

TRI ACADEMY



TRI[®] Performance Concept

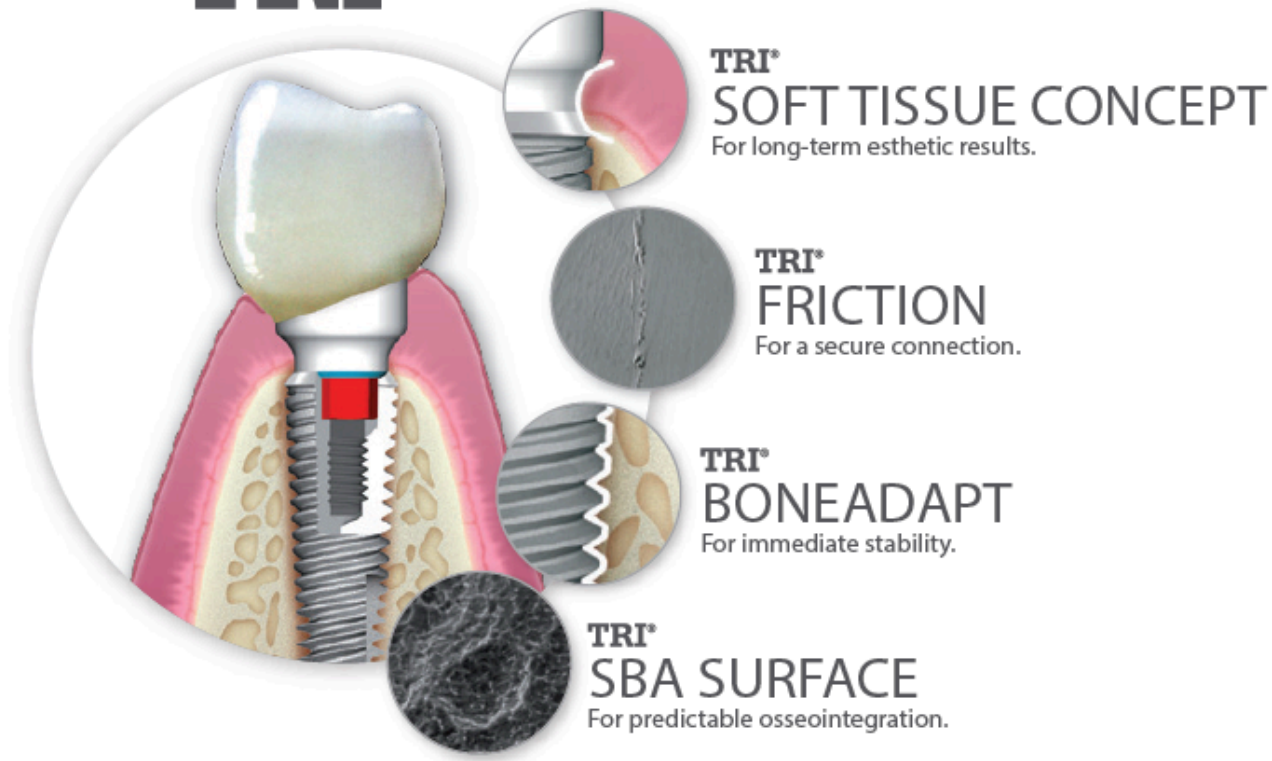
Version 2

Through Research Innovative
www.tri-implants.com

TRI[®]- Implants

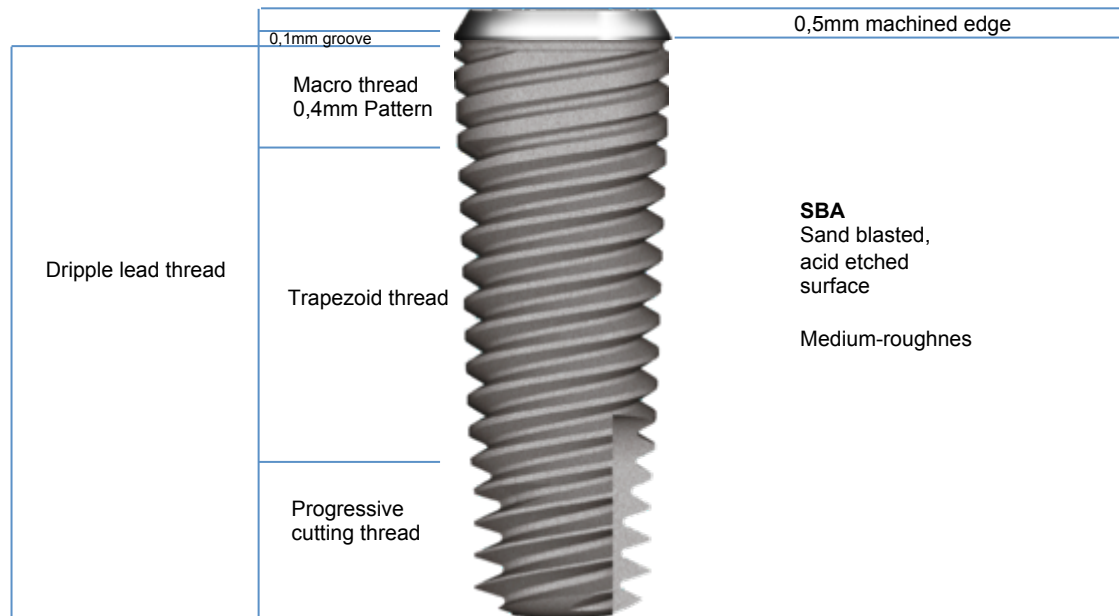
TRI[®] Performance Concept

TRI[®] PERFORMANCE CONCEPT



TRI[®] - Vent & TRI[®] - Narrow

SBA Surface - M-Line



TRI[®]- Vent

3 Implant Diameters - 6 Lengths

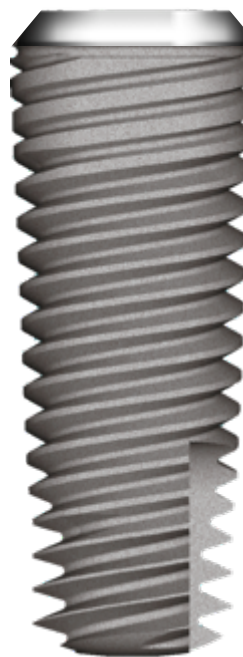
3.75mm



- 8 mm
- 10 mm
- 11.5 mm
- 13 mm
- 16 mm

Apex 3.16mm

4.1mm



Apex 3.46mm

4.7mm



Apex 4.06mm

- 6,5mm
- 8 mm
- 10 mm
- 11.5 mm
- 13 mm
- 16 mm

TRI® - Vent

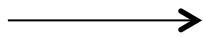
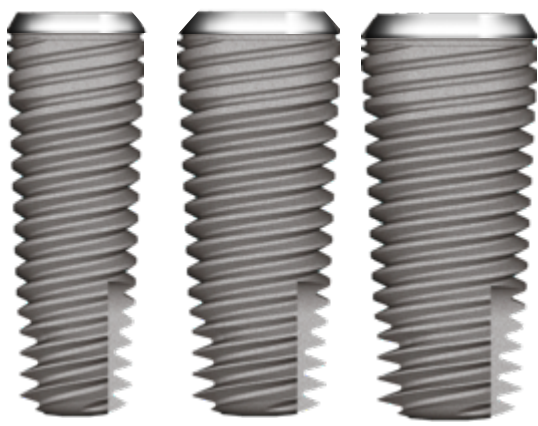
3 Diameters

-

1 Prosthetic Platform

TRI-Vent®

Internal
Hex-connection



3.5mm platform

*Full compatibility
with*

- *Zimmer :Tapered Screw-Vent®*
- *Implant :Direct Legacy®*

TRI[®] - Narrow

1 Implant Diameter - 1 Prosthetic Platform - 3 Lengths



3.2mm platform

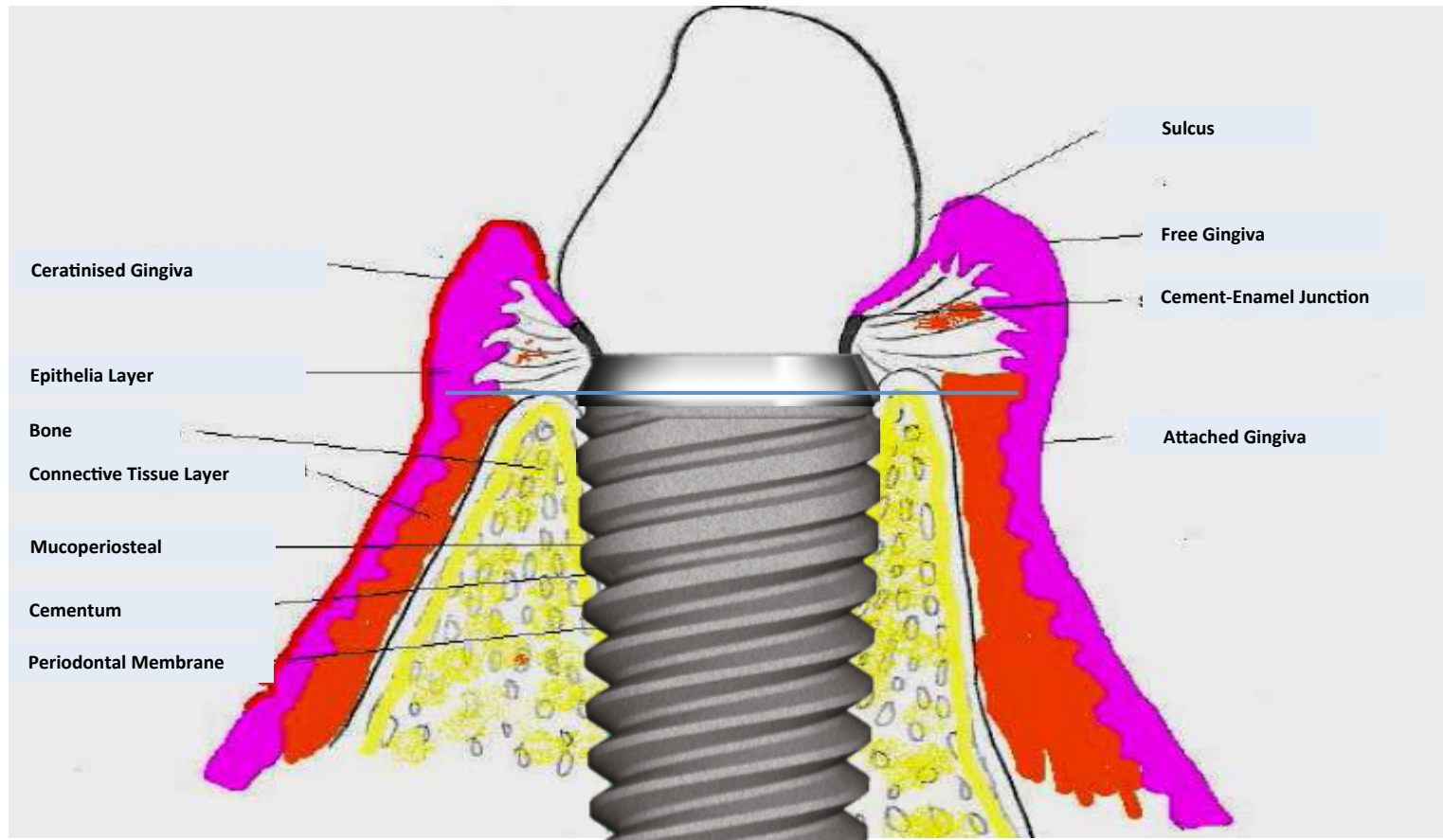
3.3mm



Apex 2.9mm

- 11.5 mm
- 13 mm
- 16 mm

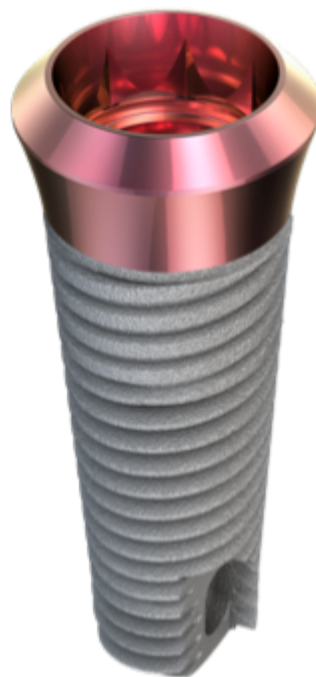
TRI[®] - Vent & TRI[®] - Narrow Placement option; M-Line



