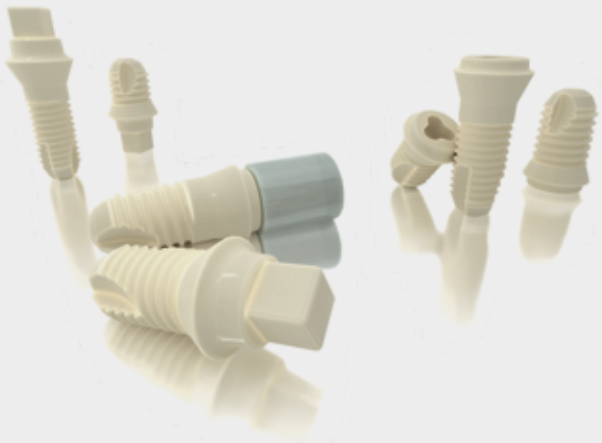

Champions-System

CHAMPIONS

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The Champions-Team

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Manufacturer details according to MDD (Medical Device Directive)/MDR (Medical Device Regulation) are indicated on the product label.

PATENT
Zirconia Implant

CHAMPIONS

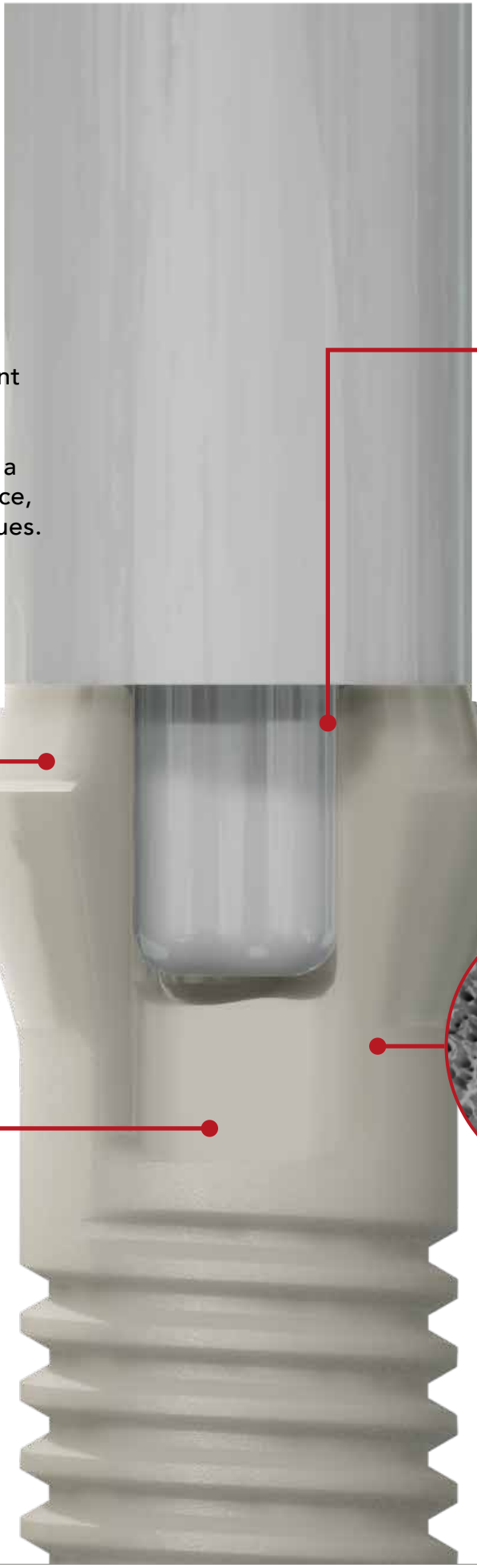
PATENT

The PATENT ceramic implant consists of zirconia and 0.25 % of aluminium oxide (Al_2O_3). In fact, the PATENT's strength is significantly higher compared to the strength of the titanium implant. However, the PATENT's strength is not high to such an extent that there is a higher risk of fracture since higher strength (in MPa) also means lower elasticity.

Production is not performed by injection molding or in-mold process, but each implant is milled individually. With an easy-to-use software, dentists can also have customized implants manufactured.

This is the first time that CleanImplant Foundation has awarded a certificate for a ceramic implant: PATENT; it has been shown that the PATENT implant surface is clean and free from polyoxymethylene and production residues.

The PATENT implant (listed* as Champions BioWin! by the CleanImplant Foundation) is the only ceramic implant for which CleanImplant has awarded a certificate for a clean surface, free from production residues.



Glass Fiber Post
Due to the bonding of the Post with the implant body, there is a bacteria-resistant connection.

Zirconia
Aluminium oxide of only 0.25 %

Rough surface of PATENT

HOW DOES THE PATENT DENTAL IMPLANT SYSTEM WORK?

The Patent two-piece implant system consists of only two components: the implant with an integrated zirconia abutment and the high-tech Glass Fiber Post. The upper transmucosal part of the implant does not have a thread.

The lower part, which is inserted into the bone, has a threaded part with a surface roughness of approximately 6 µm (RA); i.e. up to five times rougher than other implant surfaces. This surface roughness is created using a patented manufacturing process, during which all steps are performed in the pre-sintered stage. Any process-induced micro-cracks are filled in the subsequent sintering process, thus resulting in homogeneous, solid material.

The implant surface is hydrophilic and osteoconductive, thus enhancing osseointegration of the implant. The transgingival part of the implant has a mechanically milled surface that ensures good soft tissue reaction. Several clinical studies have shown a better soft tissue integration of zirconia compared to titanium, which has also been confirmed by other clinical studies of the PATENT implant system. It was found that the soft tissue response was very favorable.

In addition, Probing Pocket Depth (PPD) and Bleeding On Probing (BOP) have been reported to be even lower around the PATENT implants than around natural teeth.
In the absence of the micro-gap at the bone level, this implant design reduces the risk of moving parts, wear and tear, screw loosening, and disruption to the healing process.

