

MIMI – Minimally Invasive Method of Implantation: Ethical & Efficient

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Previously, it had been assumed that bone did not tolerate (lateral) condensing and that pressure necrosis would occur as soon as the bone was sustained to pressure or load. According to this assumption, a bone cavity is pre-drilled that has a diameter that is almost the same as the one of the implant thread. However, based on current findings on bone physiology, bone tolerates and needs stimulus. For this reason, the final bone cavity drill for a 3.5 mm-diameter implant can now be 2.8 mm in diameter (in the D3 bone) to 3.25 mm in diameter (in the D1 bone). These implant systems allow surrounding bone to get laterally condensed and to achieve excellent primary stability at a torque of 30-60 Ncm. Primary stability is the most important criterion for success in surgery so that the implant can achieve the secondary osseointegration stability, which is reached after 8 weeks!

In 1982, Implantology was recognized by the "DGZMK" (German Society of Dental Oral und Craniomandibular Sciences) as a subject at the universities in Germany. In 1988, Dental Implantology was recognized as a field of Dentistry in the US.

In my opinion, providing optimal dental care is our priority: as dentists we should be paid according to quality and value and not just according to the German Scale of Fees for Dentists (in Germany: the "GOZ") and the Medical fee schedule (in Germany: the "GOÄ"), which have existed since 1988.

In recent years, the MIMI procedure has been very successful in the field of Dental Implantology. From a legal point of view, minimally invasive surgery means that the least possible intra-operative and post-operative harm should be caused to the patient. From a dental point of view, MIMI means that the bone periosteum is protected and preserved to a maximum because "flapless surgery" is performed. It has been shown that a mucoperiosteal flap can cause periosteum injury, which may lead to periimplantitis. Iatrogenic periosteum injury during surgery can cause bone craters because even after a "lege artis" wound treatment, poor peri-implant bone nutrition of about 50% can occur. Thus, one of the best periimplantitis prophylaxes is "flapless" surgery without a mucoperiosteal flap (especially without a buccal flap).

