The key to lasting aesthetics

One-piece implants and an ideal implant position

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Introduction

Throughout the past five to ten years, the number of different ceramic implants offered by the industry has increased significantly. There are tissue level and bone level implants and two-piece and one-piece systems—the definition of the last of which is up for debate. If a two-piece SDS2.0 implant (SDS Swiss Dental Solutions), for example, is placed at tissue level, as recommended by the manufacturer, it is basically a pseudo one-piece, because the abutment forms one piece with the implant body and, after the healing period, the implant is only extended by cementing the abutment extension before it is then, as a whole, individually ground to gingival level.

Clinical procedure

Owing to the aggressive thread in the apical region, one-piece SDS1.1 implants (SDS Swiss Dental Solutions) are ideally suited for immediate implant placement with cemented long-term provisional immediate restoration. In my private practice, the SDS Short Cut Con-

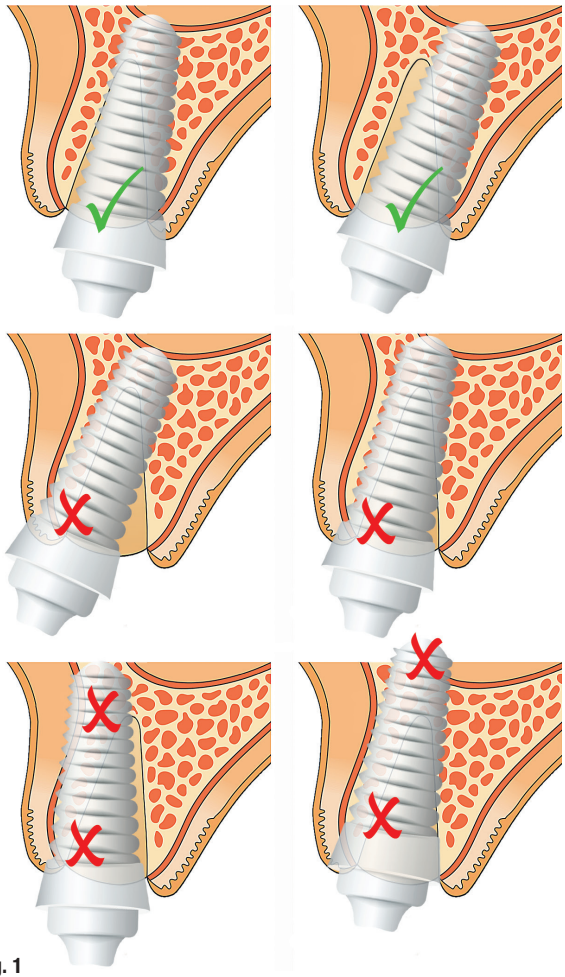


Fig. 1

Fig. 1: The ideal implant position can only be found, when there is no pressure on buccal hard- and soft-tissue.