The prosthetic connection is made with a high-tech Glass Fiber Post, allowing for great restoration flexibility since the Glass Fiber Post can be individually prepared for the respective clinical indication. There are neither screws nor screwdrivers.

The same handling applies as in conventional Dentistry. The Glass Fiber Post is cemented on the implant. The crown is cemented on the Glass Fiber Post and encloses the implant, allowing for a very solid construction. The combination of the very rigid zirconia implant and the more flexible (E-module similar to dentin) high-tech Glass Fiber Post results in optimal load distribution of the masticatory forces. The cementation procedure is easy to check since it is performed at tissue level. The prosthetic workflow is very efficient; there is no need for additional instruments or components. Basically, you don't need any additional training either since the procedure is similar to conventional crown and bridge work.

Studies:

Brüll F, van Winkelhoff AJ, Cune MS. Zirconia dental implants: a clinical, radiographic, and microbiologic evaluation up to 3 years. Int J Oral Maxillofac Implants. 2014 Jul-Aug;29(4):914-20. Doi: 10.11607/jomi.3293

Roehling S, Schlegel K A, Woelfler H, Gahlert M. Performance and outcome of zirconia dental implants in clinical studies: a meta-analysis. Clin Oral Impl Res. 2018;29 (Suppl. 16):135–153

Becker J, John G, Becker K, Mainusch S, Diedrichs G, Schwarz F. Clinical performance of two-piece zirconium implants in the posterior mandible and maxilla: a prospective cohort study over 2 years. Clin. Oral Impl. Res. 28, 2017, 29–35 doi: 10.1111/clr.12610

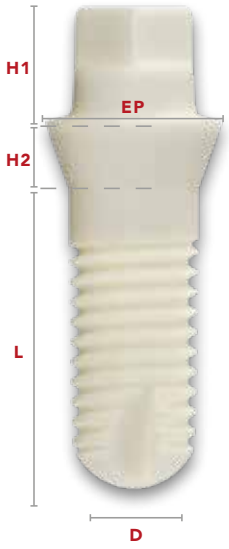
You can find some studies under:
https://www.mypatent.com/dental-professionals-research

"Based on my experience of more than 10 different zirconia dental implant systems, I can say that the PATENT implant system ensures an unparalleled bio-integration."
Prof. Dr. Marcel Wainwright

Taking an impression is very efficient. For a conventional impression there is no need for impression copings, and a scan body is not used for intraoral scans since the upper part of the implant serves as scan body when the laboratory manufactures the model. However, analogs are available for printed models: REF 31219 DIM-Analog Champions (R)Evolution and REF 31131 DIM-Analog Multi-Unit. The fact that no impression coping or scan body is used saves significant treatment time, makes it more comfortable for the patient, and reduces the exchange of components in the soft tissue. Apart from the clinical performance, the PATENT implant system also provides some significant efficiency gains. In fact, a treatment can be performed in only two sessions, benefiting the patient and saving chair time. The Glass Fiber Post can be prepared outside the patient's mouth. In this way, the Glass Fiber Post and the restoration can be cemented in the same session.

On top of these benefits, the PATENT implant system comes with a lifetime guarantee, which means that an implant will be replaced if it breaks.

"There is a zirconia implant with very good long-term results."
Prof. Dr. Joachim Hermann



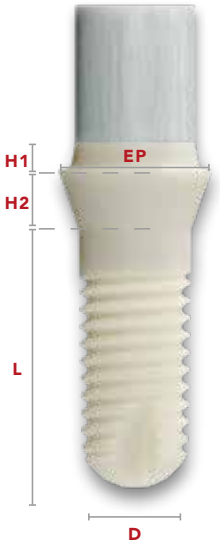
PATENT ONE-PIECE

The one-piece PATENT implant is a rotation-symmetric endosseous implant made from zirconia. This implant can be placed in all maxillary and mandibular bone quality types (D1-D4) with and without augmentation. PATENT implants are inserted at bone level. Available in a wide range of diameters and lengths, these implants cover a wider range of indications.
These implants are suitable for insertion in the jawbone that has completely healed (late implantation), delayed immediate implantation (1–8 weeks after dental extraction), and immediate implantation (implantation immediately after dental extraction - under certain conditions). Please note the restrictions of indications in the respective Instructions for Use.
Material: zirconia

AVAILABLE LENGTHS AND DIAMETERS

Diameter	Lenght	Height 1	Height 2*[1]	EP*[2]	REF
4.1 mm	7.0 mm	4.0 mm	2.5 mm	5.2 mm	P1S4107
	9.0 mm	4.0 mm	2.5 mm	5.2 mm	P1S4109
	11.0 mm	4.0 mm	2.5 mm	5.2 mm	P1S4111
	13.0 mm	4.0 mm	2.5 mm	5.2 mm	P1S4113
4.5 mm	7.0 mm	4.0 mm	2.5 mm	6.2 mm	P1S4507
	9.0 mm	4.0 mm	2.5 mm	6.2 mm	P1S4509
	11.0 mm	4.0 mm	2.5 mm	6.2 mm	P1S4511
	13.0 mm	4.0 mm	2.5 mm	6.2 mm	P1S4513
5.0 mm	7.0 mm	4.0 mm	2.5 mm	6.2 mm	P1S5007
	9.0 mm	4.0 mm	2.5 mm	6.2 mm	P1S5009
	11.0 mm	4.0 mm	2.5 mm	6.2 mm	P1S5011
	13.0 mm	4.0 mm	2.5 mm	6.2 mm	P1S5013

*[1] Transmucosal
*[2] Emergence profile



PATENT TWO-PIECE

The two-piece PATENT implant is a rotation-symmetric endosseous implant made from zirconia. This implant can be placed in all maxillary and mandibular bone quality types (D1-D4) with and without augmentation. PATENT implants are inserted at bone level. Available in a wide range of diameters and lengths, these implants cover a wider range of indications. These implants are suitable for insertion in the jawbone that has completely healed (late implantation), delayed immediate implantation (1–8 weeks after dental extraction), and immediate implantation (implantation immediately after dental extraction - under certain conditions). Please note the restrictions of indications in the respective Instructions for Use.
The Post consists of glass fiber and can be shaped in the intraoral and extraoral position. It is bonded with the implant body in the supragingival position without a gap (recommendation: RelyX Unicem [3M Espe]).
Material: zirconia

