CAD-CAM Rohling

Implementation

example 1

Abb. 1 | Abb. 2 | Abb. 3

Abb. 4 | Abb. 5 | Abb. 6

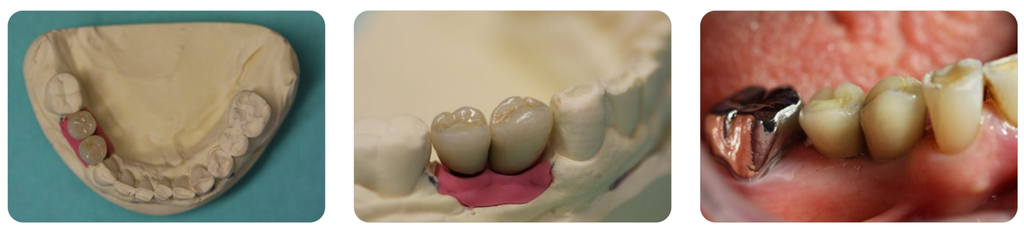


Abb. 7 | Abb. 8 | Abb. 9

A 79-year-old female patient presented with decemented bridge 44-46. Tooth 44 was destroyed by caries and had to be extracted. Crown 46 was removed and definitely reinstalled. This was followed by a healing phase of seven months. During this phase, periodontal therapy with closed curettage was carried out (Fig. 1). First, the bone quality and quantity was checked with the help of a DVT (Fig. 10). Insertion of implant Ratioplant ConeCept regio 44: Ø3.3 mm, length 100 mm and regio 45: Ø 38 mm, length 80 mm. The implants were inserted subcrestally by 0.5-1 mm if possible (Fig. 2). The postoperative orthopantomogram shows an axially correct implant position with sufficient distance to the inferior alveolar nerve and the mental foramen (Fig. 11). After a healing phase of six months, the implants were exposed and restored with gingiva formers of the size: Mini, height 1.5 mm for 14 days. Due to the slight axial divergence of the implants, two Mini impression posts (Fig. 3) had to be used for the open impression and additionally reduced proximally. The impression was taken with 3M Espe Impregum and individual tray. The abutments were individually milled and tried in with insertion aids to check the gingival line. (Fig. 4,5 and 6). The abutments were tightened with 25 N/cm and the abutment opening was closed with cotton wool pellets and gutta-percha. Finally, the fully veneered NEM crowns were placed with Temp Bond (Kerr) (Figs. 7, 8 and 9).