New Implant Linie TRI[®]-Octa

Launch on the EAO in Rome

25.09.2014



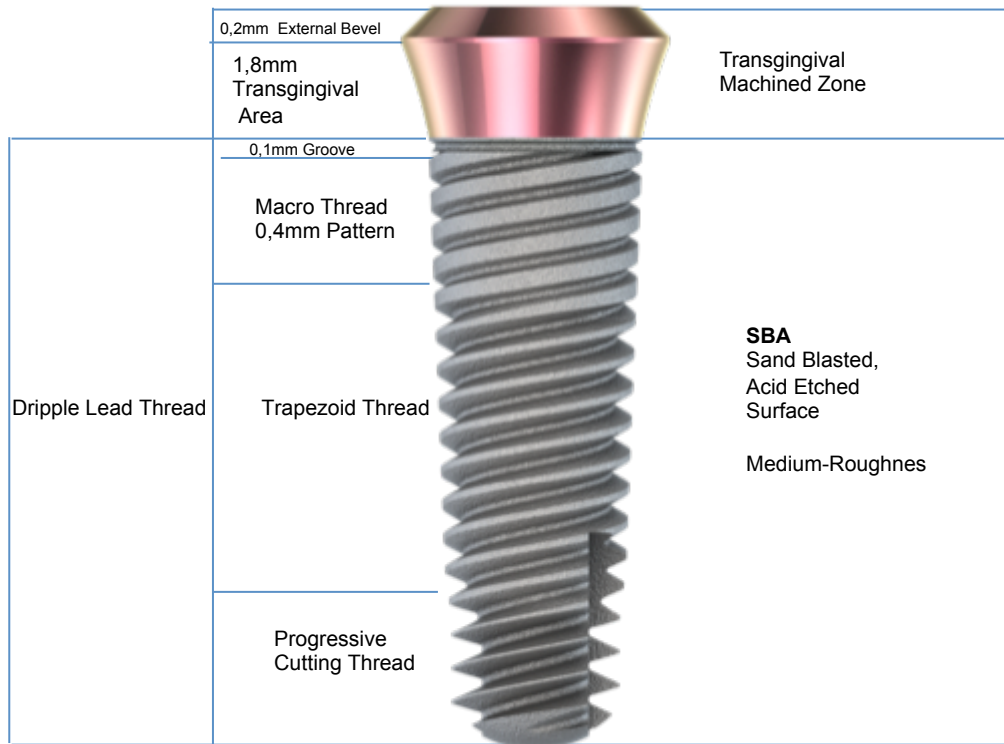
Available with

- Pink Collar

New Implant Linie TRI[®]-Octa

Launch on the EAO in Rome

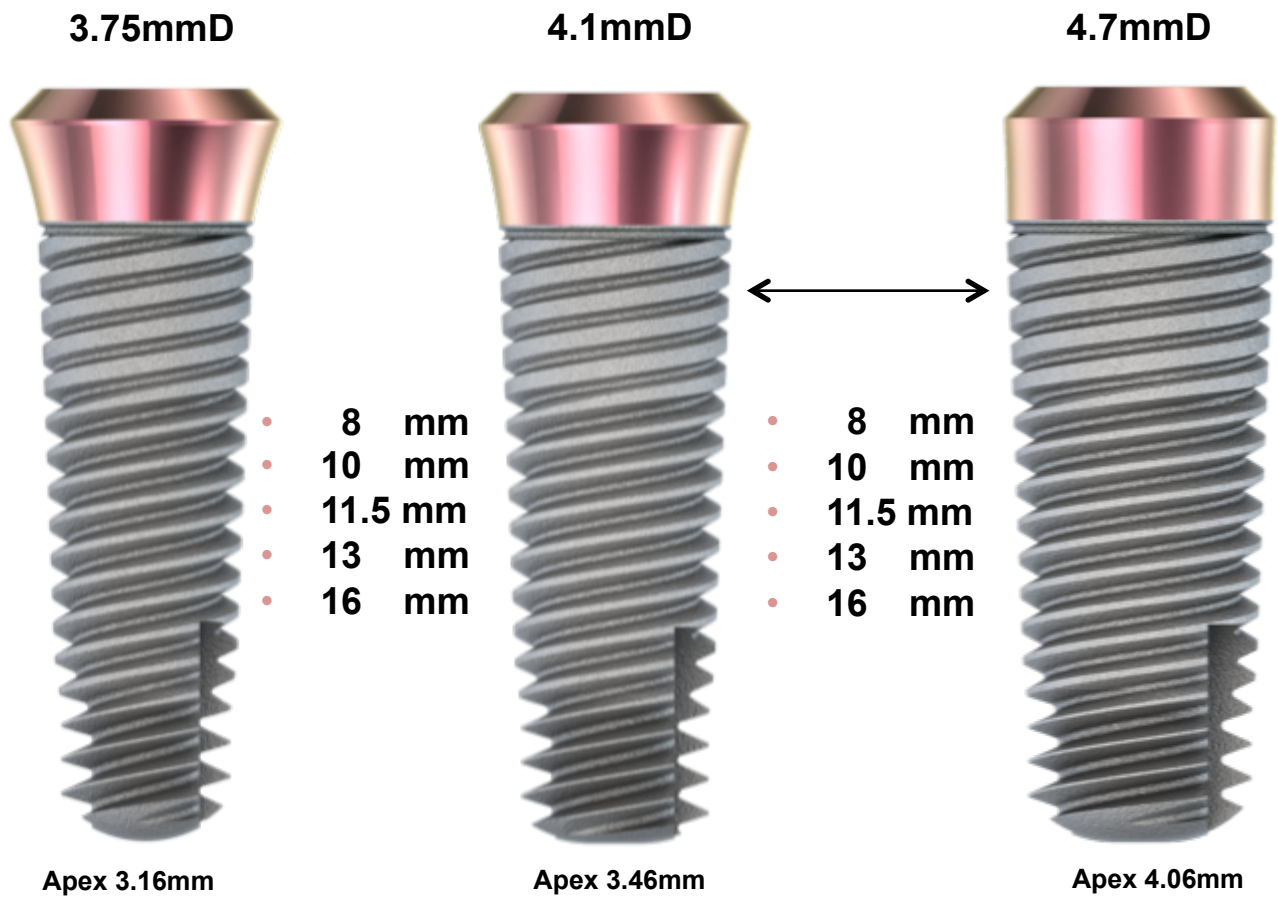
25.09.2014



New Implant Linie TRI[®]-Octa

Launch on the EAO in Rome

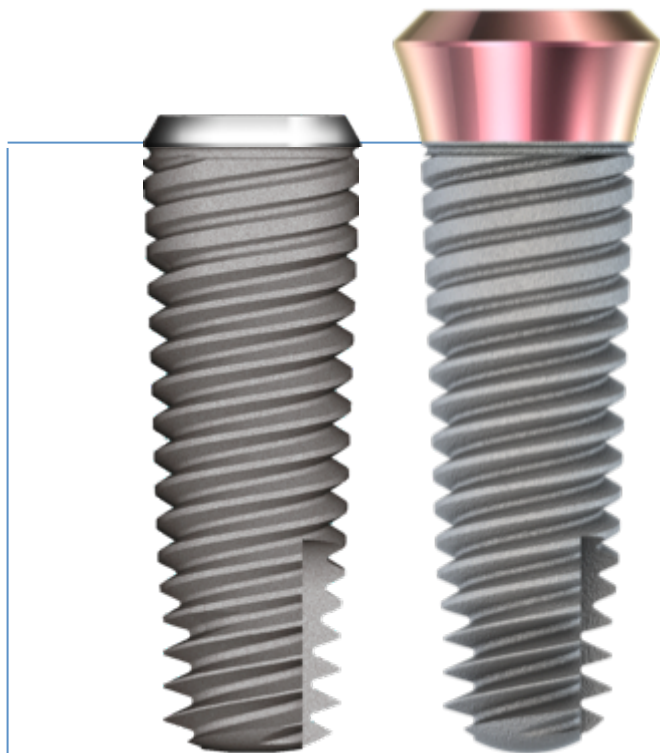
25.09.2014



New Implant Linie TRI[®]-Octa

Launch on the EAO in Rome

25.09.2014



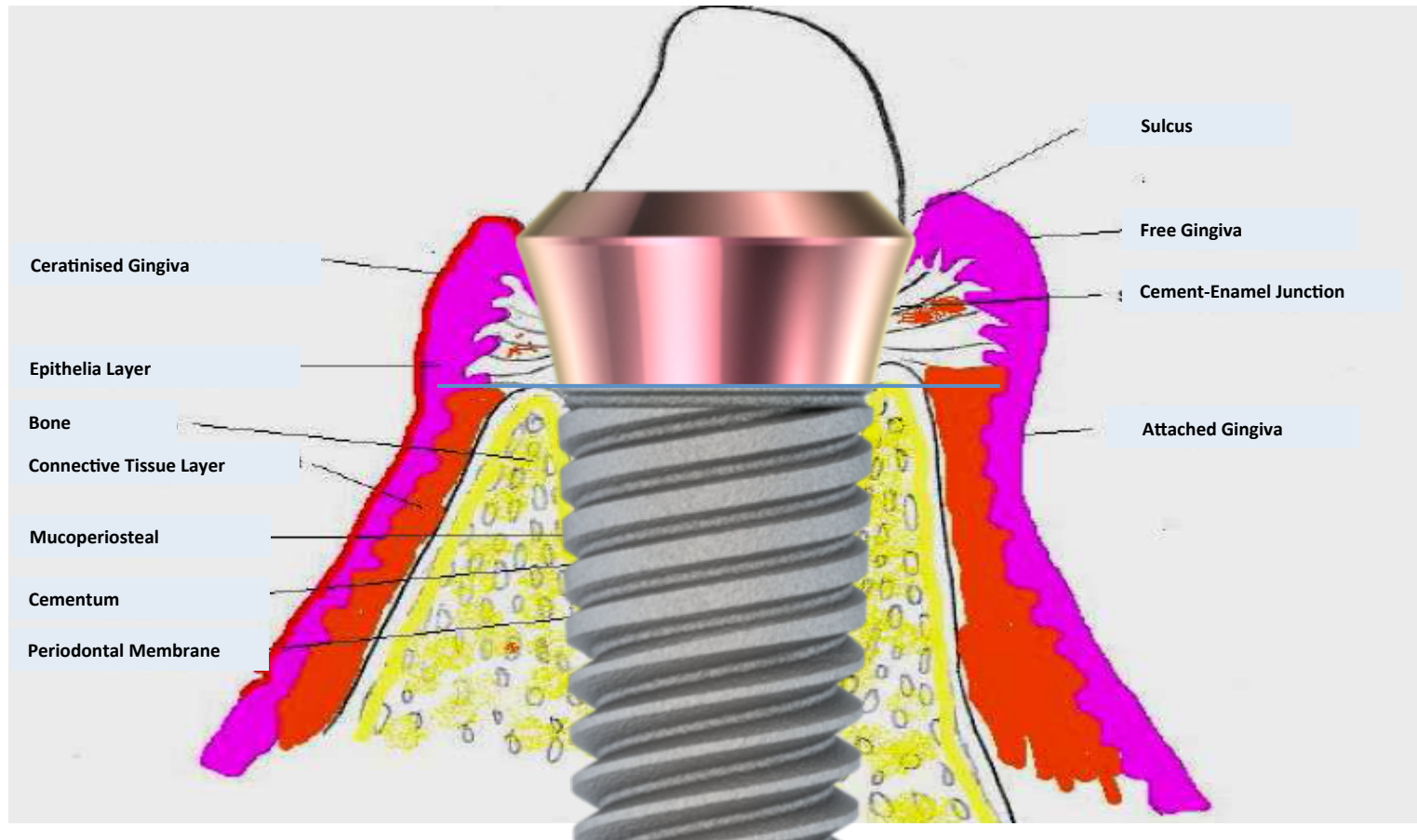
TV41B13

TO41M13

Identical Implant-Bodies

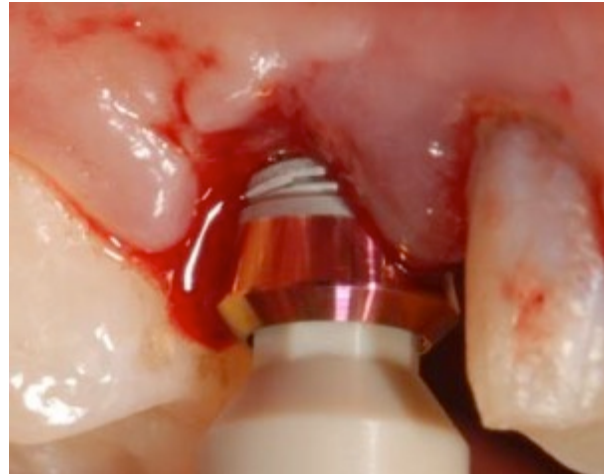
- same lengths
- same diameter
- same surface treatment
- same thread design

TRI[®] - Vent & TRI[®] - Narrow Placement option; M-Line



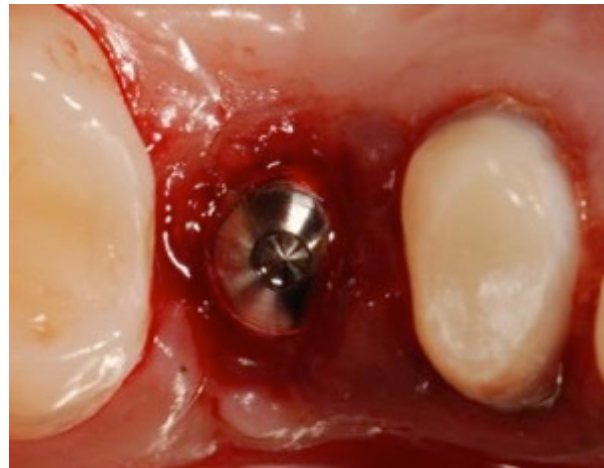
TRI- Octa

TRI[®] - Vent & TRI[®] -Narrow, -Octa TRI[®]-Octa First Surgery



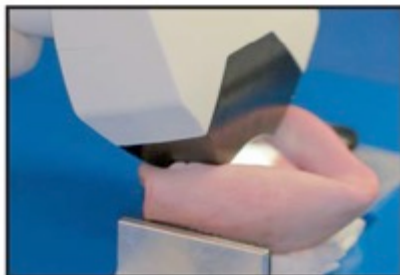
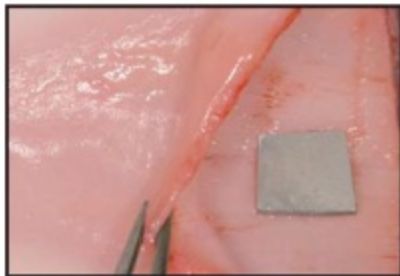
First Placement of
TRI-Octa with pink
collar

Dr. Ionescu
Romania



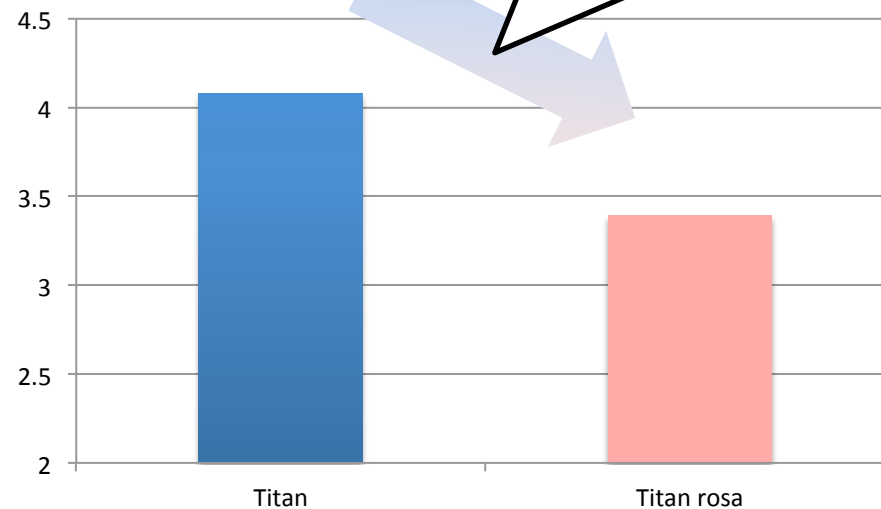
A scientific study in collaboration with Prof. Hämmerle / Dr. Jung / Dr. Thoma (University of Zurich) scientifically proves less discoloration of the mucosa with pink implant neck compared to normal titanium.

- Thin titanium plates were placed under the gingiva in pig jaws.
- Discoloration was measured with a Spectrophotometer (Spectroshade)



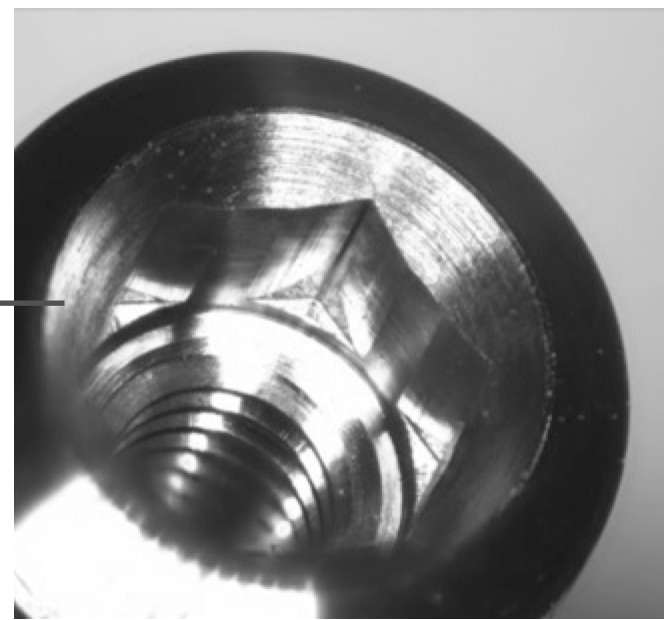
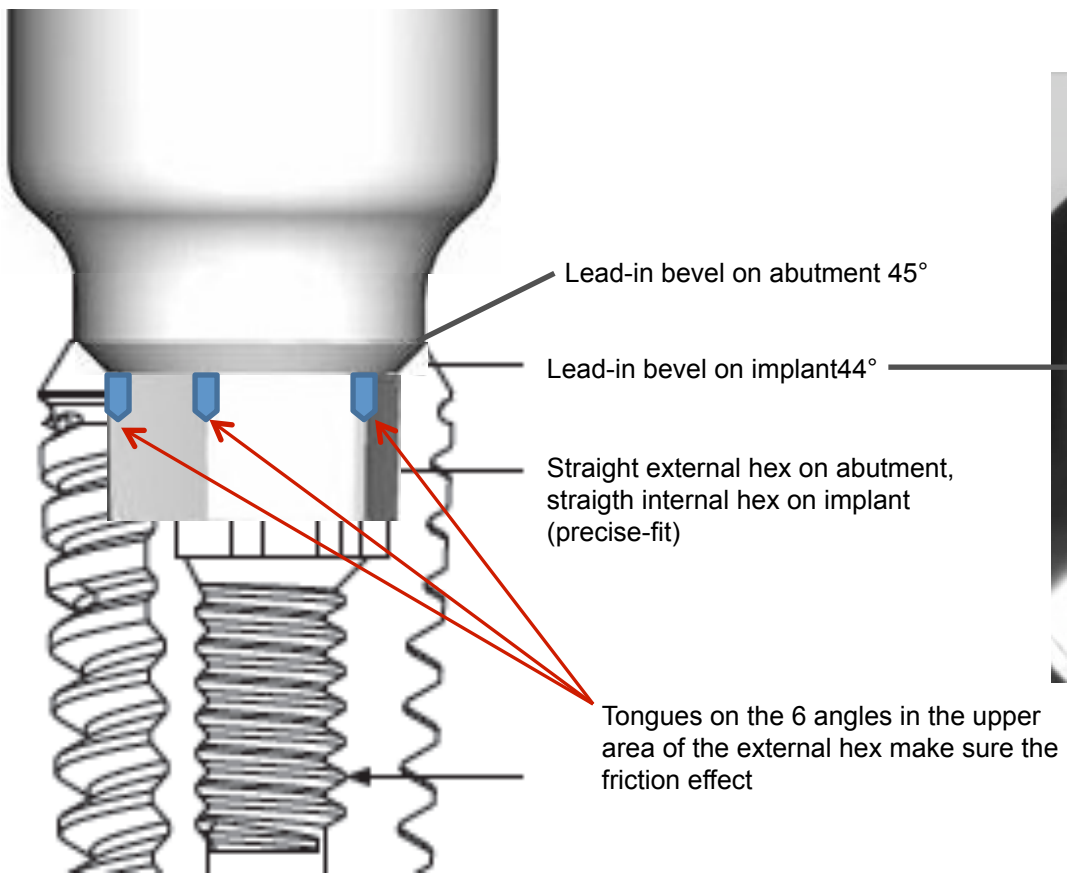
Results

With thin gingiva (1mm), the discoloration of the gingiva is significantly higher with normal titanium compared to pink anodized titanium.