AVAILABLE LENGTHS AND DIAMETERS

Diameter	Lenght	Height 1	Height 2*1	EP*2	REF
4.1 mm	7.0 mm	1.6 mm	2.5 mm	5.2 mm	P2S4107
	9.0 mm	1.6 mm	2.5 mm	5.2 mm	P2S4109
	11.0 mm	1.6 mm	2.5 mm	5.2 mm	P2S4111
	13.0 mm	1.6 mm	2.5 mm	5.2 mm	P2S4113
4.5 mm	7.0 mm	1.2 mm	2.5 mm	6.2 mm	P2S4507
	9.0 mm	1.2 mm	2.5 mm	6.2 mm	P2S4509
	11.0 mm	1.2 mm	2.5 mm	6.2 mm	P2S4511
	13.0 mm	1.2 mm	2.5 mm	6.2 mm	P2S4513
5.0 mm	7.0 mm	1.2 mm	2.5 mm	6.2 mm	P2S5007
	9.0 mm	1.2 mm	2.5 mm	6.2 mm	P2S5009
	11.0 mm	1.2 mm	2.5 mm	6.2 mm	P2S5011
	13.0 mm	1.2 mm	2.5 mm	6.2 mm	P2S5013

*1 Transmucosal
*2 Emergence profile

OSSEOINTEGRATION IS NOT ENOUGH!

Since the early beginnings of Dentistry, replacing missing teeth to restore masticatory function has been one of the most sought-after treatments by patients. Before 1965, unfortunately, the solutions for edentulous people were rudimentary and often resulted in further deterioration and seriously compromised mastication.
A new era of oral rehabilitation began thanks to the major discovery of the concept of osseointegration with titanium implants by the famous Prof. Per- Ingvar Brånemark. Millions of people worldwide have been able to improve their quality of life by recovering masticatory function and esthetics due to osseointegration with a titanium dental implant treatment.

According to Prof. Brånemark, osseointegration is a **"direct connection between living bone and the load – carrying endosseous implant at the light microscopic level."** Further studies have confirmed this definition and today, this healing mechanism around titanium implants is well documented.

In the early days of Implantology, the strong focus was on osseointegration to make sure that the implants remained anchored in bone for a long time. In the last few years, the focus has shifted towards soft tissue integration and different prosthetic components to achieve long-term esthetic results associated with healthy gingiva and tissue.

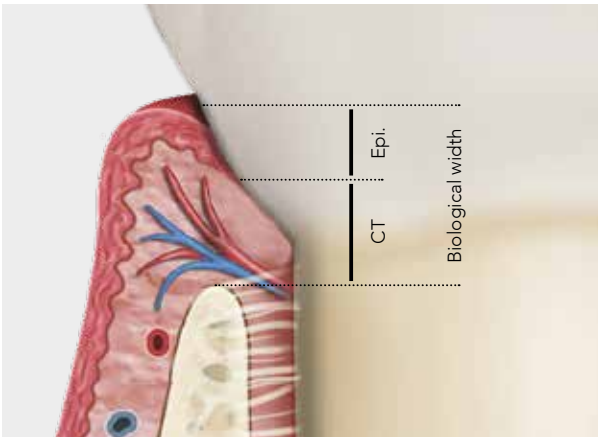
However, the increased complexity of the solutions and the phenomenon of peri-implantitis have presented a challenge with current systems, jeopardizing long-term success. So, today, osseointegration is not enough anymore for a successful treatment outcome.

Healthy soft tissue

Healthy soft tissues and hard tissues play a key role for ensuring successful long-term results, which are also influenced by the biological width, consisting of the epithelium and connective tissue lengths. Lee et al. have found that the ratio of connective tissue within the whole biological width in natural teeth **(65.9%)** is similar to that of zirconia **(65.4%)**. Obviously, a higher connective tissue content allows for more adequate protection of the bone-implant interface. These observations have been confirmed by several reports on the soft tissue reactions to zirconia.

You can find some studies under:
https://mypatent.com/reference

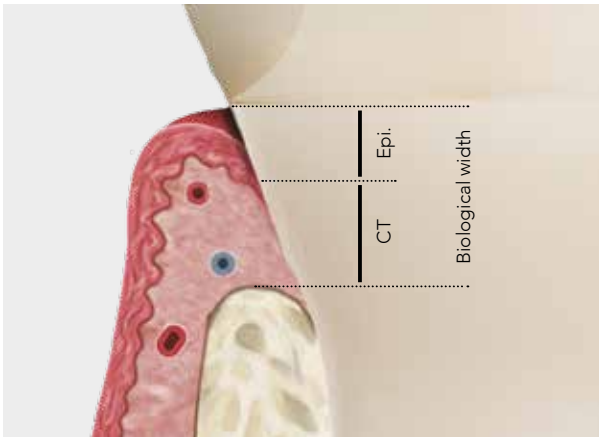
Natural teeth



Biological width

Connective tissue **65.9 %** | Epithelium **34.1 %**

Zirconia implants



Biological width

Connective tissue **65.4 %** | Epithelium **34.6 %**

Soft Tissue Level = no micro-movements

In fact, the implant design is another factor that influences soft tissue integration. Titanium systems as well as zirconia bone level systems with micro-gaps and joints that greatly extend into the mucosa have a potentially adverse effect. Combinations of materials with very different elasticity modules increase risks of adverse tissue reactions. In the installation phase there are components that must be removed and replaced several times. Inevitably, there are some micro-movements in the final construction. With a tissue level design, any junctions are moved to an equigingival position; compared to titanium, zirconia has an enhanced aesthetic potential due to its color and soft tissue adaptation.

The good integration of the soft tissues prevents adhesion of bacteria, which causes inflammatory processes. In addition, zirconia has a low affinity for plaque.