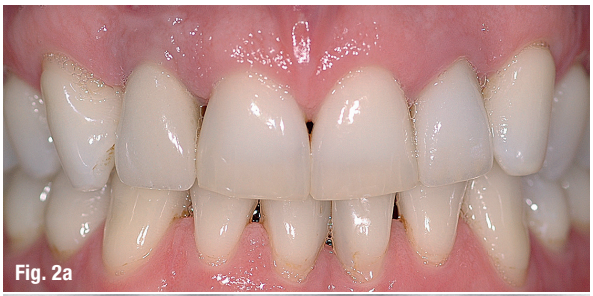


Fig. 2a

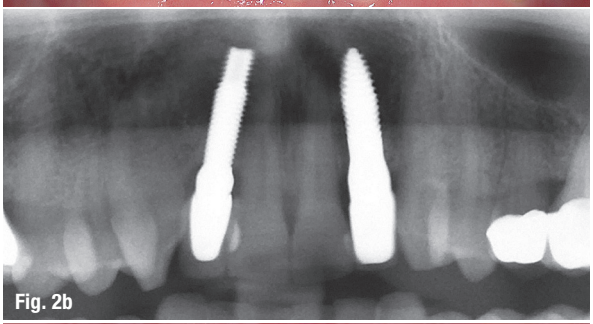


Fig. 2b

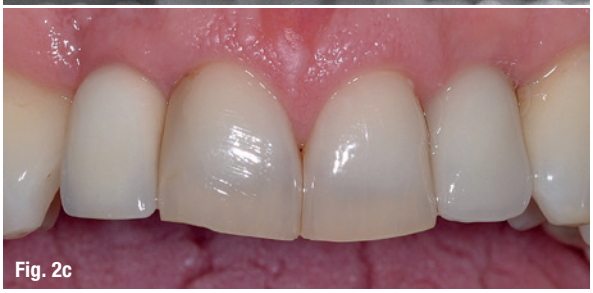
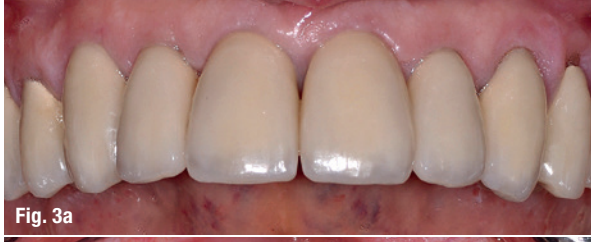
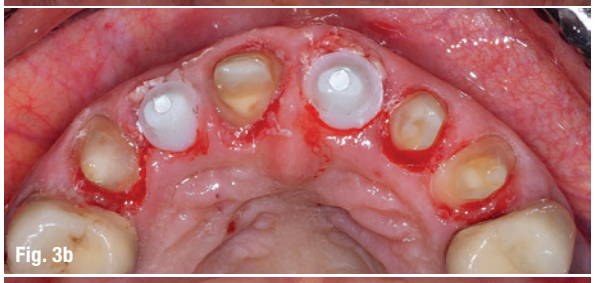
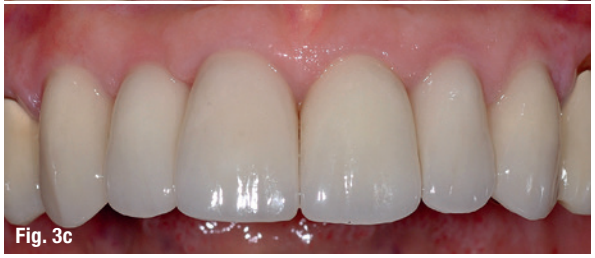


Fig. 2c

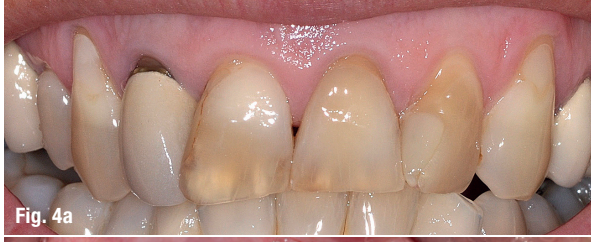
Case 1—Fig. 2: A stable result after 13 years: before treatment in 2005 **(a)**, radiograph after treatment: one-piece implant from Z-Systems in region #12 without immediate restoration and a SDS2.0 pseudo one-piece implant with immediate restoration, placed in 2014, in region #22 **(b)**, after treatment at follow-up in 2018 **(c)**.

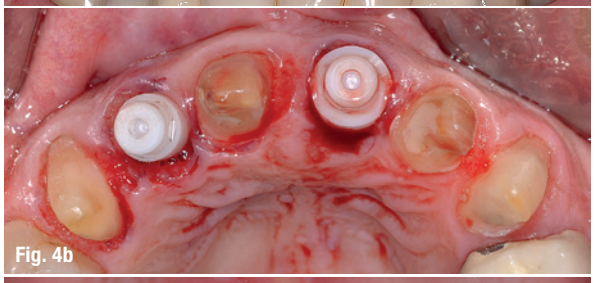


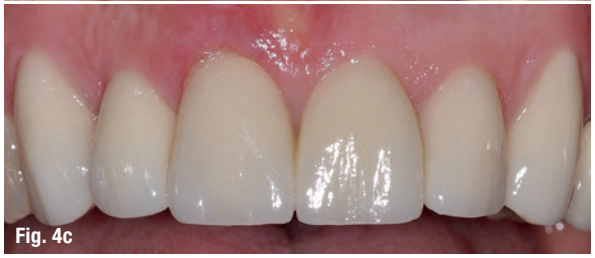




Case 2—Fig. 3: Before treatment **(a)**, preparation of the one-piece implants **(b)**, after treatment **(c)**.





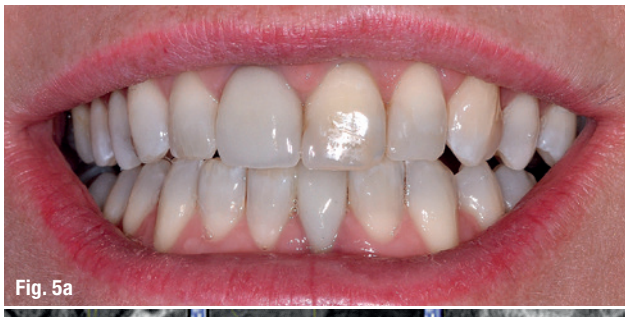


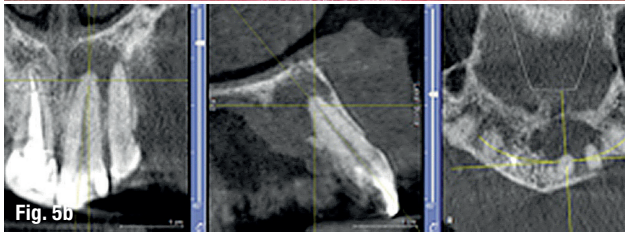
Case 3—Fig. 4: Before treatment **(a)**, situation during surgery after implant positioning **(b)**, after treatment **(c)**.