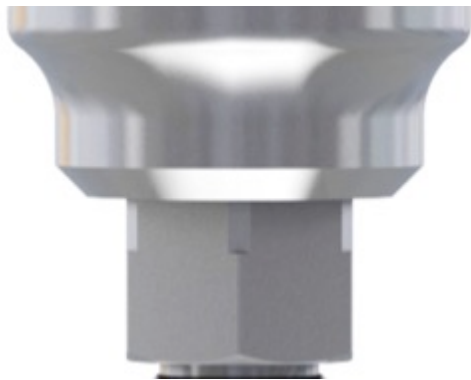
TRI® Friction

External Hexagon with friction effect



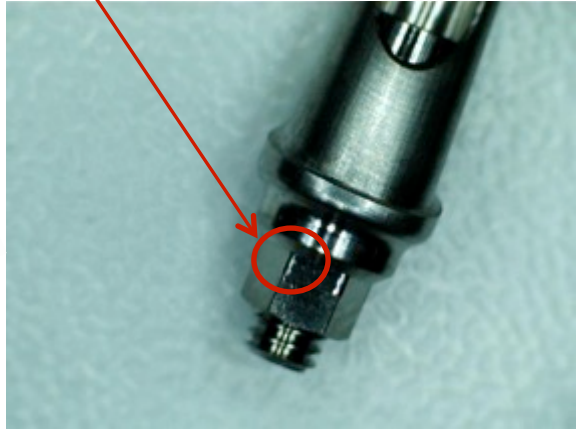
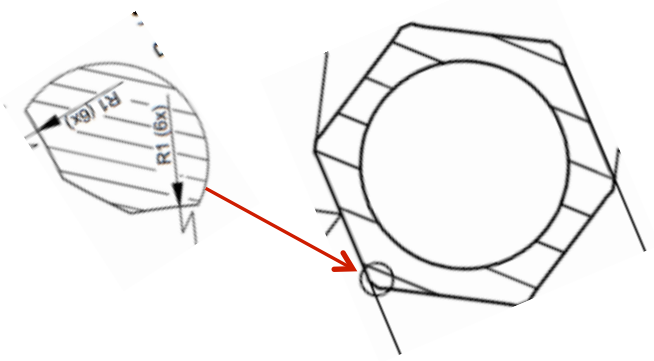
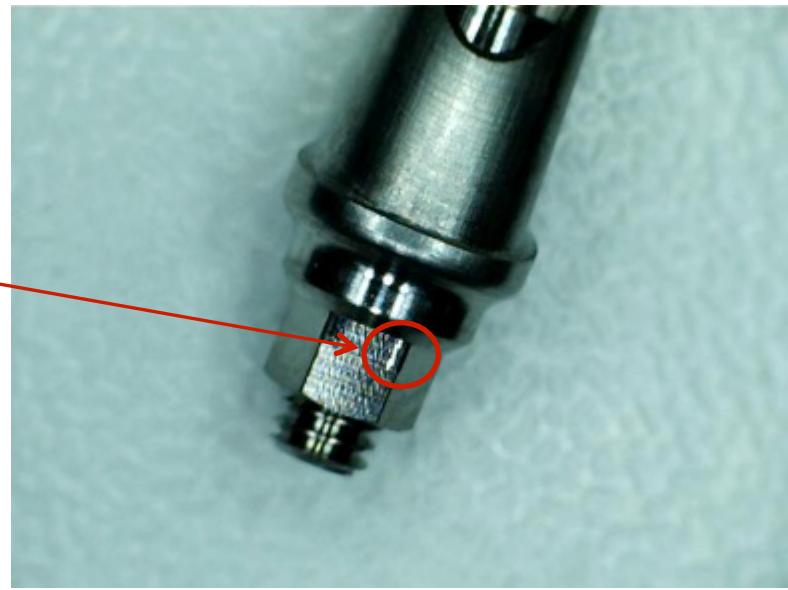
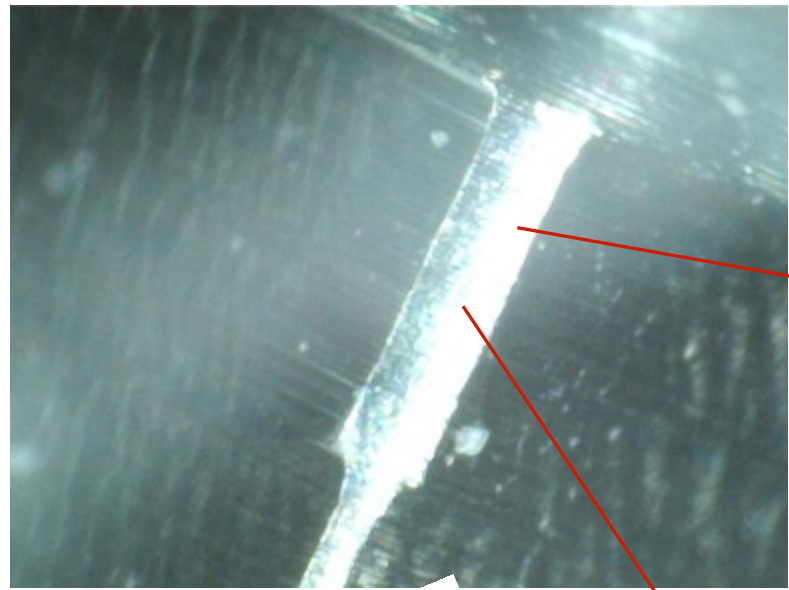
Frictional Connection

- Self-locking, tongue extension on male abutment
- Available for TRI-Vent, TRI-Narrow TRI-Octa optional
- Forms a friction connection with the implant
- Virtually eliminating of micro-movement
- Strong density on the implant-abutment conjunction



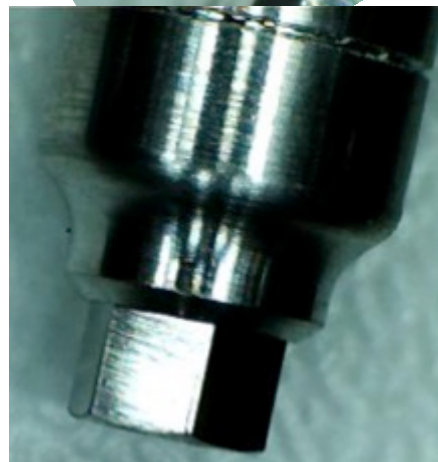
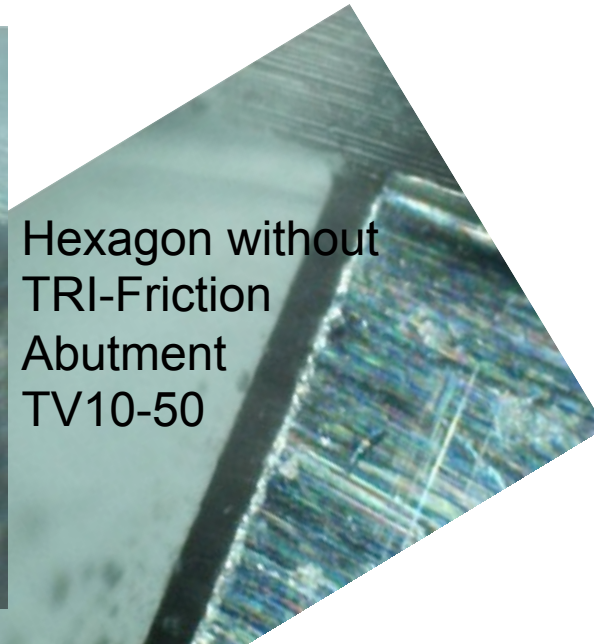
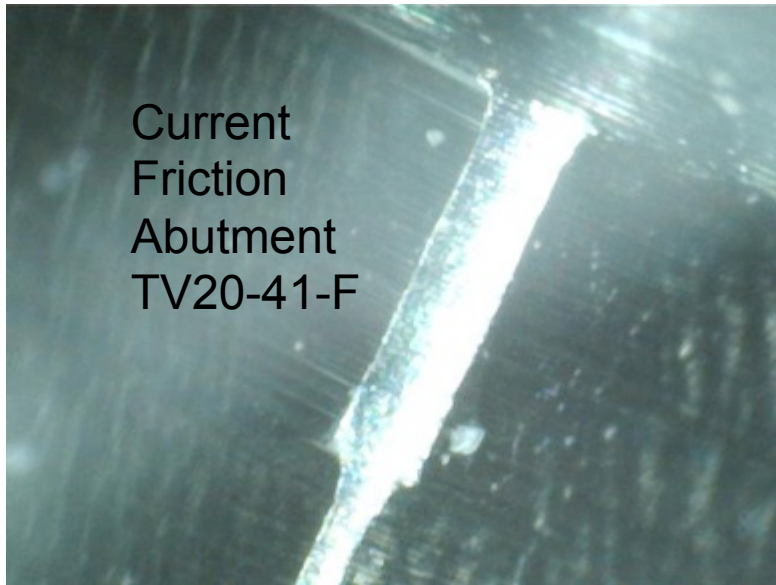
TRI® Friction

Current external hexagon with friction effect



TRI® Friction

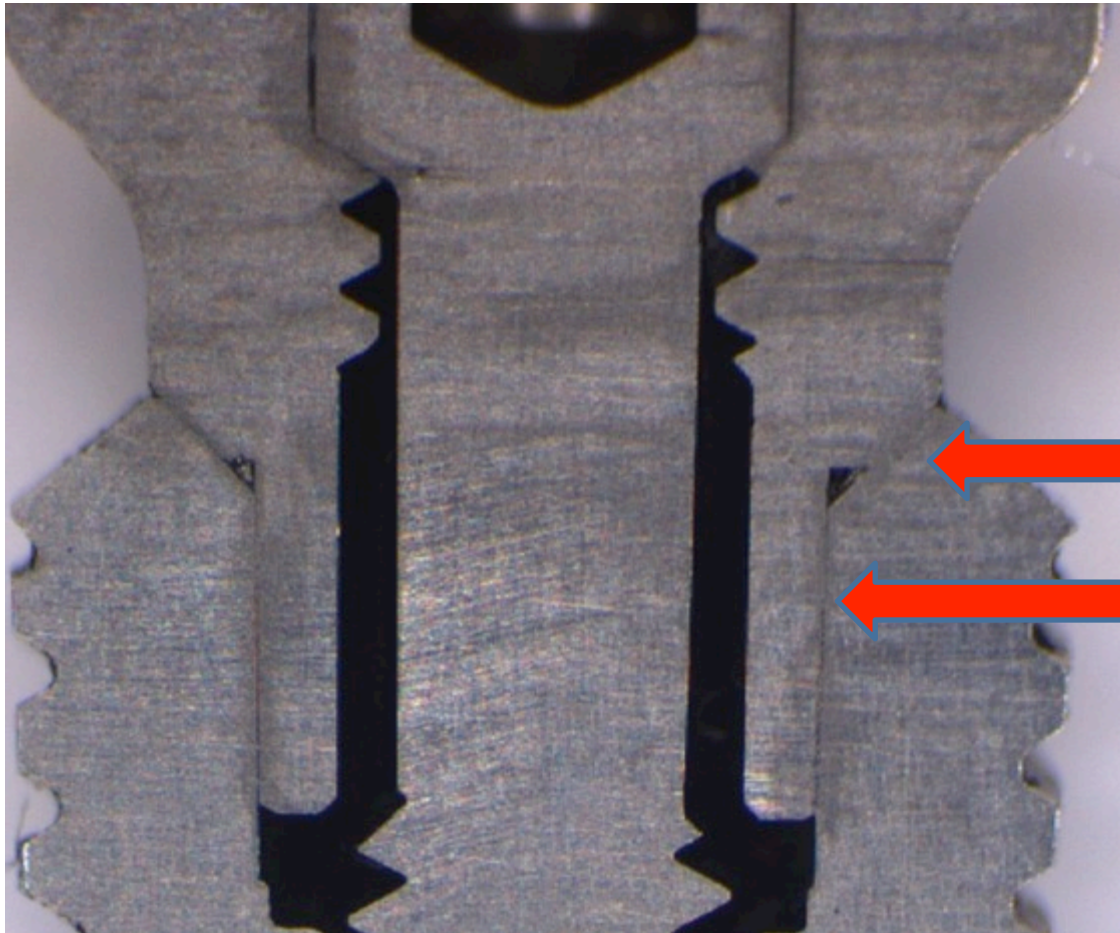
Current external hexagon with friction effect



TRI® Friction

Finest Precision Mechanics

The TRI-Friction prosthetic connection is established with an accuracy of 6-thousandth of a millimeter

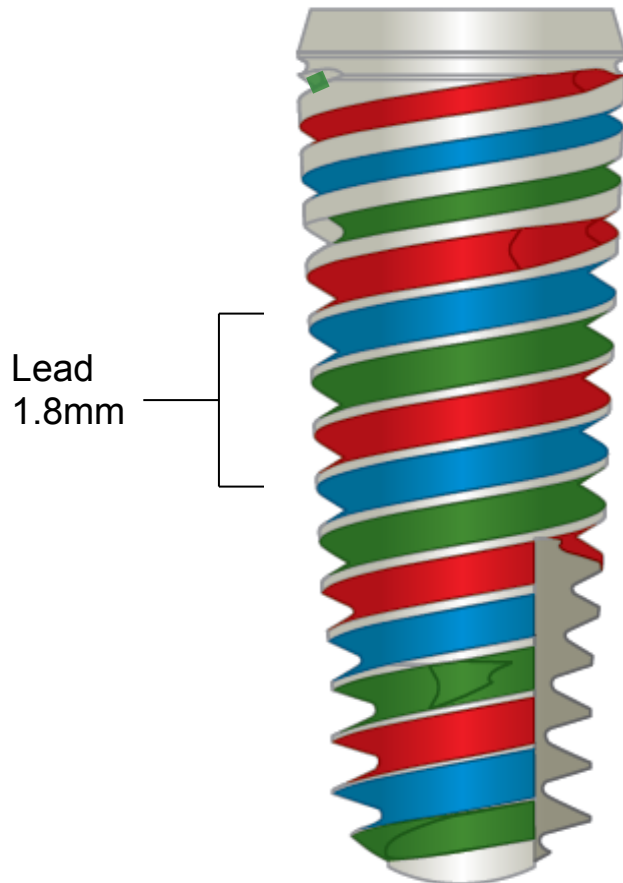


TRI FRICTION technologically is a unique prosthetic connection in TRI Performance Concept

The **tolerance of 0.006mm** help to ensure the smooth and highly precise prosthetic fit with long-term security