Due to the very rough surface at the endosseous part, the machined surface at the transmucosal part, and the tissue level design, the PATENT implant system is characterized by favorable properties for bio-integration.

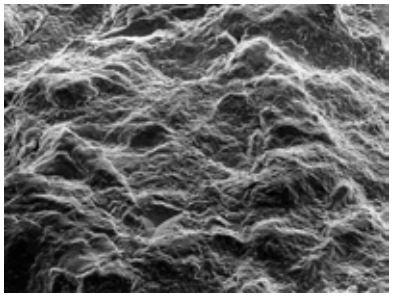
Patented production process

As opposed to most manufacturing processes of zirconia implants where the surface roughness is created in the sintered stage, the surface of the PATENT implants is created in the pre-sintered stage; the latter allows micro-cracks induced in the process to be closed in the following sintering process, linked to a particle reduction of about 20 %.

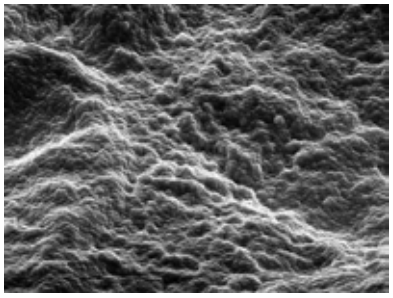
According to Mombelli et al., zirconia requires high roughness for predictable osseointegration. If you tried to achieve a very rough surface in the sintered phase, you would compromise the material strength since a lot of micro-cracks would be induced in the process.

The surface of the PATENT Implant is very rough, which makes it hydrophilic and osteoconductive. During the healing phase, bone starts to form on the surface of the implant, which is the same behavior as on moderately rough surfaces of the modern titanium implants.

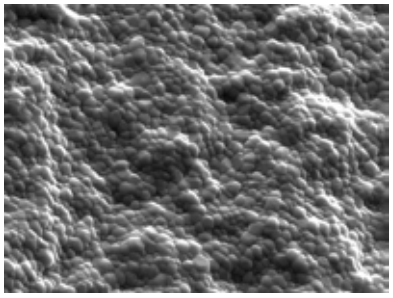
X 2,500



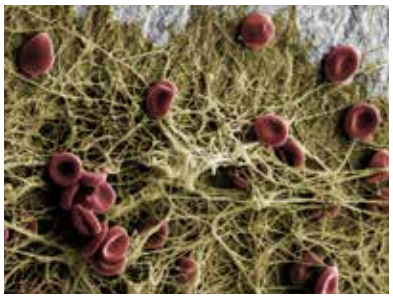
X 10,000

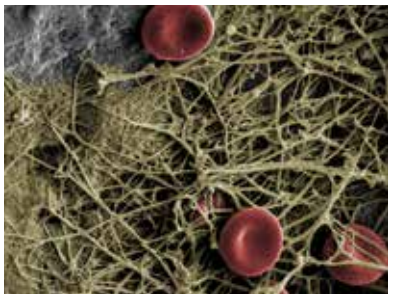


X 20,000



Hydrophilic characteristic – surface attracts blood

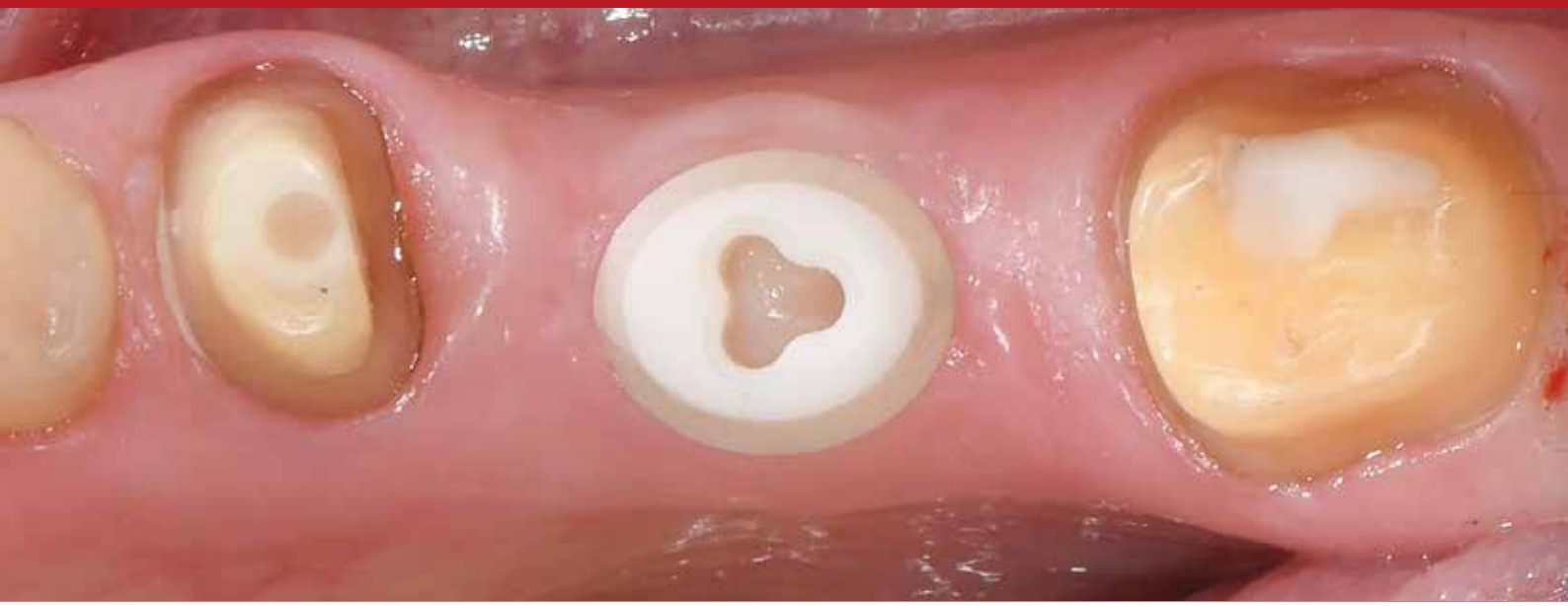




Human blood on PATENT™ surface – within 10 minutes the fibrin network is attached to the surface. This attachment is a prerequisite for contact osteogenesis.

