The Implantology Innovation 2011: Champions (R)Evolution®

Over the past few years, the use of one-piece Champions® implants and Prep-Caps has been fully integrated into the treatment services offered in dental offices. In Germany alone, more than 50,000 Champions® implants are inserted annualy, and Champions-Implants LLC, (winner of the 2010 „Regio Effekt" award in Germany), ranks among the top 10 German dental implant companies. In March 2011, the two-piece Champions (R)Evolution® implants were introduced at the IDS in Cologne, Germany, and they have proven to be a tremendous success on the international market. The combination of low investment costs for new Champions® users, a helpful online forum, excellent service, and high quality products with innovative features makes the Champions (R)Evolution® implant system unique.

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* Please note: The tooth numbers mentioned refer to the FDI Notation System (Dental Chart/Two-Digit World Dental Federation Notation)

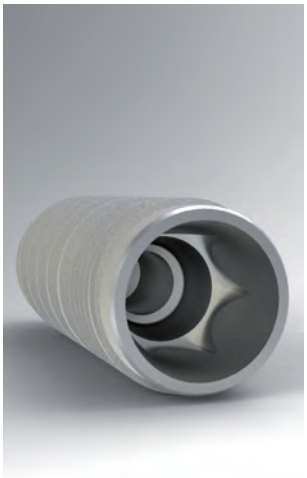

Fig. 1 - 3: The Champions® family of products in Germany has grown with the two-piece Champions (R)Evolution® implants, which can be used for many indications. Bone augmentations can be performed if necessary, though they can usually be avoided. The 9.5° inner cone with the patented integrated „Hexadapter" ensures a bacteria-proof, reliable, and long-term connection with an anti-rotation system.

Since Champions-Implants LLC has been known as a one-piece dental implant company, many of the more than 2,000 dental offices/ clinics already using our products were surprised that we presented a two-piece implant system at the IDS in March 2011. Unlike other implant systems, the Champions® system was developed in dental offices, and I have worked closely with the experts and engineers at our Mannheim manufacturing plant (Products for four other big German implant companies are also manufactured in this plant) to ensure the highest quality product.

The typical problems associated with other two-piece implant systems are well known: high prices, problems in handling the implants with precision, and too many unnecessary surgery sessions under local anesthesia. My aim has been to solve these problems, which has been achieved by the innovative features of the Champions (R)Evolution® implant system.

The screw of the Champions (R) Evolution® implant is made of cold-formed grade 4-titanium. The implants are available in diameters of 3.5 mm, 4.5 mm and in 5.5 mm and in lengths of 6.5 mm, 8 mm, 10 mm, 12 mm, 14 mm and 16 mm. For Champions® users, our MIMI® philosophy is: „Always insert a 3.5 mm-diameter Champions (R) Evolution® if it can achieve primary stability at a torque of 40 Ncm, even if a 4.5 mm or 5.5 mm-diameter implant could be horizontally placed." Peri-implant nutrition is ensured and even improved. We need only one triangular drill (yellow) for the D3/ D4 bone. For the hard D1 bone, we need the following additional drills: first the yellow one, then the black one, then the white one, and then the blue one (the brown one may also be necessary eventually).

Our innovative and distinctive Champions (R)Evolution® implants offer many advantages for our dental office, for the dental clinic, and for our patients, including:

1) The Champions (R)Evolution® implant system is the first two-piece implant system that can be inserted according to the Minimally Invasive Method of Implantation (MIMI®). In more than 80% of cases, you can insert the implant transgingivally without any incision and periost injury. A standard, iatrogenic periost detachment/injury can cause peri-implantitis. After surgery, bone malnutrition around the implant can occur. Bone malnutrition in turn can lead to craters, which can be diagnosed by means of X-rays. MIMI® is very beneficial for patients, who generally do not suffer from any swelling and pain following surgery. A day after surgery, patients can often resume their daily activities and return to work, and many do not need to take antibiotics.

2) Designed and manufactured in Germany, the Champions (R) Evolution® implant offers high quality and precision at an excellent price/ performance ratio! In addition, the Champions® accessories and abutments are affordable for patients, while still providing a top rated product. Several studies (including a study at the university clinic in Cologne, Germany) have shown that the Champions® implants have one of the best surfaces on the Dental Implantology market.

3) Bacteria-resistant micro-gap of only 0.6 µm (since bacteria range in size from 2- 15 µm, penetration of the micro-gap is not possible), thanks to the rotation-proof inner cone of 9.5° with the patented integrated „Hexadapter".

4) The surgical and prosthodontic procedure is very time-saving. For example the impression is taken supragingivally, without the need of screwing and unscrewing the implant parts. There is no need for a time-consuming open impression with X-ray check-ups, which makes surgery more efficient, less stressful and more comfortable for the patient.