Thread Design

TRI-Vent[®] & TRI-Narrow[®] Triple thread



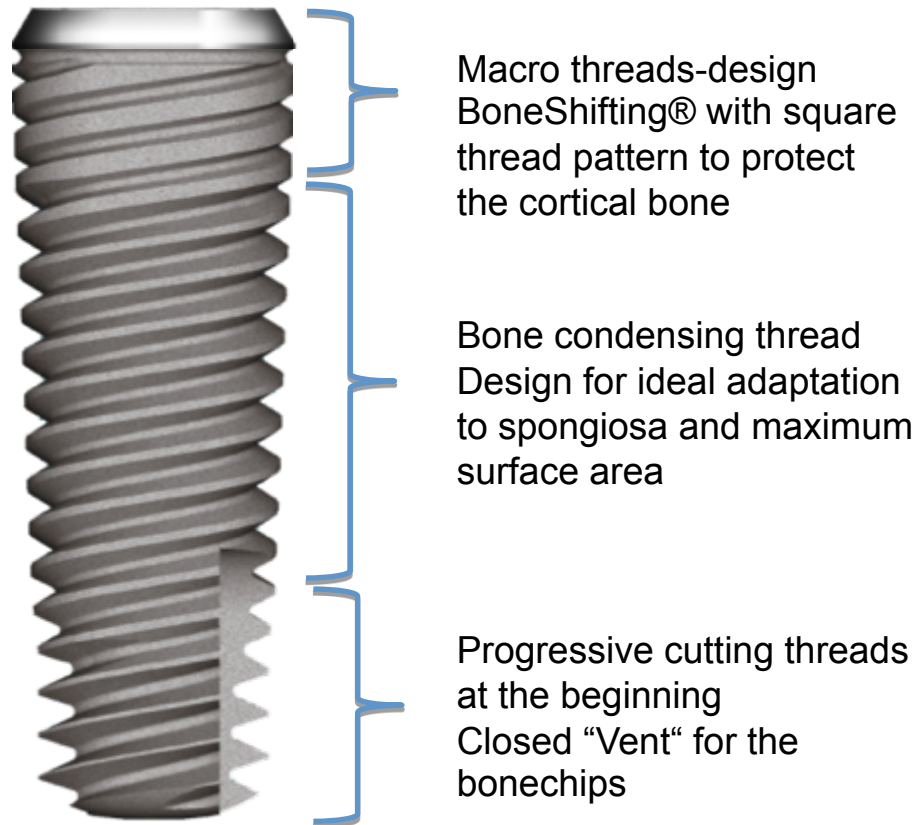
- Three independent threads start 120° apart and spiral around the implant body and ends on the the crestal vertical groove



- Triple threads provide a lead of 1,8mm per revolution as an average.

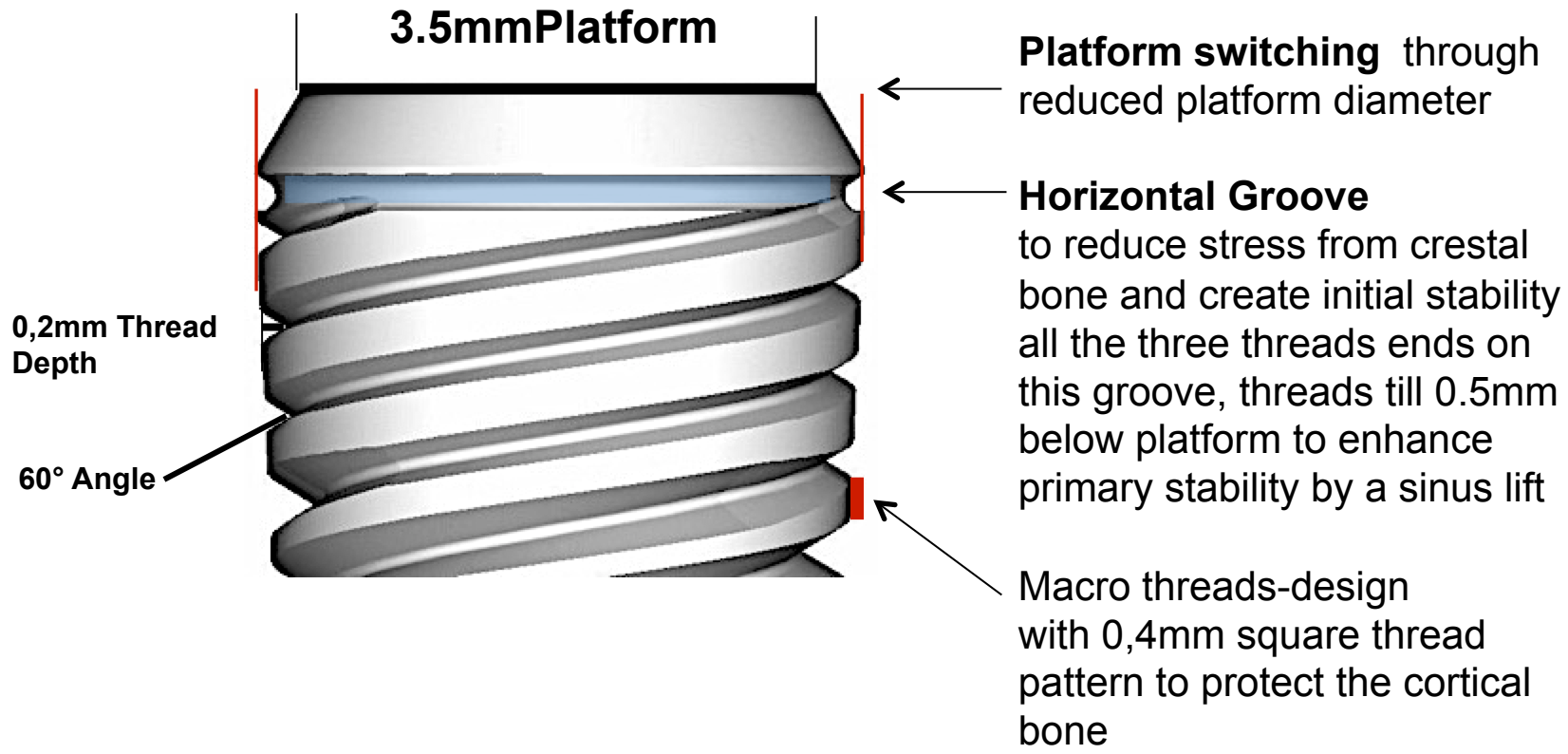
TRI[®] BoneAdapt

TRI[®]-Vent & TRI[®] - Narrow Different thread design – Continuous triple thread



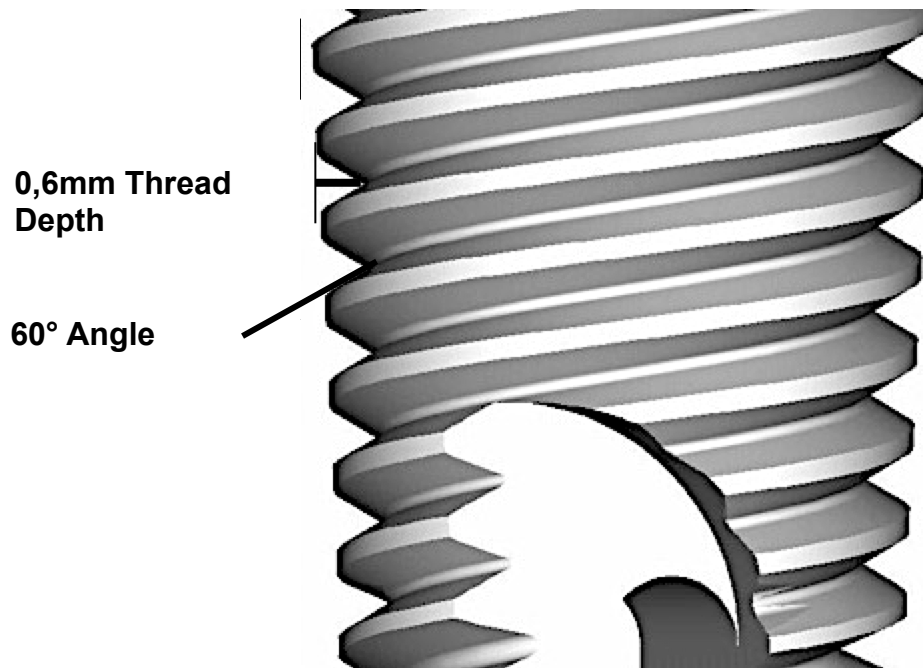
TRI[®] BoneAdapt

TRI[®]-Vent & TRI[®]-Narrow Coronal part



TRI[®] BoneAdapt

TRI[®]-Vent & TRI[®]-Narrow Central part - TRI-Bone Adapt

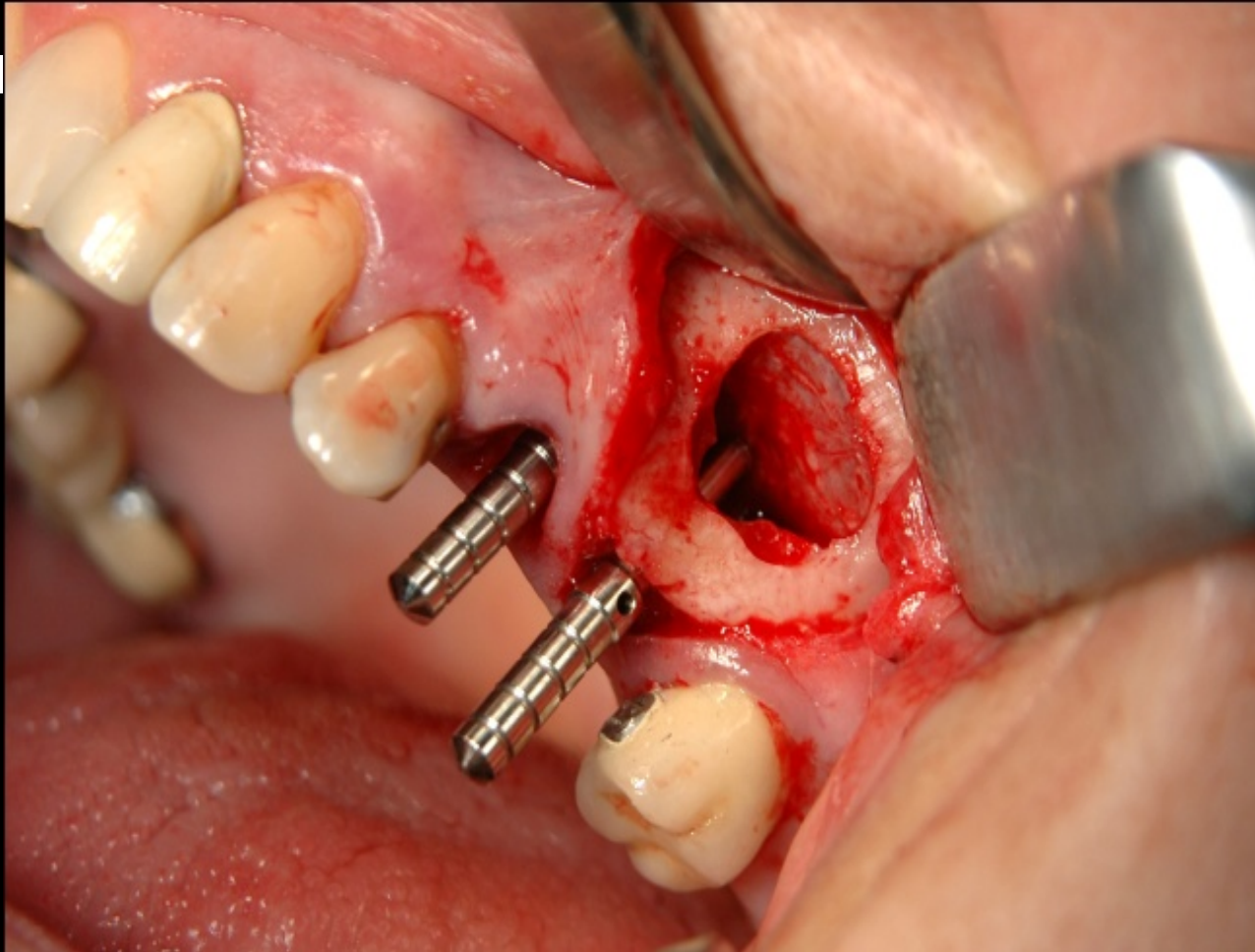


- Trapezoid Thread with reduced square thread pattern and increased thread depth for bone condensing
- Enhance bone surface area in the spongiosa for optimal bone to implant contact