What is bio-integration?

Bio-integration is defined as "the bonding of living tissue to the surface of a biomaterial or an implant". Unlike osseointegration, which focuses on the bone behavior, bio-integration is only achieved if all surrounding tissues are bonded to the implant.



PATENT Instruments

PATENT Surgical Kit
Includes all necessary instruments
for PATENT implants
Material of the Surgical Kit: plastic
REF: PSK0000


Patent
Patent
D12
D20

POSTERIOR THREE-UNIT BRIDGE

Author: Dr. med. dent. Gernot Obermair – dental office "happy implant"

Introduction

In the early days of Implantology, the strong focus was on osseointegration to make sure that the implants remained anchored in bone for a long time. In the last few years, the focus has shifted towards soft tissue integration and different prosthetic components to achieve long-term esthetic results associated with healthy gingiva and stable tissue levels.

However, the increased complexity of the solutions and the phenomenon of peri-implantitis have presented a challenge with current systems, jeopardizing long-term success.

The PATENT dental implant system meets challenges by providing a ceramic implant with unique characteristics to establish complete bio-integration. The surface is patented and significantly rougher than other systems. The bonded secondary part prevents a microgap. The high-tech Glass Fiber Post serves as great support and allows for load distribution for the superstructure.

The PATENT dental implant system is the only ceramic two-piece implant system on the market with peer-reviewed long-term clinical research[1].

Two independent studies have shown that the survival rate of the PATENT zirconia implants is similar to that of titanium implants and that the stable marginal bone level and soft tissue integration of PATENT zirconia implants are superior compared with titanium implants.[2,3]

Initial situation

A partially edentulous 59-year-old male patient asked for a dental implant treatment. Due to periodontitis, the teeth had been extracted a year before implantation. Dental implants were planned in teeth sites 15, 24, 25, 26, and 36. Bone quality was D3 in sites 24-26 and D2/D3 in sites 15 and 36. The implant selection is presented in **Chart 1**.

Position	Implant diameter (mm)	Diameter of the prosthetic platform (mm)	Implant length (mm)
15	4.1	5.2	11
24	4.1	5.2	13
25	4.1	5.2	13
26	4.5	6.2	9
36	4.5	6.2	13

Chart 1:
Implant dimensions for different positions

(1) Roehling S, Schlegel K A, Woelfler H, Gahlert M. Performance and outcome of zirconia dental implants in clinical studies: a meta-analysis. Clin Oral Impl Res. 2018;29(Suppl. 16):135–153.

(2) Brüll F, van Winkelhoff AJ, Cune MS. Zirconia dental implants: a clinical, radiographic, and microbiologic evaluation up to 3 years. Int J Oral Maxillofac Implants. 2014 Jul-Aug;29(4):914-20. Doi: 10.11607/jomi.3293

(3) Becker J, John G, Becker K, Mainusch S, Diedrichs G, Schwarz F. Clinical performance of two- piece zirconium implants in the posterior mandible and maxilla: a prospective cohort study over 2 years. Clin. Oral Impl. Res. 28, 2017, 29–35 doi: 10.1111/clr.12610

Pre-treatment

The teeth were extracted, and socket preservation with PRGF was performed. No further bone graft procedure was performed. A conservative periodontal treatment was successfully performed on the remaining teeth. A titanium simulation test was done, which revealed high titanium particle-induced inflammatory values. We therefore opted for a PATENT ceramic implant for the patient and made a flapless surgery treatment plan.

Surgical procedure

With dynamic navigation, the implants were placed. First, osteotomies were prepared, and then the implants were placed without any problems. The insertion torques were between 22–35 Ncm. The surface of the PATENT implant is very hydrophilic, see **(Fig. 1)**.

It is important to place the implants in the right vertical position in relation to the soft tissue (in the epigingival position) in order to facilitate the prosthodontic procedure. At the time of surgery, intraoral check X-rays were taken, and a cone beam was performed, see **(Fig. 2)**.

Fig. 1:
Implant placement. The PATENT™ implant has a hydrophilic surface.

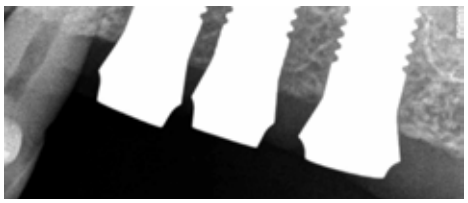


Fig. 2:
Check X-rays at the time of the implantation

Prosthetic reconstruction

After 3 months of healing, the implants were restored with dentures. The Glass fiber Posts were cemented into place and prepared in the same way as conventional crowns and bridges, see **(Fig. 3)**.

A conventional impression was taken and sent to the dental laboratory. The laboratory prepared the models in the same way as conventional crown and bridge work, see **(Fig. 4)**.

Neither impression posts nor model analogs are needed. All crowns and bridges were made from zirconia with an occlusal surface made from composite. The flexibility of the plastic allows for a more favorable stress absorption of the masticatory forces, see **(Fig. 5)**.

Instead of 3 single crowns, a bridge was made on 3 implants in teeth sites 24–26 to allow masticatory forces to be distributed more evenly. The antagonist to the implant in position 26 is also an implant. Since the size of the implant in position 26 was only 4.5 x 9 mm, we opted for a bridge construction to distribute the load on the 3 implants, see **(Fig. 6–9)**. After the cementation, check X-rays were taken, **(Fig. 10)**.

The implant in position 15 was a single-tooth implant, **(see Fig. 11)**. Another single-tooth implant was placed in tooth site 36 **(see Fig. 12)**. The implant was slightly exposed, but soft tissue is expected to grow to a certain extent over time. Check X-rays **(Fig. 13–14)** show stable marginal bone levels.