Here are the step-by-step instructions for correctly performing the Champions (R)Evolution® implantation procedure:

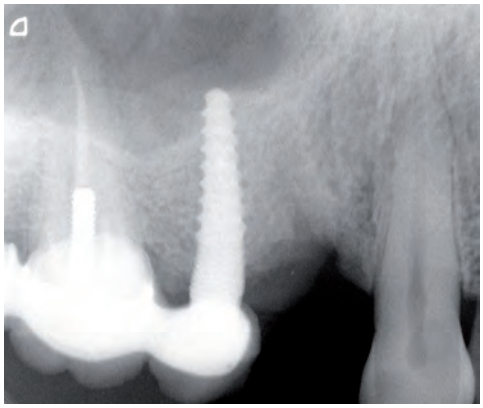

Fig. 4 - 6: Initial situation: this patient had a single tooth gap 14 after his endo-tooth root had been fractured. Four months before implantation, the dentist had not been able to perform a minimally invasive osteotomy, which led to a gingiva retraction mesially from the crown. However, this did not bother the patient. In 2001, the Champion® 15 was successfully inserted next to the teeth 16 and 17. At that time, the one-piece Champion® was immediately restored and immediately loaded only within 14 days post surgery. The patient came back to our dental office. He said that the conventional procedure (with external sinus lift and extensive augmentation – why is this necessary in this initial situation?) would be overtreatment. He was told that the conventional treatment would be very expensive and that it would take at least 10 months. After local anesthesia with UDS forte, we slowly drilled and prepared the D3 bone with the yellow drill (at 250 rpm) and with the 2.4 mm-diameter condenser.

After each drilling and after each preparation with condensers, the bone cavity must be checked with the metal Bone Cavity Check (BCC) probe. Then, the Champion (R)Evolution® implants are inserted at a torque of at least 40 Ncm, and they can achieve primary stability. We can insert the implant Shuttle at a torque of up to 70 Ncm without deforming or breaking the implant body.

The dentist decides how to continue to proceed, depending on the individual case:

– Remove the Shuttle and screw the surgical screw when there is a gingival thickness of 1 mm, or when the implant should be covered to assure the transition from Primary Osseointegratoin Stability (POS) to Secondary Osseointegration Stability (SOS), for example in cases of horizontal and vertical augmentations (conventional method of implantation). „Load-free healing" is also possible with Champions (R) Evolution® implants.

– Set one of the six Gingiva-Clix on the Shuttle. Just click the Clix onto the Shuttle, making sure that both grooves are set in it, and that you can hear a „click." This method offers many advantages, there is good „gingiva-forming," the impression does not have to be taken under local anesthesia, and an exposure of the implant Shuttle can be avoided. Thanks to its excellent biocompatibility (like zircon), patients can avoid the embarrassment of having anything gray or metallic in their mouths.



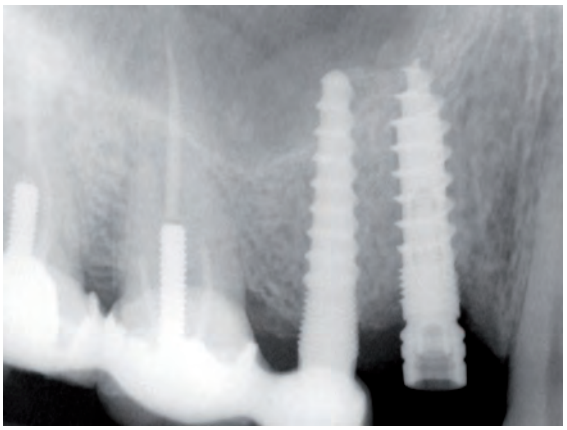

Fig. 7 - 9: You insert the implant with the Shuttle, which has been fastened at 10 Ncm Ex Works. The Shuttle stays in the implant until the supraconstruction is set. There is very little risk of bacterial penetration, and the implant inner thread is protected to the maximum. With the conical triangular drills and the Champions® design, you can proceed according to the periost-preserving MIMI® method in many cases. This X-ray picture shows the Champions (R)Evolution® implant 14 in the D3 bone. The implant could achieve primary stability at a torque of more than 40 Ncm.

The 3 mm-high Shuttle, which has been fastened to the implant at 10 Ncm Ex Works, should stick out from the mucosa about 0.5 mm up to 1 mm supragingivally. Important: since lateral shear forces and micro-movements on the implant must be avoided in the 2-8 weeks post surgery, the Shuttle (including the Gingiva- Clix) should not stick out too much from the mucosa. That is why the surgical screw and the six Gingiva-Clix with different heights can be used.



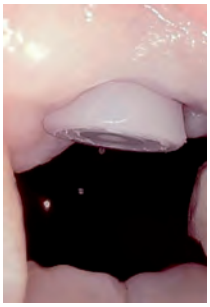

Fig. 10 -12: You can choose one of the six different WIN! Gingiva-Clix, depending on the height and thickness of the gingiva or the diameter needed for the crown. After choosing the Gingiva- Clix, you can fix the WIN!- Clix by „clicking" it on the titanium Gingiva Shuttle. In this case, the standard „1-1" Gingiva- Clix was set. „1-1" means 0.5 mm high and 1 mm wide. It is slightly wider than the Shuttle. Then, the patient left without the need of an antibiotic . The patient took one Ibuprofen 600 mg prophylactically before the MIMI® intervention. Since the patient was toothless in this area four months after the osteotomy, we decided not to make a temporary. After eight weeks, the patient did not experience pain, and he came to the second session in the dental office: the gingiva was very healthy and the gingiva-forming with the Gingiva-Clix was excellent…

For taking the supra-gingival impression, the clinical situation can be transferred to the laboratory model, without the need to unscrew or remove the Gingiva-Clix and the Shuttle.