Immediate Implantation and SinusLift in one stage

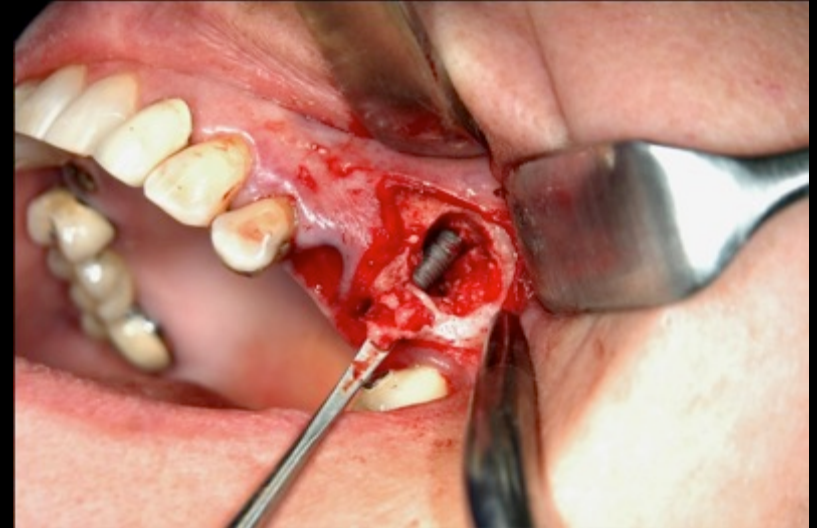


Case by Dr. Agnes Jozsa – Sopron/Hungary



Case by Dr. Agnes Jozsa – Sopron/Hungary

Immediate Implantation and SinusLift in one stage

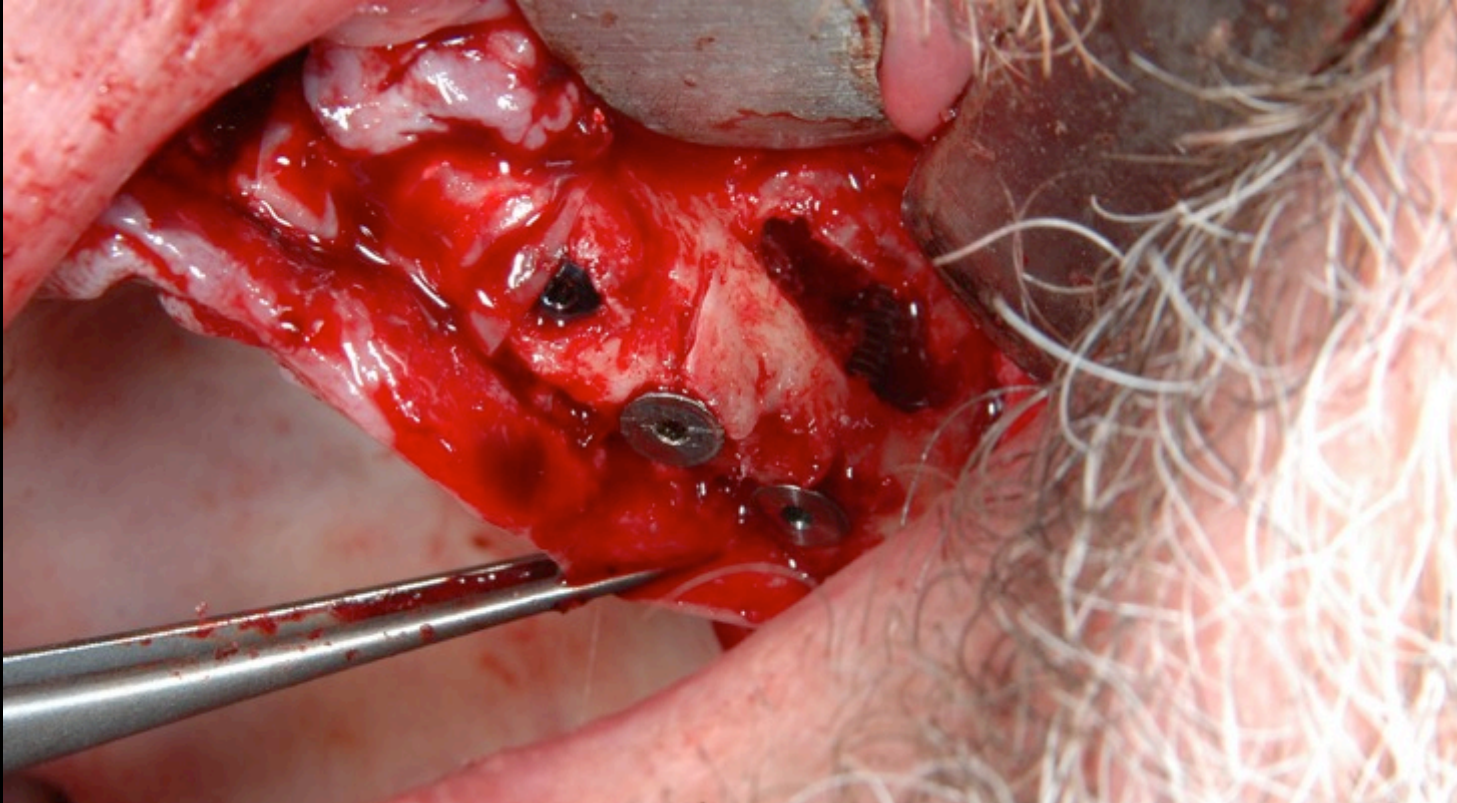


Case by Dr. Agnes Jozsa – Sopron/Hungary

Extraction and SinusLift in one stage

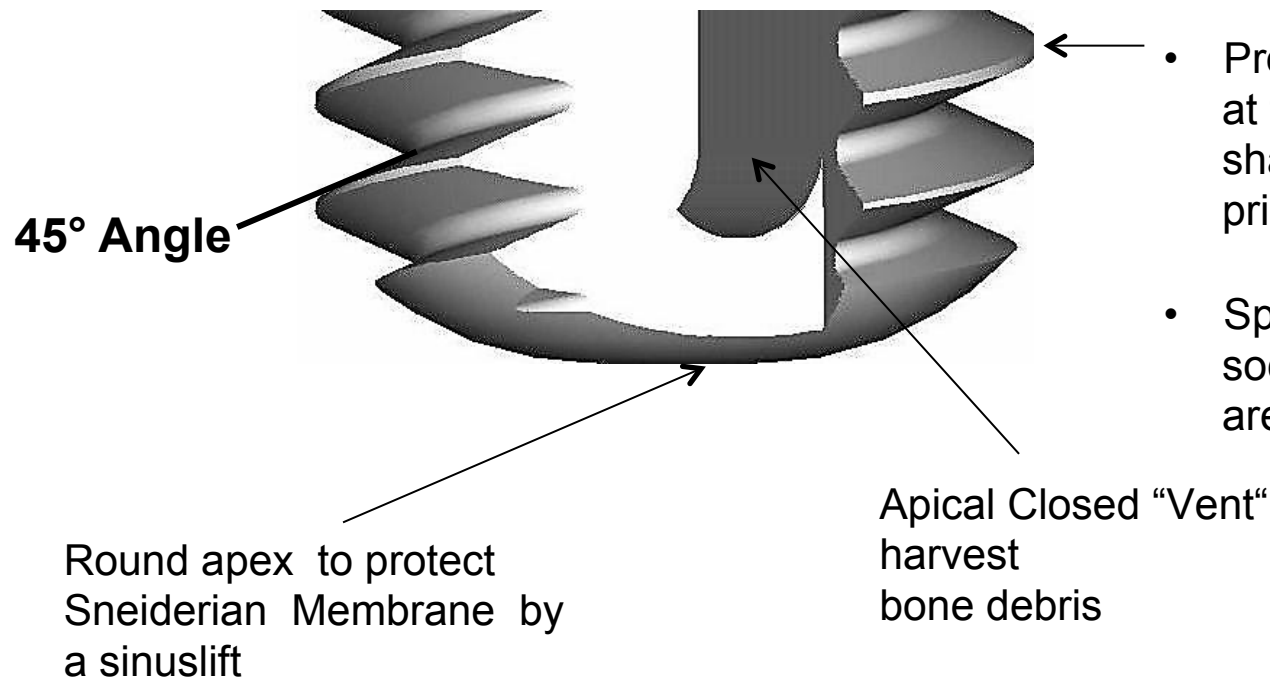


Immediate Implantation and SinusLift in one stage

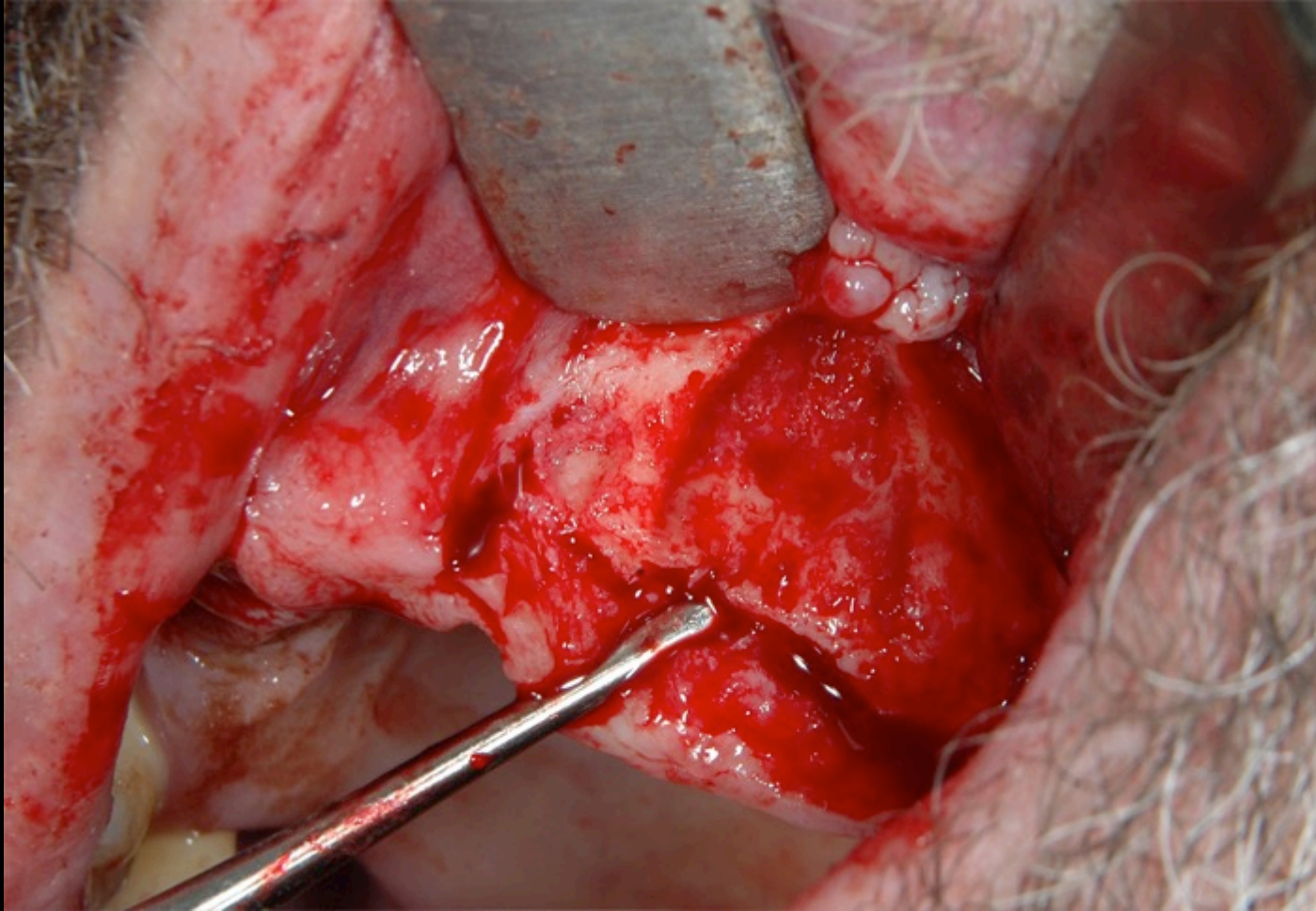


TRI[®]- Grip

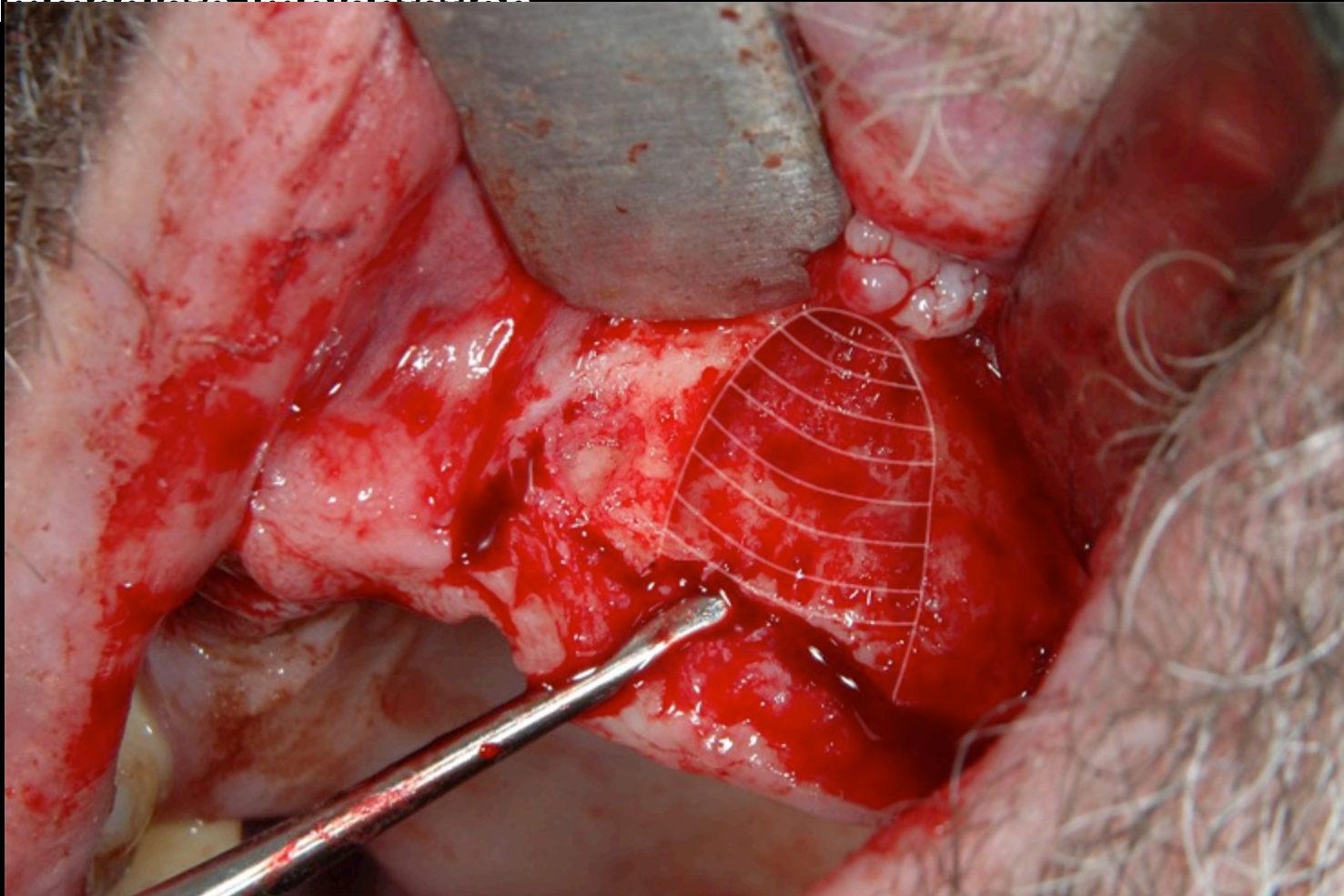
TRI[®]-Vent & TRI[®]-Narrow Apical part - TRI-Grip