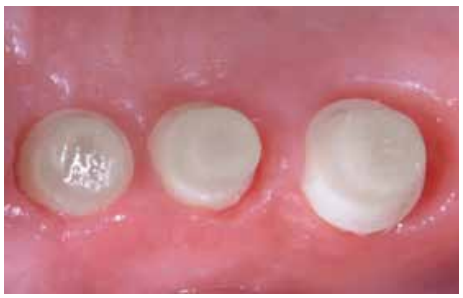


Fig. 3:
Glass Fiber Posts were bonded and prepared after 3 months of healing. Note the healthy soft tissue.

Fig. 4:
The laboratory works on a cast model in the same ways as with crowns and bridges. Neither impression posts nor model analogs are required.

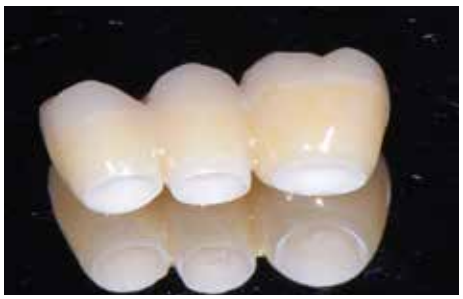


Fig. 5:
The basic restoration material is composed of zirconia. The occlusal surface is made from composite to absorb the masticatory forces.

Fig. 6:
Occlusion was checked.

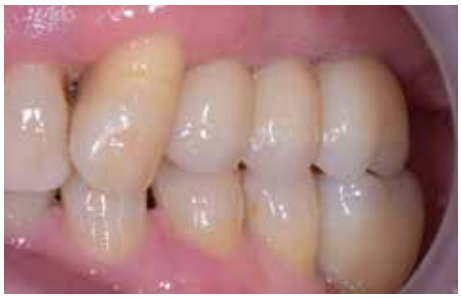


Fig. 7:
Vestibular view

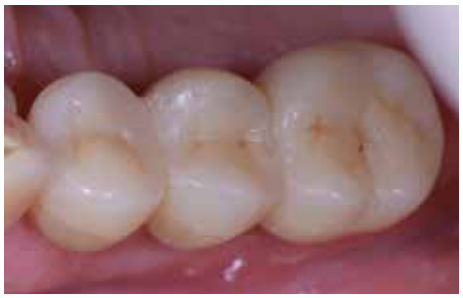


Fig. 8:
Occlusal view

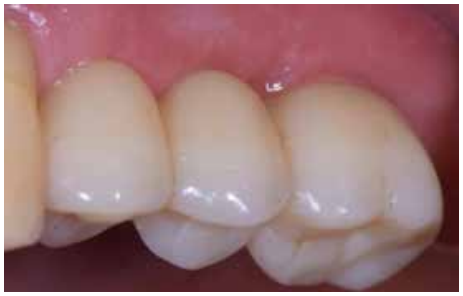


Fig. 9:
Final result at the time of the fitted denture

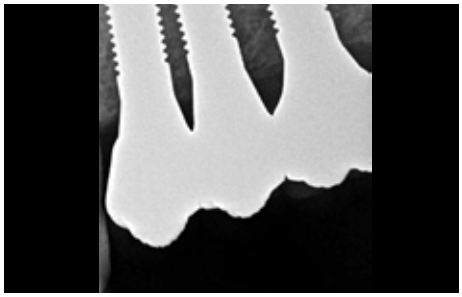


Fig. 10:
Check X-ray after prosthetic restoration. Note the stable marginal bone levels.

Fig. 11:
Single-tooth implant in position 15

Fig. 12:
Single-tooth implant in position 36

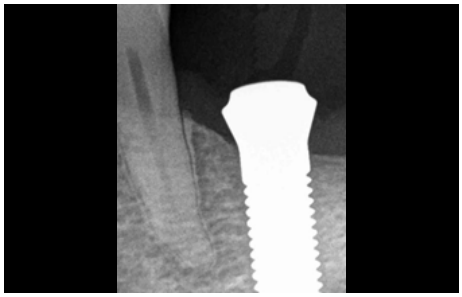


Fig. 13:
Check X-rays of position 36 at the time of implantation and prosthetic restoration. Very stable marginal bone levels are observed.

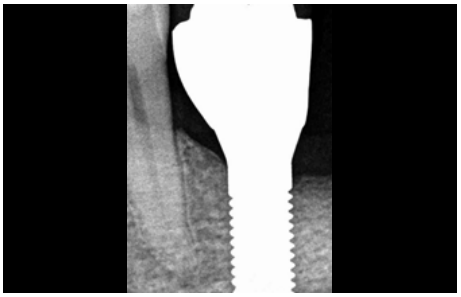


Fig. 14:

Conclusion

Thanks to its Glass Fiber Post, the PATENT implant system allows for an expansion of prosthetic flexibility. Single units or bridge constructions can be efficiently manufactured using conventional Dental Technology methods. With its rough surface and the machined surface on the transmucosal part, this implant design allows for complete bio-integration in the bone.

In combination with the design without a micro-gap deep in the soft tissue, very stable soft tissue levels have been achieved. See X-rays in the figures **(Fig. 3, 10, 14)**. Besides showing favorable soft tissue reactions, the PATENT implant system also shows survival rates that are comparable to titanium dental implants.

"There are minimal probing pocket depths thanks to the PATENT implant system."
Dr. Gernot Obermair

IMMEDIATE IMPLANTATION AND IMMEDIATE LOADING OF A ZIRCONIA TWO-PIECE IMPLANT

In this case report, the author describes an extraction of a tooth that could no longer be preserved and the immediate implantation of a PATENT™ two-piece implant with immediate restoration in the same session. For stabilizing soft tissue, the root of the extracted tooth was processed into autologous bone graft with the Smart Grinder procedure and grafted around the implant.

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A female patient presented to our dental office complaining of a toothache in the anterior region when masticating.