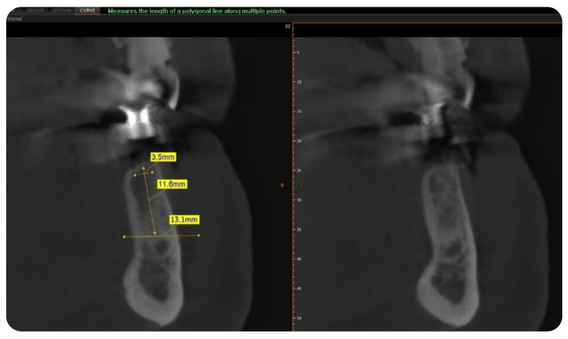


Abb. 10

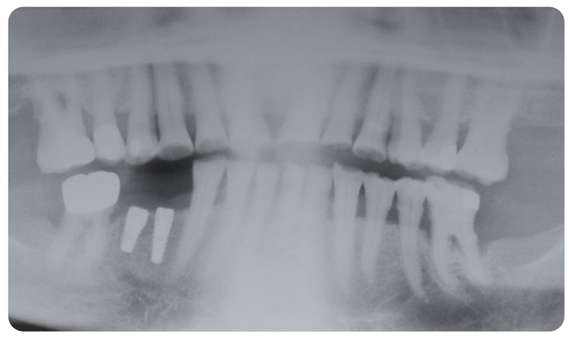


Abb. 11

example 2

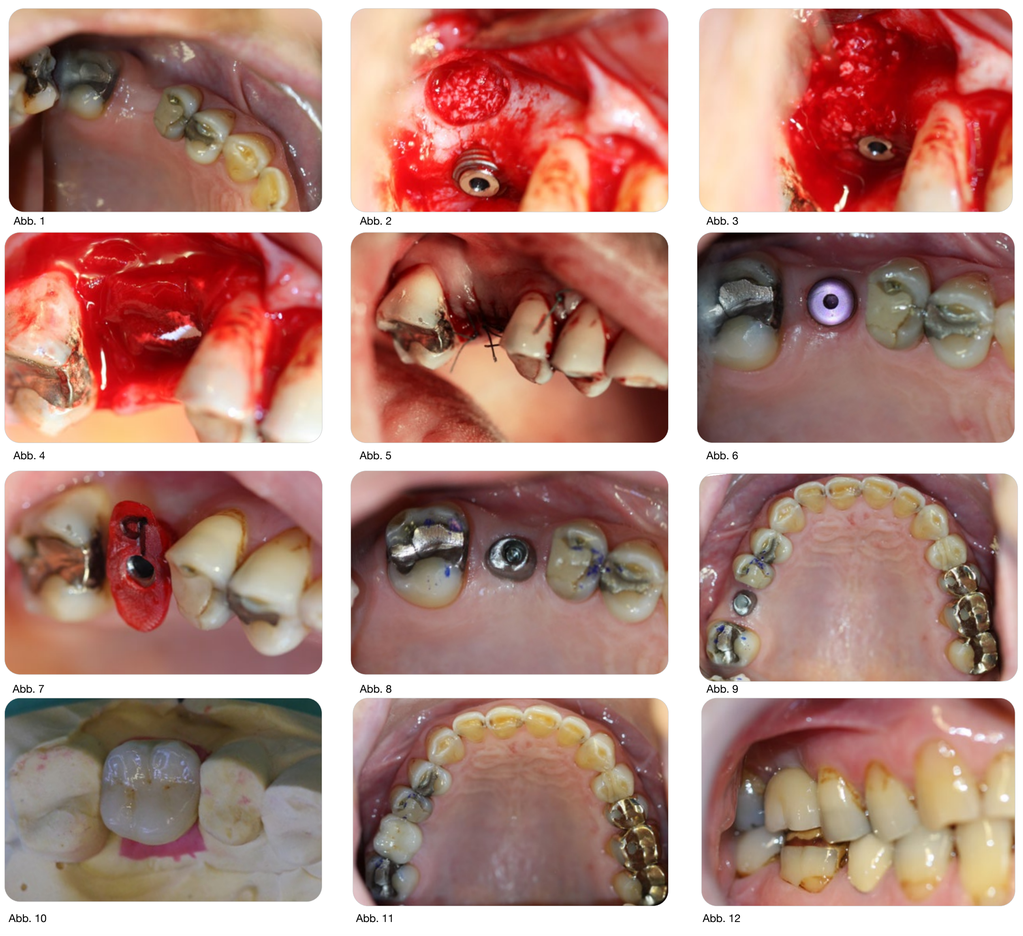


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Abb. 4 | Abb. 5 | Abb. 6

Abb. 7 | Abb. 8 | Abb. 9

Abb. 10 | Abb. 11 | Abb. 12

A 52-year-old patient presented with a longitudinally fractured tooth 16. Tooth 16 was gently extracted and an apical granuloma was excised. After six months healing phase: DVT planning with drilling and orientation template. Findings: Own bone approx. 6 mm below the maxillary sinus (Fig. 1 and 13). The surgical procedure involved an external sinus lift with Geistlich 0.25 g Bio Oss granules (grain size: 0.25-1 mm). Implant placement Ratioplant ConeCept Ø4.2 mm, length 80 mm approx. 1 mm subcrestal. This was followed by buccal augmentation with overcontouring and Geistlich Bio Gide membrane 13 mm x 25 mm (Fig. 2-4) as well as saliva-tight wound closure with polyester threads (Fig. 5). The condition after six months of healing showed the control x-ray with a well osseointegrated implant and well consolidated augmentation in the maxillary sinus (Fig. 14), so that the exposure could take place and a gingiva former standard, height 5 mm could be inserted (Fig. 6). After 14 days, the implant was impressioned with 3M Aspen Impregum and open tray and an individual abutment was fabricated. The abutment was tried in before fabricating the fully veneered NEM crowns (Fig. 7, 8 and 9). Finally, the crown was placed with temporary cement (Kerr Temp Bond) (Figs. 10, 11 and 12).

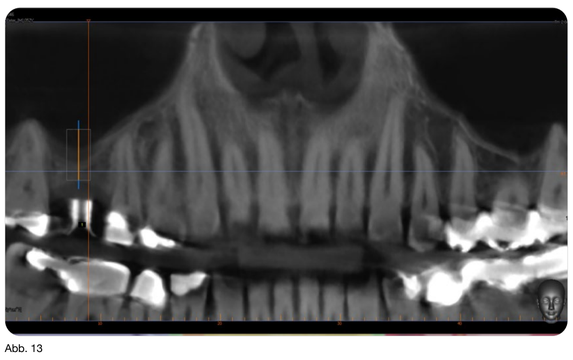

Abb. 13

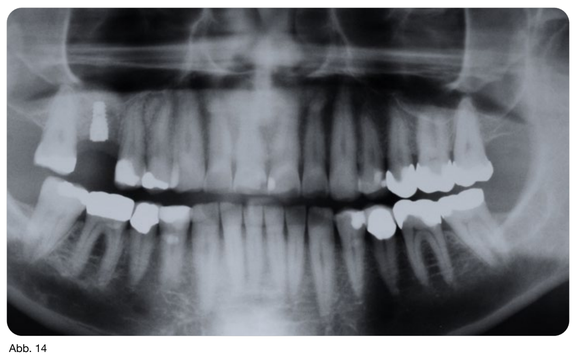

Abb. 14

Conclusion

The ConeCept implant system was developed to meet the increasing demand for more cost-efficient treatment concepts on the one hand, and for simplified and standardised workflows in everyday practice on the other. To this end, the number of components has been reduced to an effective minimum and optimised for maximum practicability during application. This ensures the highest quality in production. The ConeCept implant system is based on the platform switch concept and aims at an improved treatment method for maintaining the crestal bone level and preventing periimplantitis. The implant shoulder is not covered by the ConeCept abutment or other ConeCept abutment components. Several studies have proven that this optimal shaping of the soft tissue has an improved emergence profile, which ultimately leads to long-term retention of the prosthesis. In addition, the tapered connection ensures maximum sealing at the interface between implant and abutment. The ConeCept implant with its conical geometry is manufactured as a self-tapping screw implant with a blasted and acid-etched surface, using standardised state-of-the-art processes. The internal connection of the ConeCept implant is equipped with three grooves to ensure a high flexibility of abutment alignment (with six positions). In addition, the universal platform size promises a diverse selection of all prosthetic components, regardless of implant size. This ensures a simple, time-saving and precise restoration that optimises the time and error management of the practitioner. The follow-up documentation of numerous ConeCept case studies proves the satisfactory application and underlines the success of the innovative implant system.

Prosthetic implementation by Dental-Technik Freiseis, Schorndorf. With the friendly support of HumanTech Germany GmbH Steinenbronn