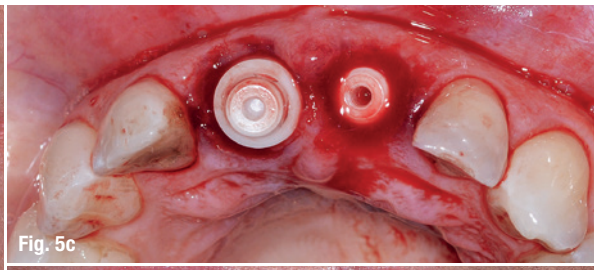
cept for immediate care (only three treatment appointments to achieve the final result) is routinely applied in the aesthetic zone. Of the nearly 300 ceramic implants that are placed annually in the practice, approximately 70 per cent are immediate implants. With a success rate of approximately 97 per cent in the aesthetic zone, the SDS Short Cut Concept has proven to be very effective. In the posterior region, however, the success rate in my practice is only around 95 per cent. To be fair, it has to be stated that the initial situations in these cases are extremely unfavourable.

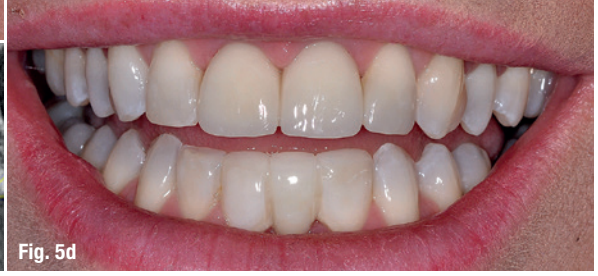
In addition to a holistic approach to the overall concept and orthomolecular optimisation around the implant surgery, for instance high-dose vitamin C infusion, or procaine base infusion, several surgical and prosthetic rules are followed in order to achieve a high success rate and a good aesthetic result:

1. Thoroughly clean the alveolus.
2. Find the ideal implant position: never put pressure on buccal hard- and soft-tissue. It should be aimed for a torque of approximately 30–40 Ncm (Fig. 1).
3. Grind the implant to gingival level for the temporary restoration. It is preferred to stay on a slightly supragingival level in order to avoid subgingival cement residue and to ensure good integration of the zirconia implant with the gingiva.
4. Avoid operational contact of the long-term provisional, except with full-arch or half-arch restorations.
5. Utilise platelet-rich fibrin as a turbo coagulum for lining tissue defects, as it helps regeneration and minimises risks during temporary restoration.









Case 4—Fig. 5: Before treatment **(a)**, diagnosis of a cyst **(b)**, implant positioning **(c)** after treatment **(d)**.