X-rays exhibited severe bone loss in the mesial position 11, accompanied by inflammation. The tooth could therefore no longer be preserved. Because of bone loss, the tooth 11 was extruded in the distobuccal position, accompanied by a considerable enlargement of an existing diastema.

During a consultation prior treatment, we presented our treatment concept to our patient:
classical immediate implantation after the extraction of the tooth using the "Sofi-Protokoll" (immediate implantation protocol) according to Dr. Nedjat.

We suggested placing a ceramic implant, which does not show through the gingiva in the long term. The patient accepted this treatment. We suggested making the crown 11 wider than the tooth and treating Tooth 21 with a veneer for closing the diastema almost completely.

We decided to place a two-piece implant to open the door to more prosthetic solutions. PATENT of Zircon Medical is the only zirconia implant system supported by proven long-term studies, which have shown a bio-integration rate of 96 %, providing great comfort to dentists and patients. In addition, it is the only almost metal-free ceramic implant. There is no screwing of the implant with the abutment. PATENT implants consist of only 0.25% of Al_2O_3; by comparison, ATZ-implants are composed of about 25% of Al_2O_3. We made a dental appointment for surgery the next day.

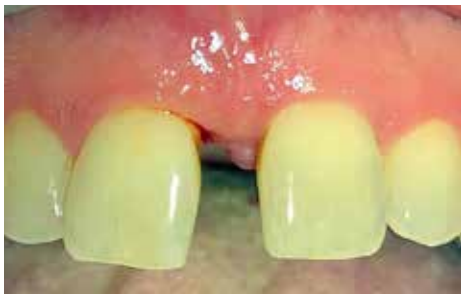
In our dental office there are no days reserved for implantation since this therapy does not prevail over other therapies. Our multi-disciplinary dental team integrates implant therapy in the same way as other therapies such as dental extractions, endodontic treatments, or fillings. Making an appointment for surgery in the short term is not a problem. In our practice there are available implants in the most important lengths and diameters in stock to meet patients' demands.

Day of the surgery

The patient came into the dental office that day. Anesthesia was administered with small Ultracain D-S deposits around the surgery site. As a rule Ultracain D-S forte is not recommended since the agent epinephrine (adrenaline) causes anemia in the surgery site. The implant site should normally bleed slightly.

With a Bein's elevator and forceps, we carefully extracted the tooth, applying pressure to the buccal lamella with the thumb to prevent fractures. With a sharp spoon, the alveolus was curetted to remove inflammation residues. The absence of buccal bone was clinically verified.

Fig. 1: Initial situation



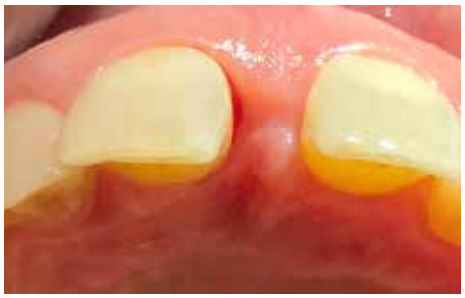


Fig. 2 & 3: Clinical view of Tooth 11

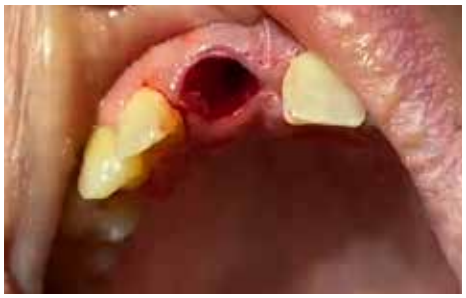


Fig. 4: Extraction alveolus

Fig. 5: Preparation of the implant site with the white Champions Drill with the Drill Extension

Fig. 6: PATENT-Drill ø 3.5 mm

Fig. 7: Champions Condenser ø 4.3 mm

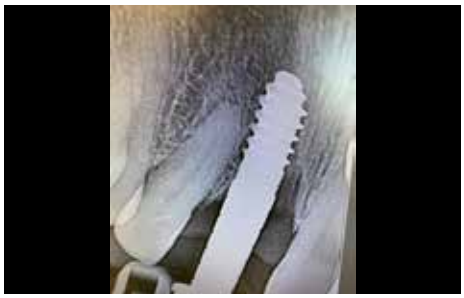


Fig. 8: Check X-rays with the Condenser ø 4.3 mm

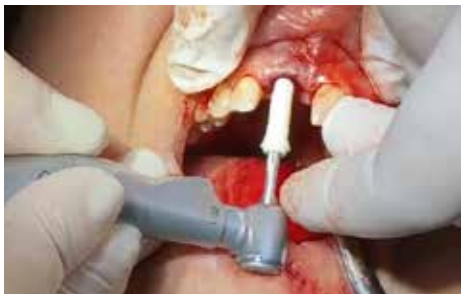


Fig. 9: Placing a PATENT ceramic implant (length 13 mm, ø 4.5 mm)

Fig. 10: Placed implant

Fig. 11: Immediately after surgery

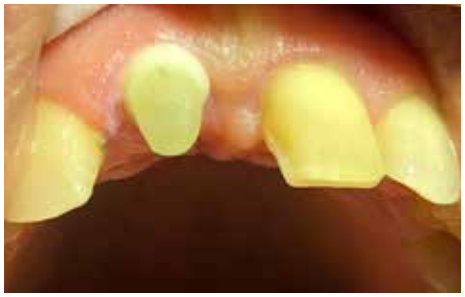


Fig. 12: Shaped Post

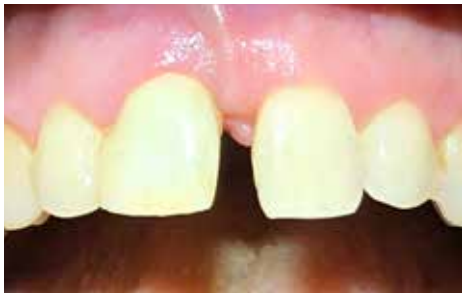


Fig. 13: Temporary restoration

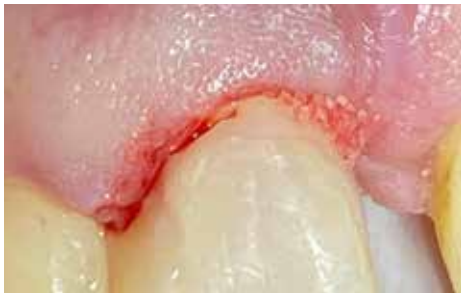


Fig. 14: Grafted autologous bone graft produced from the patient's own tooth using the Smart Grinder protocol