You should not remove or unscrew the WIN!®- Gingiva-Clix or the implant Shuttle. A bacterial contamination of the inner implant thread needs to be avoided in the first weeks. Separate sessions for the implant exposure and local anesthesia are not needed. For example, one could pull off the Gingiva-Clix window by inserting a 2.4 mm diameter condenser about 0.5 mm up to 1 mm (about 3 x ¼ rotations) into the perforation window of the Gingiva-Clix. This procedure only takes a few seconds. Now you can see the Shuttle through the Gingiva-Clix…

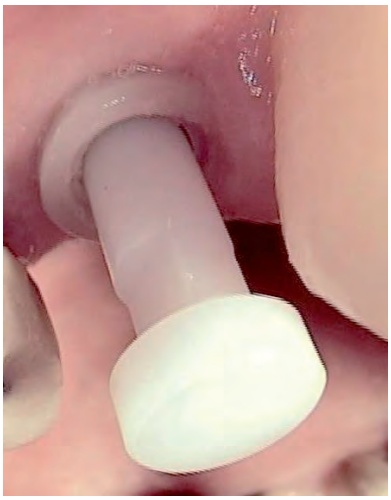

Fig. 13 - 14: Set the WIN!®-impression coping in the Shuttle by making small rotational movements until it is securely fixed. This „closed impression" is an advantage for the organizational procedure of the treatment. The WIN!® impression coping stays in the impression.

Make sure always to use a new impression coping because this procedure should be very precise. After taking the impression, close the window perforation with light-curing and soft relining synthetic material, such as yellow Fermit.

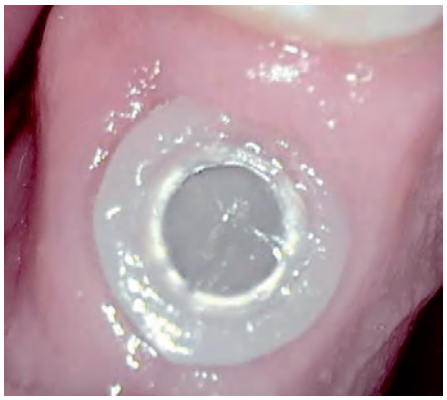

Fig. 15 - 17: The 3rd and last session took place a few days after the impression. The Fermit cover was treated with a probe, and the Shuttle could be seen. Then, the Gingiva-Clix was removed from the Shuttle, and the Shuttle was unscrewed from the implant body. Until then, the implant body was practically bacteria-free (no smell), and the titanium 4-inner thread was protected to the maximum. A loosening of the abutment and wear and tear of the screw could be avoided.

Fig. 18 - 20: The Shuttle was removed from the implant for the first time. The abutment, which was delivered from the dental laboratory, was fixed with the screw at 30/40 Ncm.

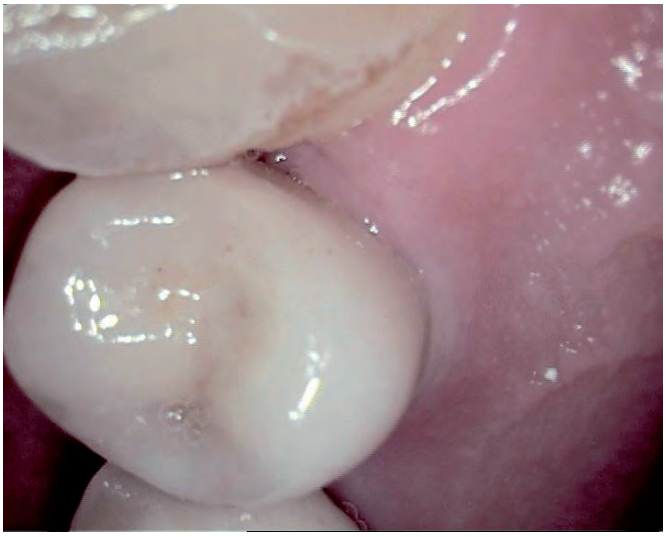

Fig. 21 - 22: View of the crown, which is fitted with Harvard cement or Implant Link forte.

Summary

Combining the most up-to-date research regarding bone physiology with a truly innovative design, and the MIMI® concept, our two-piece Champions (R)Evolution® implant system represents a **real** revolution in Implantology. The internal connection with its 9.5 ° cone and rotation-proof „Hexadapter", the bacteria resistant micro-gap, and the optimal price/performance ratio have eliminated many problems found in traditional two-piece systems. Champions® users who previously treated patients with other implant systems consider the Champions® system to be a tremendous advance in the field of Dental Implantology. High quality at affordable prices for Champions® implants and accessories (e.g. Loc-Abutments) and the reliable implantation and prosthodontic treatment make this system a perfect choice for both dentists and patients.

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