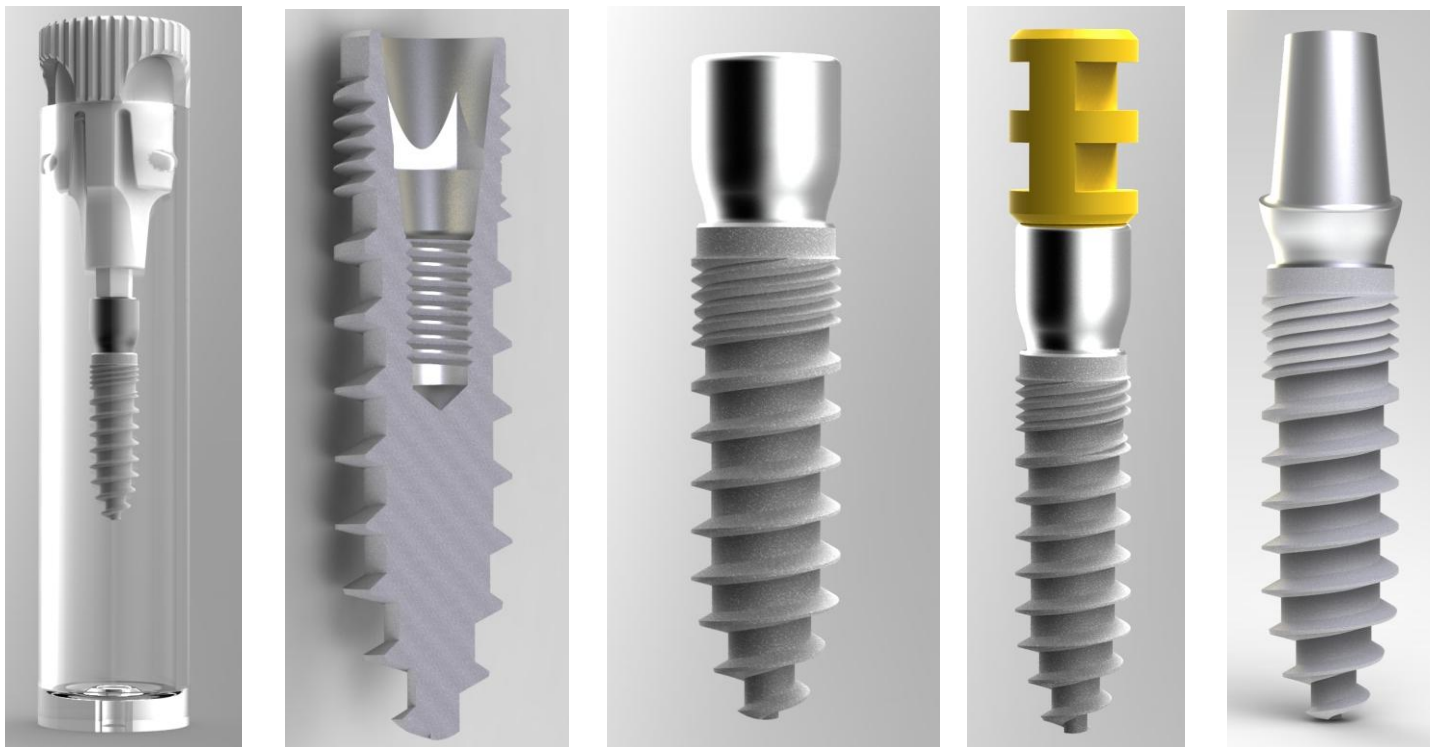


Fig. 1 - 5: The figures show the two-piece Champions® (R) Evolution implant, which will be presented at the IDS 2011 in Germany: with the specially designed integrated "Shuttle- Gingiva Healing Cap", this implant type is inserted minimally invasively. The "Shuttle-Gingiva Healing Cap" usually stays on the implant. Six weeks post surgery, the impression coping is then clipped while the "Shuttle" stays in the mouth. A time-consuming exposure and the screwing and unscrewing of closing caps, healing caps or impression copings are not necessary. With the Champions® (R) Evolution inner conus and the integrated "Hexadapter", the micro-gap is smaller than $< 0,6 \mu\text{m}$ and the abutment rotation-proof. The prosthodontic restorations (including material for compensating insertion divergences) are usually made by (certified) master laboratories in Germany in order to ensure a smooth workflow for patients, dentists and dental laboratories.

Overdiagnosis and Overtreatment in Implantology?

During a conference in Germany in 2010, Prof. Dr. Gradinger, President of the German Society of Surgery, said that unnecessary medical interventions were performed.

Is it different in Dental Implantology? Aren't certain surgery procedures and augmentations also unnecessary over-treatments? Is every patient is at such a high risk that he or she has very complicated anatomical structures and insufficient bone availability and symptoms such as problems with occlusion and increased salivation?

From a forensic point of view, the DVT diagnosis is being discussed, and it is becoming more and more integrated in practices.



Fig. 6 to 8: The minimally invasive implantation is especially suitable for patients at risk: it is possible to perform the MIMI® surgery and to set the metal matrices of the tulip Champions implant in the prosthesis within just one day. Altogether, this treatment costs approx. € 3500: there are dentist's costs of € 2800, material costs of € 450, and laboratory costs of € 250. The X-rays are taken with a KODAK DVT / OPG device.

Price and Time Analysis

We have conducted a price and time analysis with 20 practices, and there have been the following results:

For instance, the average price for a treatment with a conventional two-piece implant to replace the single tooth 46 (including augmentation, standard incision, suture removal, exposure and prosthodontic restorations) is altogether € 2200: the dentist's costs amount to € 1350, and the material and laboratory costs amount to € 850. The practice earns about 9 €/min. For this conventional treatment, 4 sessions are usually needed, and on average, the treatment by a dentist takes about 2.5 hours.

Compared to a conventional implantation procedure, the MIMI treatment with Champions® is more cost-and time-saving. On average, the total costs of a MIMI treatment break down as follows: dentist's costs amount to € 950 and material and laboratory cost to € 430. The whole costs for the patient can amount to € 1300, and dentists earn about € 17/min. For a MIMI treatment, only 2 sessions are needed, and the treatment only takes about 55 minutes.

Conclusion: MIMI surgery with the Champions® implant systems is more cost-efficient for the patient than the conventional dental implant treatment-which is very important- but as dentists we may still even earn more for a MIMI implantation than for a conventional implantation. Because the whole treatment costs for the patient are reduced by about 50%, more patients can afford dental implants and prosthodontic restorations, "Made in Germany"! In fact, high prices and low quality would mean less patients! Satisfied patients who have undergone pain-free, uncomplicated keyhole surgery will recommend MIMI surgery to others. As a rule, in 80-90 % of the cases, patients can receive a MIMI implantation treatment and high-quality prosthodontic restorations, even after an eventual 3D analysis/diagnosis. In addition, the treatment is affordable for them.

"Great Surgeon → Minimal Incisions!"

We abide by the 1949 Geneva Convention of the World Medical Association, according to which "a physician shall act in the patient's best interest when providing medical care", including preventive health care as well as optimal treatments (in German: "Die Erhaltung und Wiederherstellung der Gesundheit meiner Patienten soll oberstes Gebot meines Handelns sein.") Endoscopy has been established in medicine. Furthermore, MIMI has proven successful and has been more and more incorporated as a treatment in dental offices.

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