Immediate Implantation

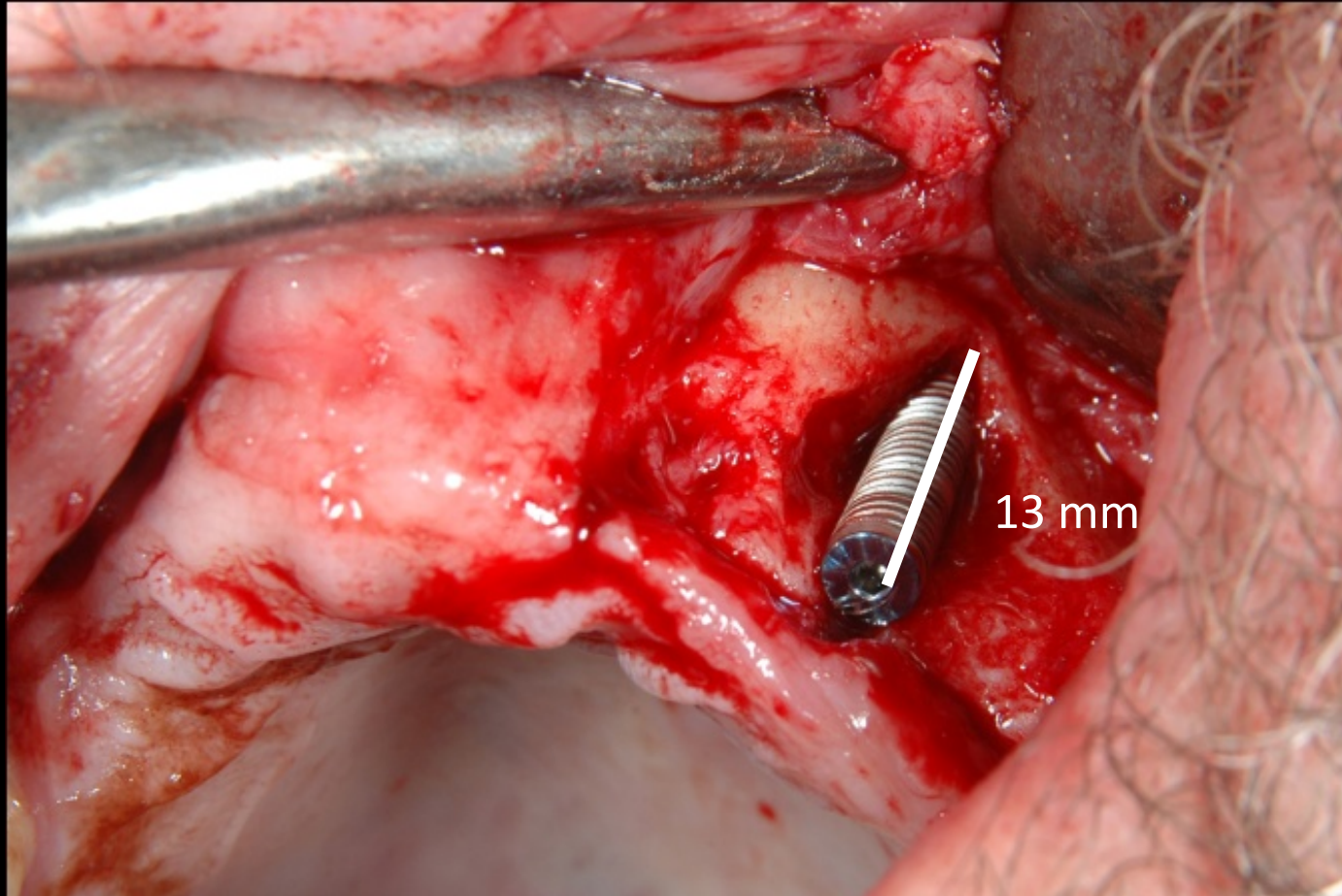


Immediate Implantation



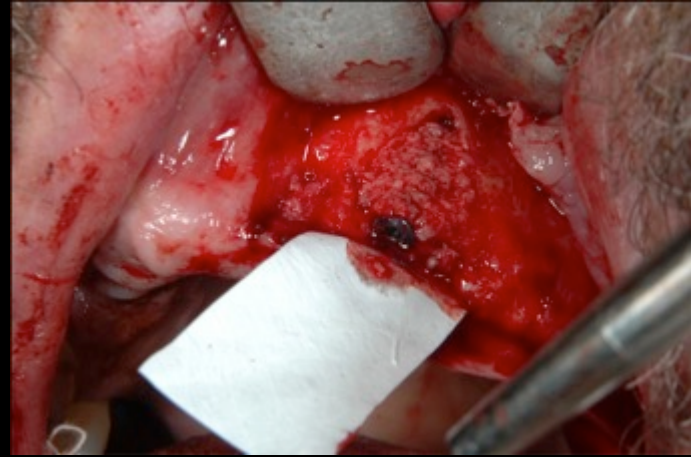
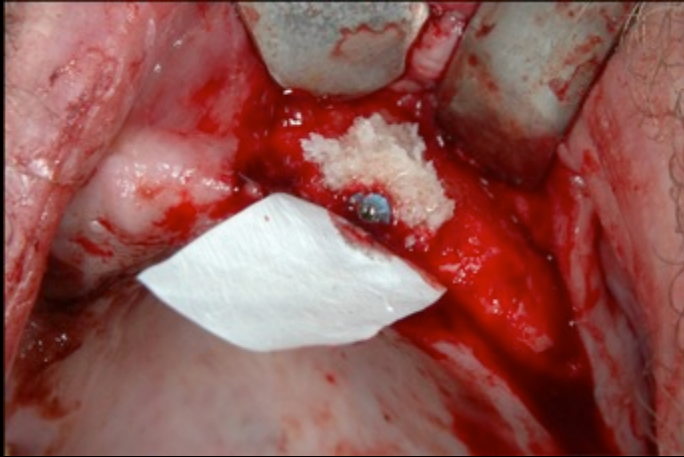
Case by Dr. Agnes Jozsa – Sopron/Hungary

Immediate Implantation

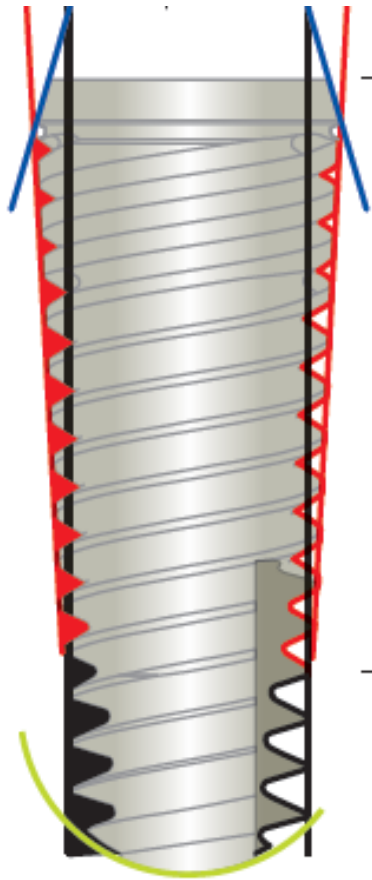


Case by Dr. Agnes Jozsa – Sopron/Hungary

Immediate Implantation



TRI[®] Performance Concept



1. TRI[®] - Friction

- Conical connection for secure abutment stability
- Internal Hex for guided abutment positioning
- Elimination of microgap for platform switching

2. TRI[®] - Bone Adapt

- Step-design for ideal bone adaptation
- Progressive cutting design
- Protected cortical design

3. TRI[®] - Grip

- Three times thread 45° with enhanced sharpness for direct primary stability.
- Round apex to protect the Schneiderian Membrane.

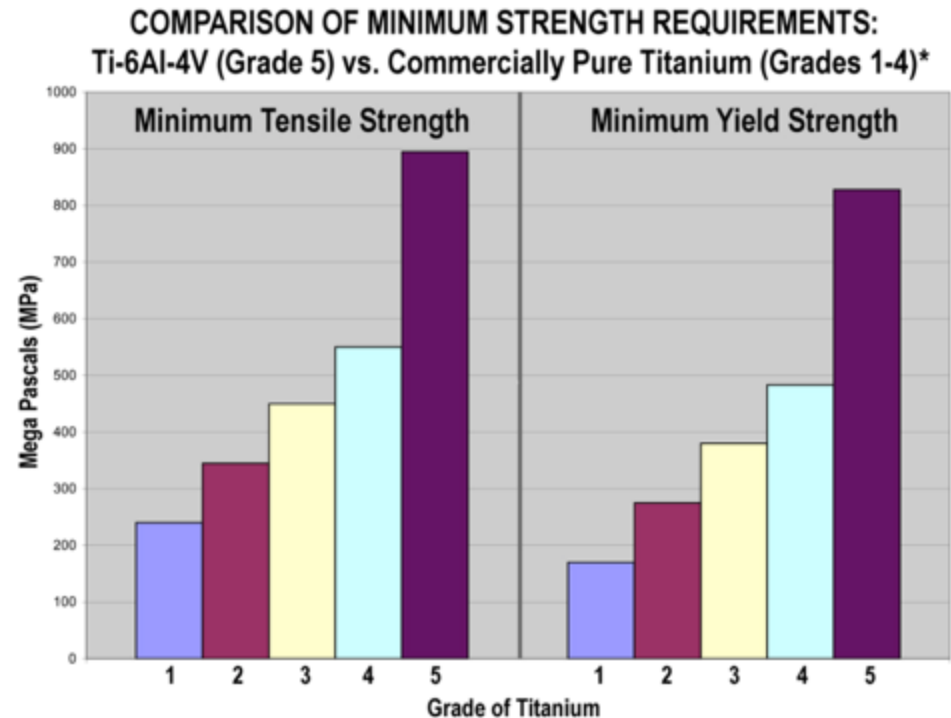
Material

Grade 5'' titanium alloy (Ti-6Al-4V)

- **90% Titanium –**
- **6% Aluminium –**
- **4% Vanadium**

- Compared to commercially pure titanium, Ti-6Al-4V offers significantly greater strength¹ [Fig. 1] and has demonstrated excellent long-term predictability.

- The titanium alloy has minimum yield strength of 120,000 psi (825 MPa) and a minimum tensile strength of 130,000 psi (895 MPa).

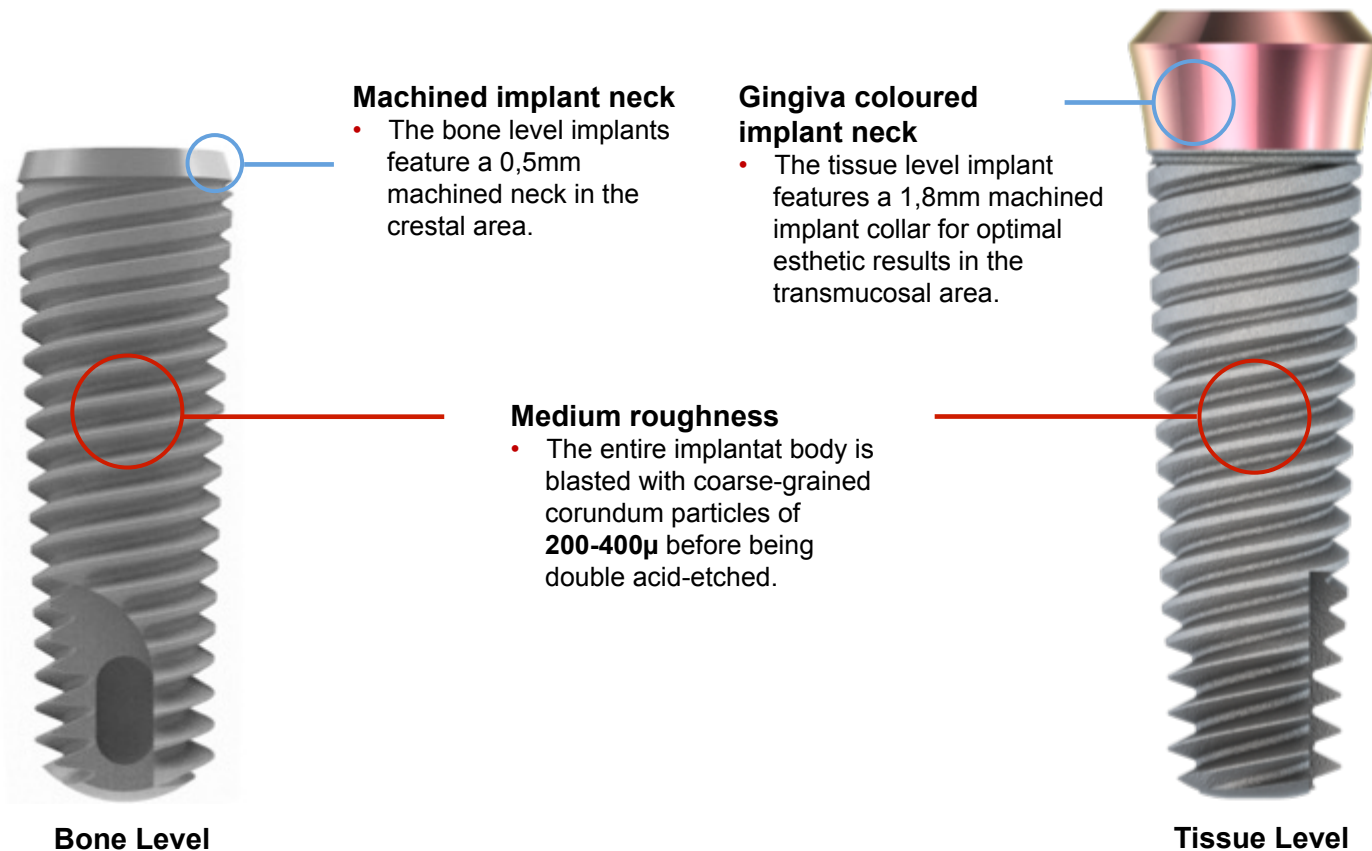


* Designation B348 – 94 Standard Specification for Titanium and Titanium Alloy Bars and Billets, Annual Book of ASTM Standards (*American Society for Testing and Materials*), Vol 02,04, 1994

TRI[®]- SBA Surface

For predictable osseointegration

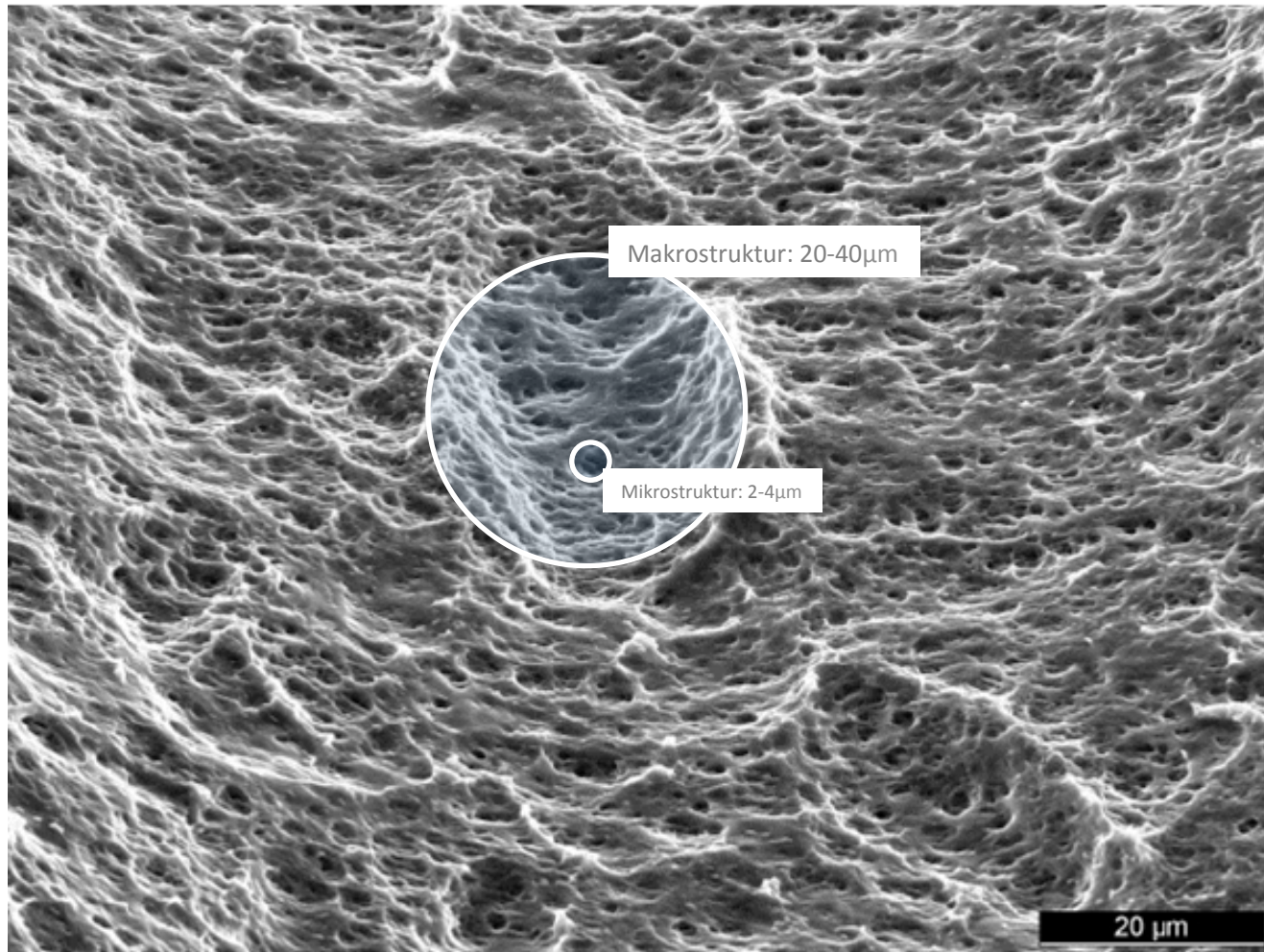
Die TRI[®] SBA (Sandblasted, large grit, acid-etched) surface is one of the industry gold standards for more than 20 years. It is created by blasting the implant surface under pressure with corundum particles. In the final step the surface is acid-etched twice in order to attain a medium roughness.