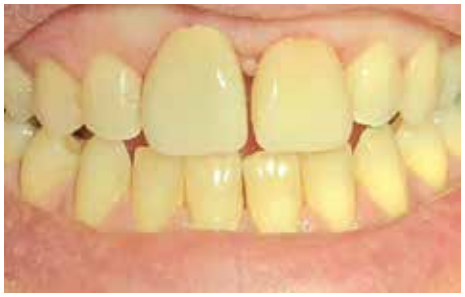


Fig. 15: 1 week after surgery

Fig. 16: 3 months after surgery with fitted denture 11 and veneer 21

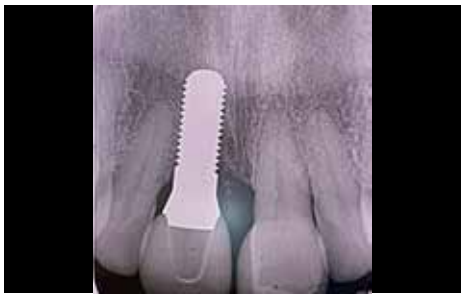


Fig. 17: X-rays with fitted denture 3 months after surgery

Link to video showing surgery

The PATENT Surgical Kit includes all necessary instruments for inserting ceramic implants in all bone quality types (D1 to D4). For the pilot drill the yellow Conical Triangular Drill is used (length 20 mm, ø 2.3 mm) from the Surgical Kit of Champions-Implants.

The first drilling was performed in the slightly palatinal position, at about 15°. After the pilot drill, the cavity was widened with the white Conical Triangular Drill (length 18 mm, ø 3.3 mm). Using a Drill Extension with the Drill, we were able to check the drilling axis more carefully.

Although a perforation of the bone walls can be avoided due to the drilling at low speed, we always check the bone cavity with a thin probe in all 5 directions to check the bone for perforation. On this occasion, the mesiobuccal bone defect was verified.

For widening the cavity, we used the PATENT-Drills having diameters of ø 3.0 mm, ø 3.5 mm, and ø 3.8 mm.

With the blue Condenser ø 4.3 mm from the Champions Surgical Kit, primary stability was checked and achieved at about 40 Ncm, which sufficed to place a PATENT-implant (length 13 mm, ø 4.5 mm). X-rays confirmed the correct position.

The PATENT ceramic implant (Zircon Medical, Zurich, distribution Champions-Implants) has a very rough surface, enhancing bio-integration. However, the insertion itself slightly differs from the insertion of a titanium implant. It is recommended that you should place ceramic implants slightly mechanically with an implant motor at about 20 rpm, preventing an eventual inclination. The maximum torque is limited to 30 Ncm. A Torque Wrench is used for the final insertion in the slightly subgingival

position.
Retro-alveolar X-rays confirmed the correct position of the implant.

Temporary restoration

In the same session, the Post was bonded onto the implant body with RelyX from 3M Espe, an adhesive dual-cure cement. Then, the Post was shaped by means of a coarse diamond bur under water cooling. Consisting of a glass fiber polymer, the Post can be easily and quickly shaped. Finally, a temporary dental crown is fitted. The dental crown was prepared in the basal area and splinted with the adjacent teeth.

Using the Smart Grinder Protocol, the root of the extracted tooth was processed into autologous bone graft chairside within 8 minutes. The dentin particulate was cleansed in the Cleanser to dissolve all bacteria, viruses, and fungi. Then, the particulate was rinsed in a phosphate buffered saline solution at the pH level of 7.1. The gap between the implant body and the soft tissue was grafted with this bone graft to stabilize the gingiva.

A week after surgery, a check-up showed good healing results without discomfort.

Fitting the final denture

After 3 months, the final denture was fitted, and Tooth 21 was treated with a veneer to close the diastema. Final X-rays with the fitted denture confirmed the good bio-integration of the implant.

Summary

This case shows that successful implantation does not depend on the availability of a buccal wall. However, in these cases, it is recommended that you should place a (white) ceramic implant; the implant body does not show through the gingiva.

This efficient "Sofi-Verfahren", i.e. the immediate implantation procedure according to Dr. Nedjat, is spearheading a perfectly effective treatment ensuring esthetic appearances of the soft tissue. Another advantage is that you can visualize the bone and that crestal relief is unnecessary.

"The PATENT- ceramic implant body does not show through the gingiva."
Dr. Lavinia Neuss-Zaar

Instructions

Here you can find films of the PATENT system on the link or scan the QR-Code on your mobile.

The PATENT zirconia implant
Presentation of the PATENT

https://vimeo.com/485480817

Animation of an insertion
View of an insertion of a two-piece PATENT zirconia implant on a glass jaw model

https://vimeo.com/326287083/7d59750057

Insertion and cementation
Insertion of 2 two-piece PATENT zirconia implants, cementation of the Posts without gaps, and checkbite

https://vimeo.com/488882191

Insertion
Insertion of 5 PATENT zirconia implants in the maxilla.

https://vimeo.com/501735016

Insertion

Insertion of 2 PATENT zirconia implants in sites 23 and 25

https://vimeo.com/502126637

Insertion

Insertion of 2 PATENT zirconia implants in a narrow jaw ridge using the MIMI II-protocol

https://vimeo.com/559883111

Immediate implantation

Immediate implantation and immediate restoration of a PATENT zirconia implant in site 11 and Smart Grinder procedure

https://vimeo.com/533481215

Welcome to the future

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