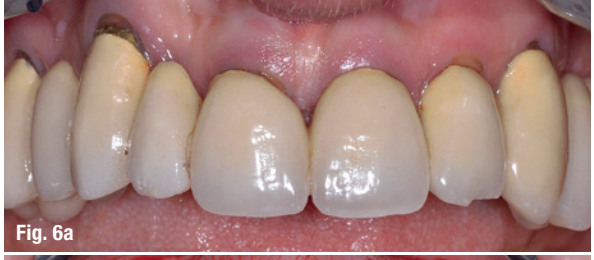


Fig. 6a

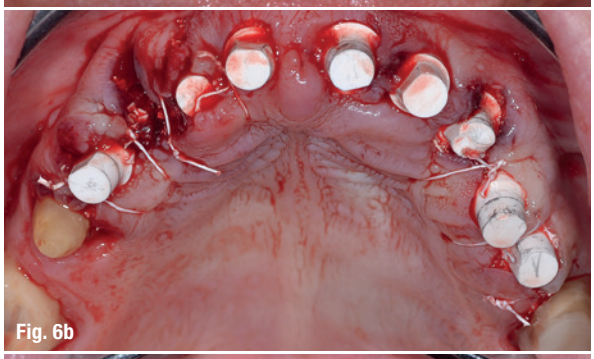


Fig. 6b

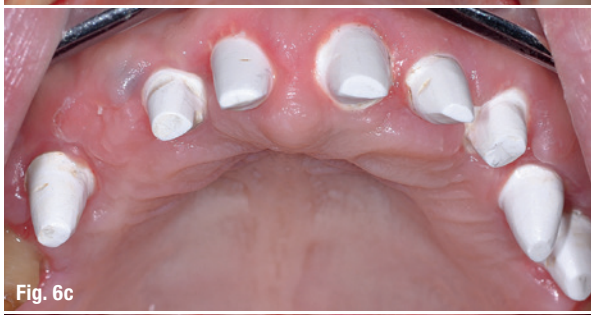


Fig. 6c


Fig. 6d

Case 5—Fig. 6: Before treatment **(a)**, implant positioning before preparation and long-term temporary restoration **(b)**, situation after the three-month healing period **(c)**, after treatment **(d)**.

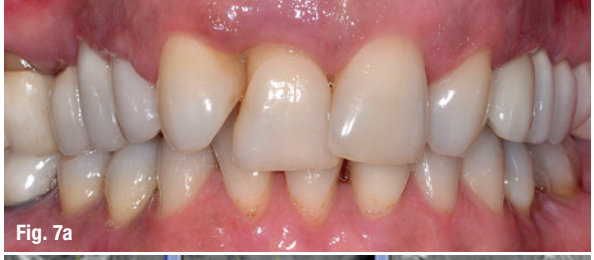


Fig. 7a

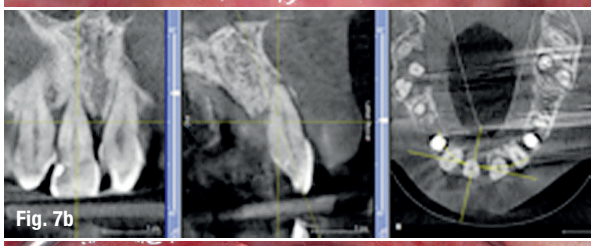


Fig. 7b

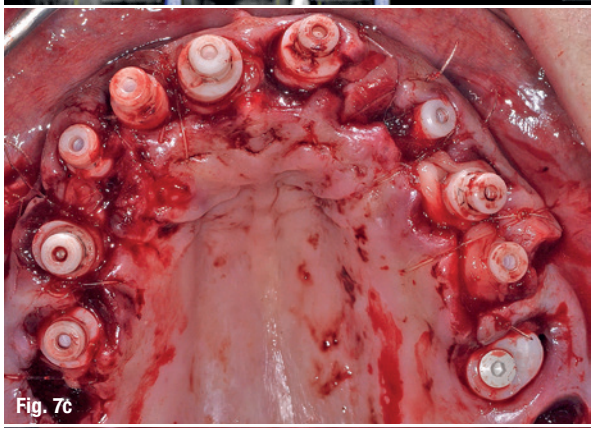


Fig. 7c

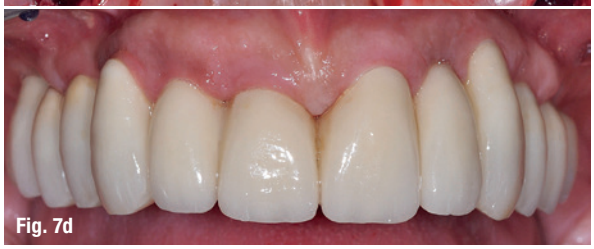


Fig. 7d

Case 6—Fig. 7: Before treatment **(a)**, radiographic images of initial situation showing dramatic bone loss **(b)**, situation during surgery after extractions and implantations, but before implant preparation **(c)**, after treatment **(d)**.

Cases

The six cases depicted in this article show that, in accordance with the aforementioned rules, a highly aesthetic and lasting result can be achieved in only three treatment sessions with the immediate care concept (Figs. 2–7). However, it is medically much more relevant that the essential dental problem areas can be addressed in one appointment, as this usually has a significant overall health benefit for the patient. The appointment sequence of all cases routinely includes only the following actual treatment appointments:

1. First appointment: Teeth are extracted and inflammatory tissue is entirely removed. Immediate implants are placed and implants and teeth are prepared. Fixed temporary long-term restorations on implants (and teeth if necessary) are manufactured chairside. Provisional cementations are done.
2. Second appointment after three to five months: Definitive preparation of implants (and teeth if necessary) is done at equi-gingival or subgingival (0.5 mm) level.
3. Third appointment, one week later: Cementation of the final ceramic crowns is done.

Conclusion

To summarise, it can be stated that today immediate implant placement with long-term provisional immediate restoration in the aesthetic zone using SDS implants and applying the SDS Short Cut Concept for immediate care is an extremely effective and practical method.

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