TRI[®]- SBA Surface

For predictable osseointegration

Surface technology: TRI[®]-SBA “Gold Standard” in the industry

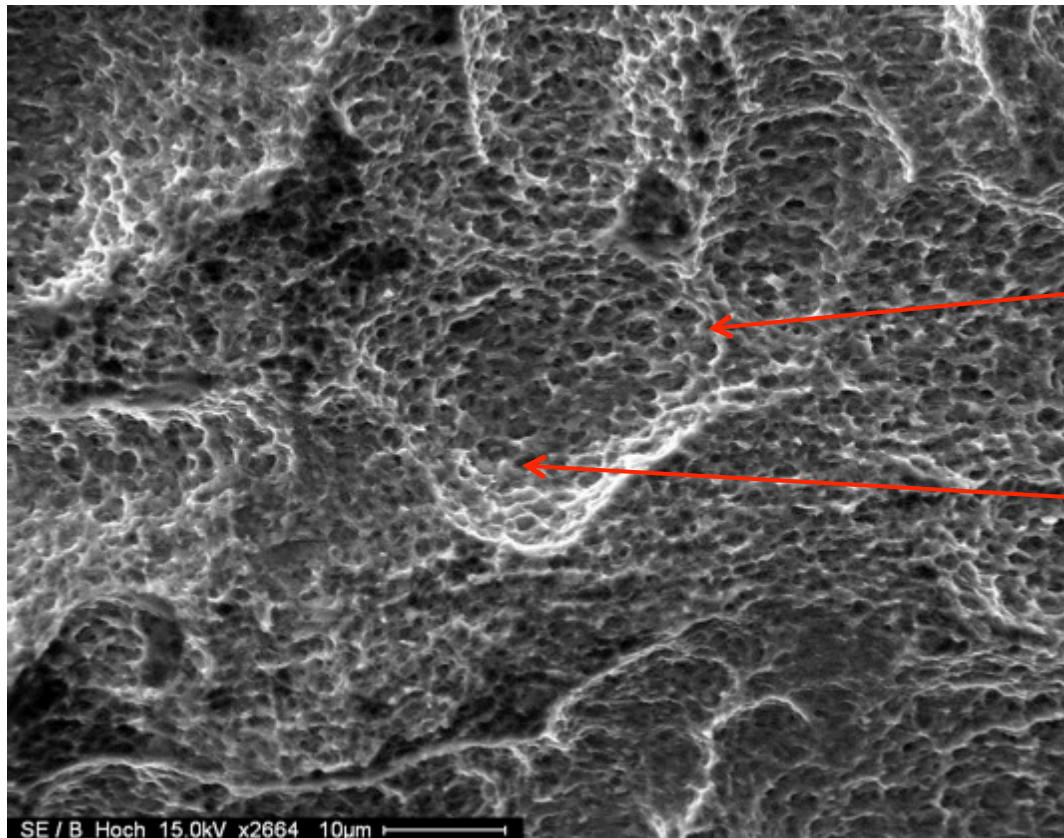


TRI[®]- SBA Surface

For predictable osseointegration

Surface texture

A makrostructure of 20-40 μ and a microstructure of 20-40 μ as an ideal basis for excellent osseointegration. This structure has been proven by numerous clinical studies for this surface type.



In Cooperation with:



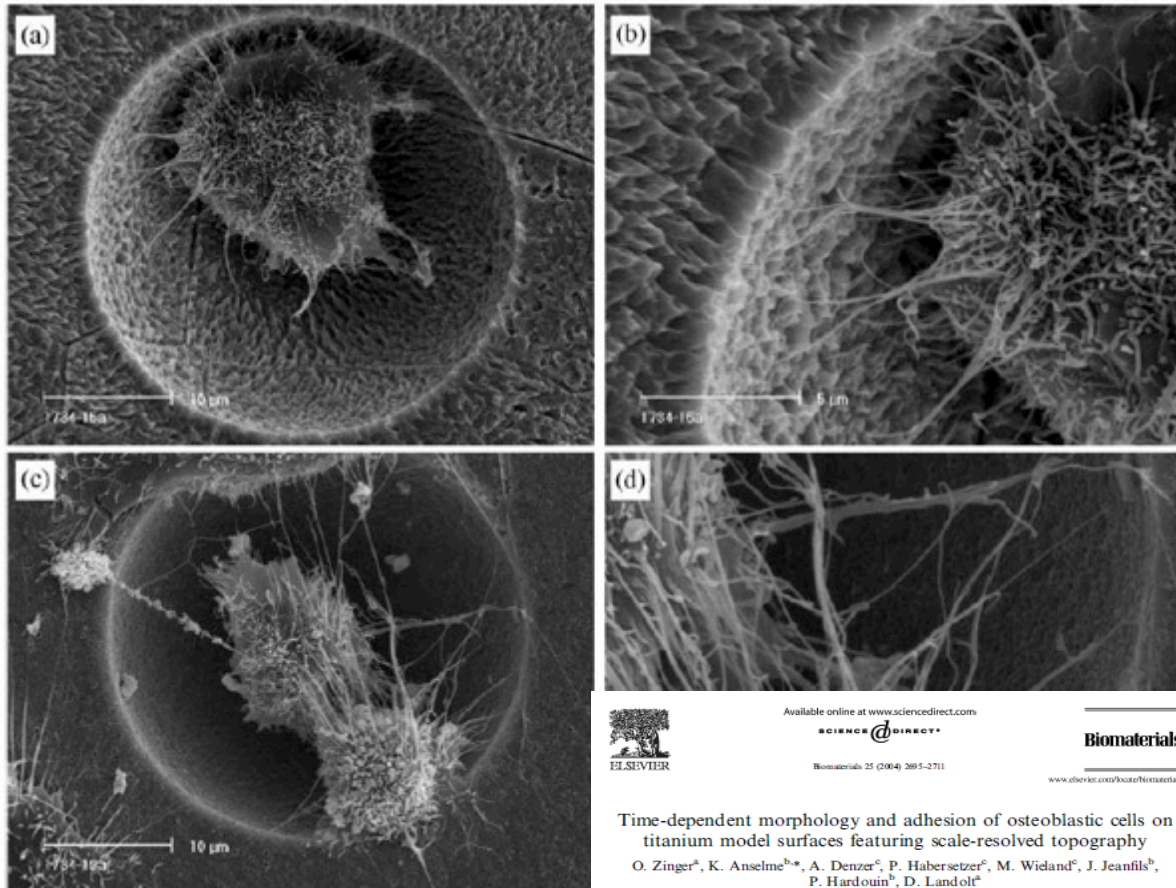
Deep craters by blasting with coarse corundum (Al₂O₃), grain size 200-400 μ . This crater shows an average size of 60-80 μ (distance peak-to-peak).

Fine roughness within the crater by dual acid etching. Characterized fine crater with a mean size of 2-5 μ (peak-to-peak distance).

TRI[®]- SBA Surface

For predictable osseointegration

- Macrostructure of the titanium oxide surface of 20-40 μ m offers an ideal base for attachment of the osteoblasts*



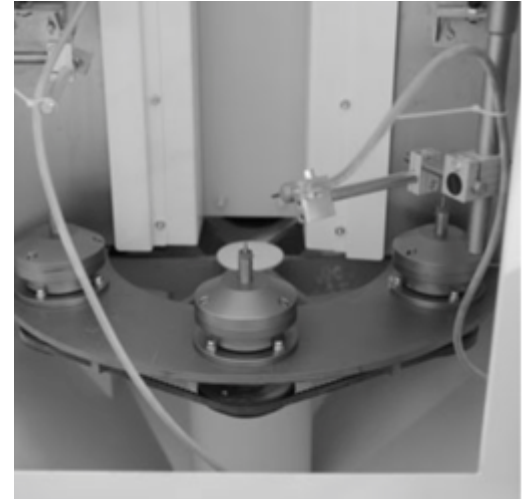
*Active osteoblasts present themselves as large (20-30 microns by measuring), clumsy, basophil cells with usually eccentric round nucleus (Webb and Tricker 2000).

TRI[®]- SBA Surface

For predictable osseointegration

Blasting the implants with corundum(Al_2O_3)

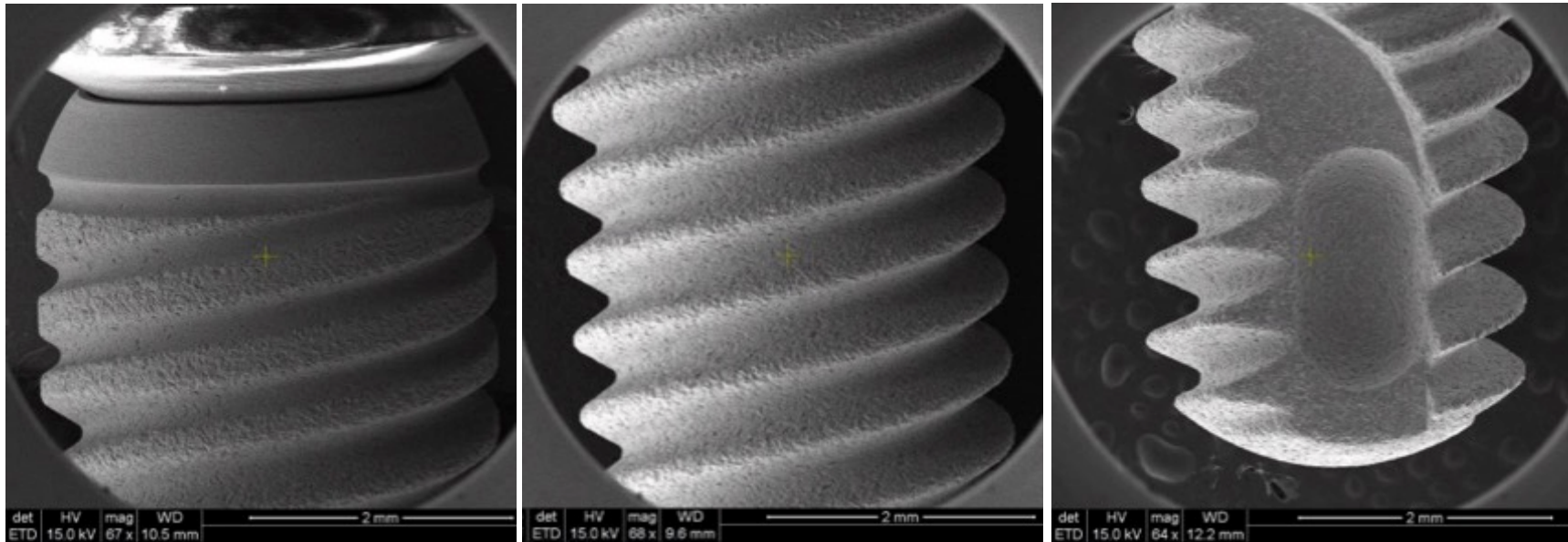
- Each implant is individually blasted on a separate holder.



TRI®- SBA Surface

For predictable osseointegration

Thread of a TRI®-Vent implant - after the surface treatment*

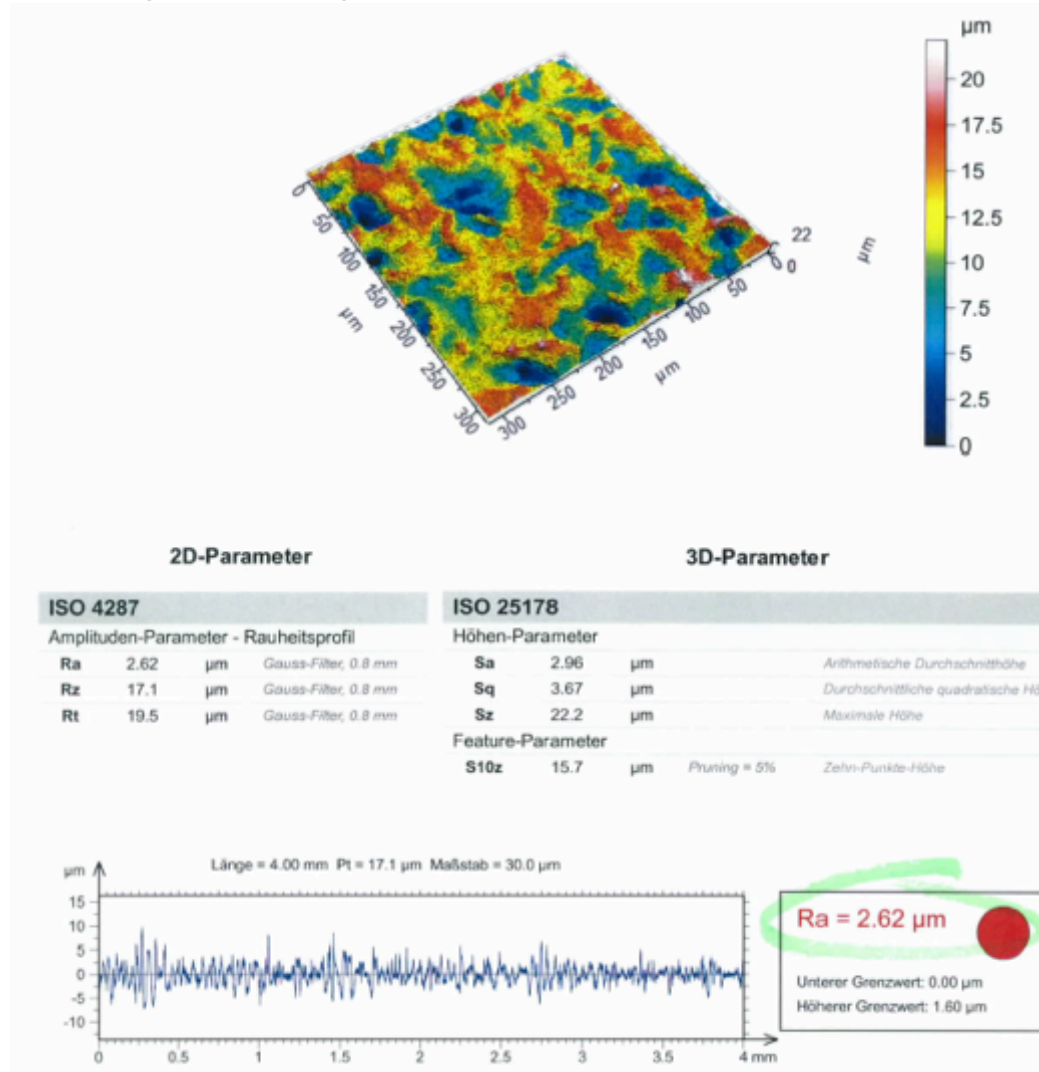


*Source: 

TRI[®]- SBA Surface

For predictable osseointegration

- Roughness & high parameter of the TRI[®] - SBA surface*



*Source: Diener AG - Switzerland

Best data for longevity exist for tissue level implants with SLA (=SBA) surface.

The probably most impressive study in the implant industry have been conducted by Prof. Buser with SLA tissue level implants.

Conclusion: Success rate of 97% after 10 years with 511 implants inserted into 303 patients.

Besides top in-class treatment and support of the patients, also the tissue level implant with SLA surface has a major impact on these fantastic results.

[Clin Implant Dent Relat Res. 2012 Dec;14\(6\):839-51.](#)

10-year survival and success rates of 511 titanium implants with a sandblasted and acid-etched surface: a retrospective study in 303 partially edentulous patients.

[Buser D¹, Janner SF, Wittneben JG, Brägger U, Ramseier CA, Salmi GE.](#)

© Author information

Abstract

PURPOSE: This retrospective study assessed the 10-year outcomes of titanium implants with a sandblasted and acid-etched (SLA) surface in a large cohort of partially edentulous patients.

MATERIALS AND METHODS: Records of patients treated with SLA implants between May 1997 and January 2001 were screened. Eligible patients were contacted and invited to undergo a clinical and radiologic examination. Each implant was classified according to strict success criteria.

RESULTS: Three hundred three patients with 511 SLA implants were available for the examination. The mean age of the patients at implant surgery was 48 years. Over the 10-year period, no implant fracture was noted, whereas six implants (1.2%) were lost. Two implants (0.4%) showed signs of suppuration at the 10-year examination, whereas seven implants had a history of peri-implantitis (1.4%) during the 10-year period, but presented with healthy peri-implant soft tissues at examination. The remaining 496 implants fulfilled the success criteria. The mean Plaque Index was 0.65 (± 0.64), the mean Sulcus Bleeding Index 1.32 (± 0.57), the mean Probing Depth 3.27 mm (± 1.06), and the mean distance from the implant shoulder to the mucosal margin value -0.42 mm (± 1.27). The radiologic mean distance from the implant shoulder to the first bone-to-implant contact was 3.32 mm (± 0.73).

CONCLUSION: The present retrospective analysis resulted in a 10-year implant survival rate of 98.8% and a success rate of 97.0%. In addition, the prevalence of peri-implantitis in this large cohort of orally healthy patients was low with 1.8% during the 10-year period.

PMID: 22897683 [PubMed - in process]



Patient after 10 years, Prof. Buser

TRI[®]- SBA Surface

For predictable osseointegration

- BDIZ Study 2014-2015*



European Association of
Dental Implantologists



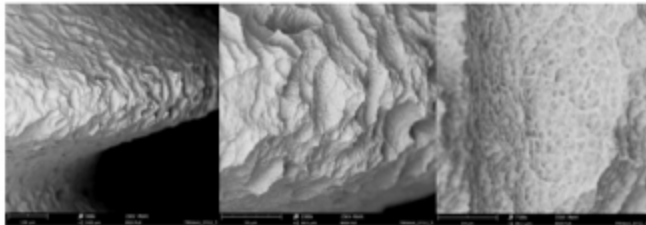
TRI meets all quality criteria in the new edition of the
BDZ EDI implant study 2014/2015.

Preliminary results with the permission of BDIZ

The final report of the implant study BDIZ EDI 2014/2015 (www.bdizedi.org) examined, the
investigated TRI-Vent implant meets the following criteria:

- ✓ free from organic impurities.
- ✓ no significant residues from the manufacturing process.
- ✓ precision-machined outer geometry.

Dr. med. Dent. Dirk U. Dudgeck
Director of studies, University Hospital of Cologne



Source: (BDIZ EDI) Implant-Study 2014/2015 Quantitative and qualitative element –analysis of implant-surfaces
by SEM and EDX PRELIMINARY STUDY REPORT



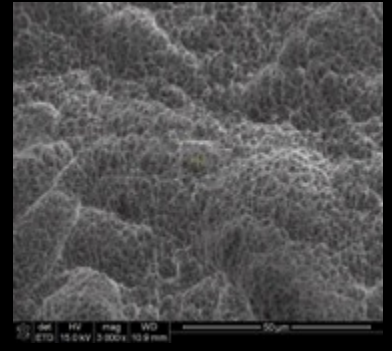
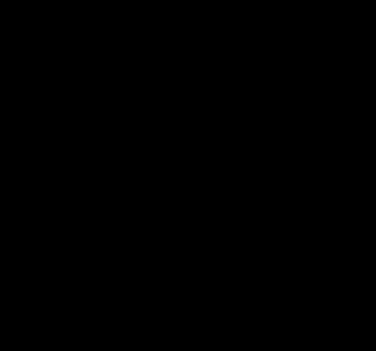
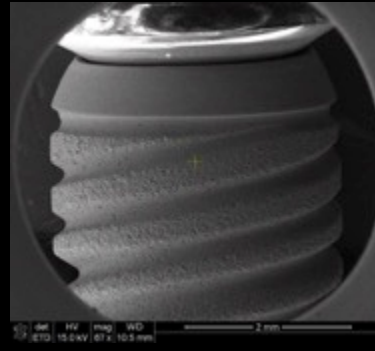
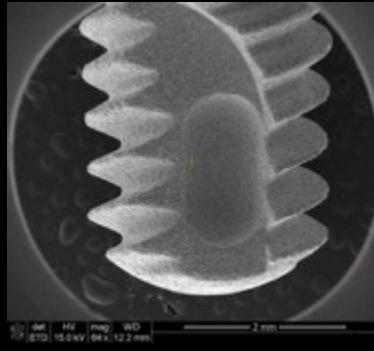
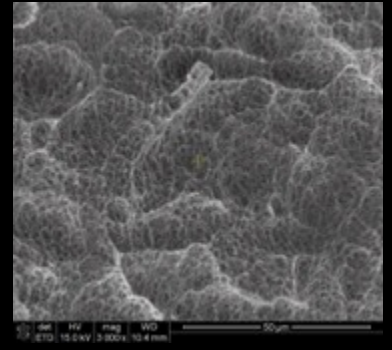
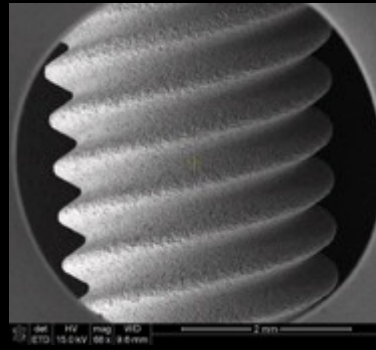
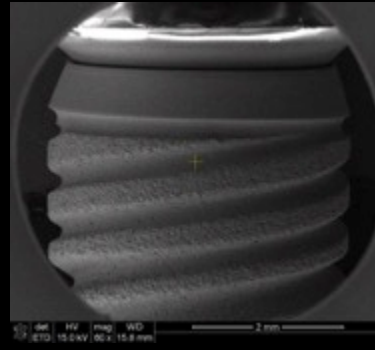
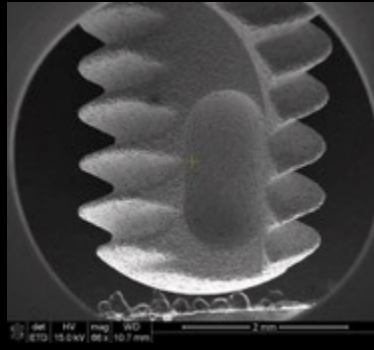
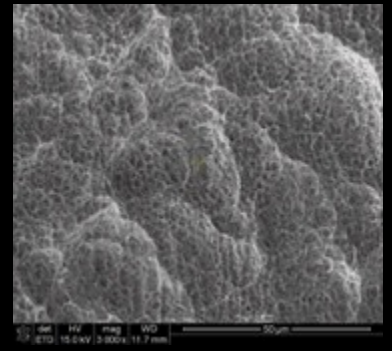
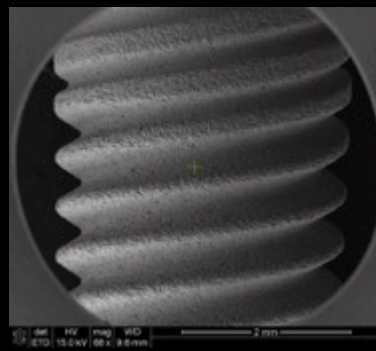
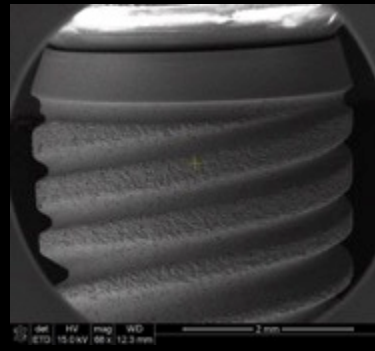
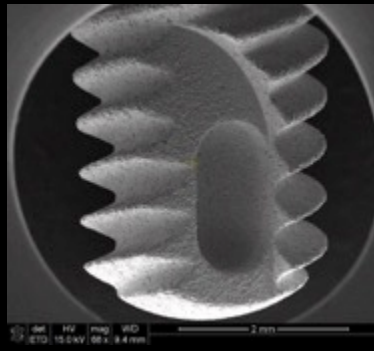
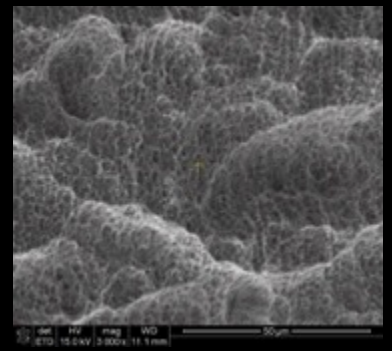
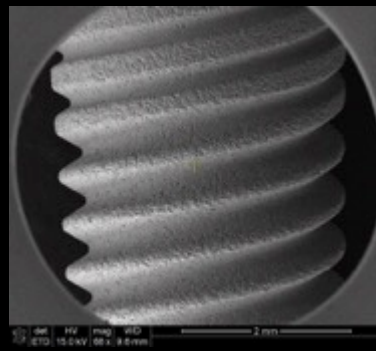
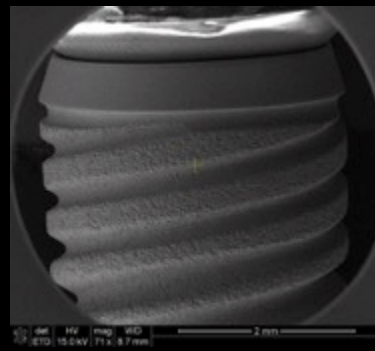
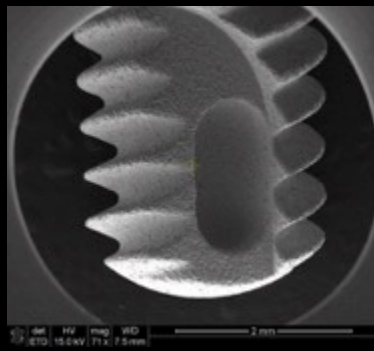
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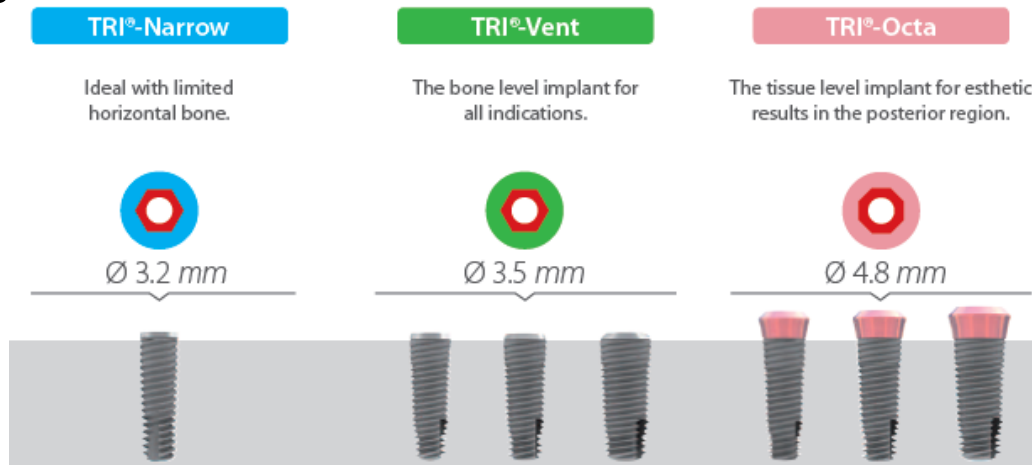
* Source: Quantitative and qualitative element-analysis of implant surfaces by SEM and EDX



Indications

Rule of thumb:

Always use largest and longest possible implant dimension.



Narrow Diameter Implants

Indications:

- Limited mesio-distal space between adjacent teeth.
- Limited vestibulo-oral bone width.
- Avoid bone grafting requirements.

Contra-indications:

- Canine and molar single tooth restoration (TRI Narrow).

Caution:

- Narrow diameter implants offer less stability than wide diameter implants.
- Combination of multiple implants enhances safety.
- Combination of short implants with other implants enhances safety and longevity.

Wide Diameter Implants

Indications:

- All indications when sufficient bone available.
- Canine and molar single tooth restorations.
- 4.7 implants: extraction sockets.

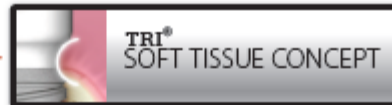
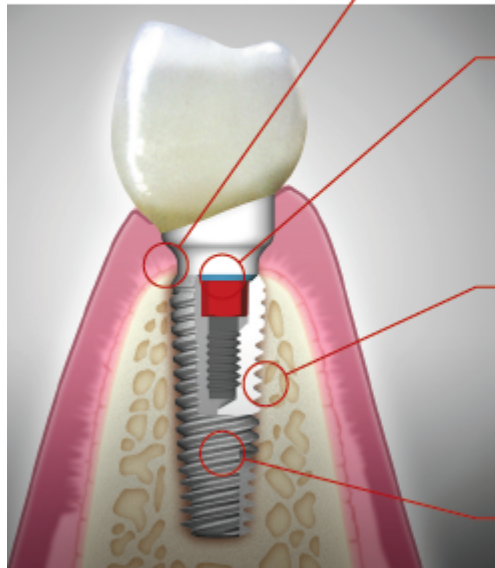
Caution:

- Combination of short (6,5mm) implants with other implants enhances safety and longevity.

TRI[®] Implants

Soft Tissue Concept

The TRI[®] Dental Implant System integrates four essential technology features. Each feature aims to provide maximum performance and lasting quality for the treatment of the dentist. We combine these elements in the TRI[®] Performance Concept.



- Integrative platform-switch concept to preserve the crestal bone
- Consistent soft tissue management within all prosthetic components
- Homogeneous transition between implant and abutment to avoid «dirt pockets»



- Secure abutment stability through a dense 1° tapered press fit
- Elimination of micro-movements between implant and abutment
- Internal hex for guided abutment positioning



- High primary stability through a tapered implant body with self-cutting thread
- Bio-mechanical bone-adaption with maximum bone-to-implant contact
- Optimized conservation of the cortical bone through macro-thread design



SBA: Sand-Blasted, large-pit, double Acid-etched

- Fast and reliable osseointegration
- Industry GOLD STANDARD for secure osseointegration for more than 20 years

TRI[®] Implants

Soft Tissue Concept

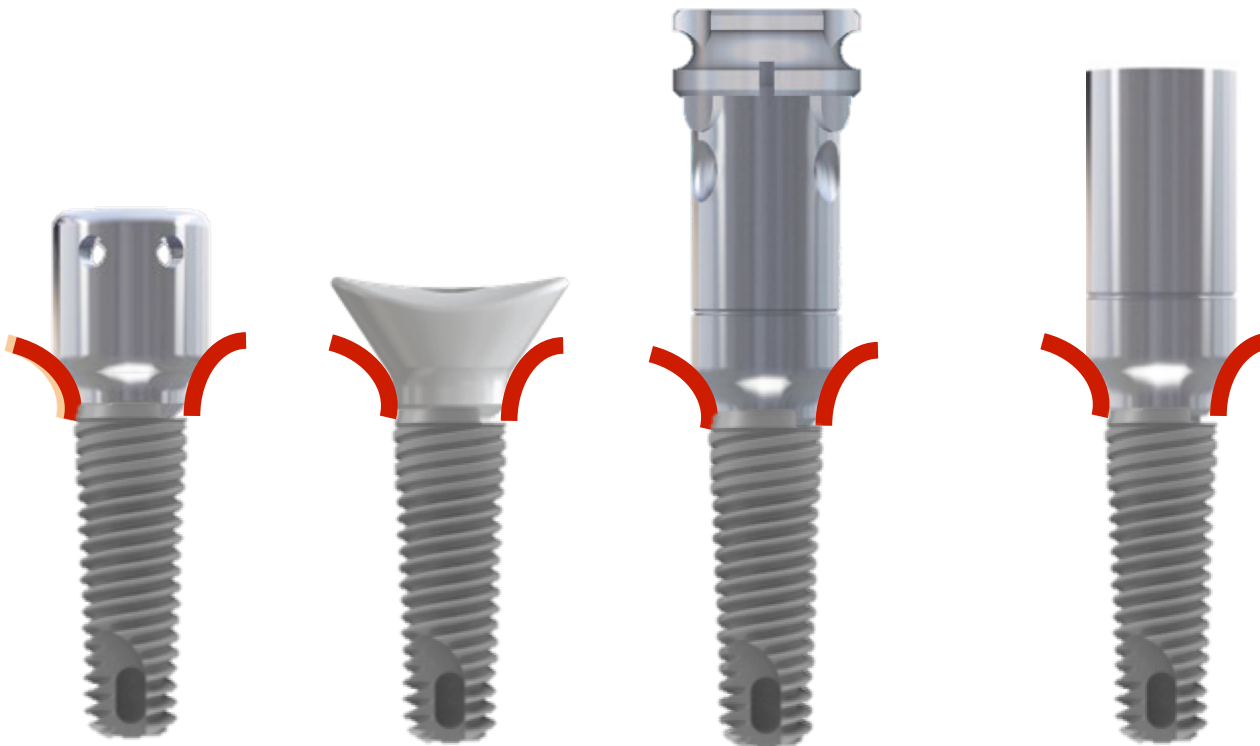
Diameter
of the
Healing Collar

=

Diameter
of the
Impression Post

=

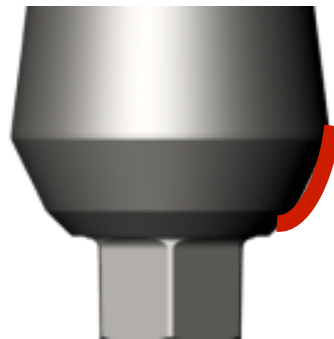
Diameter
of the
Abutment



The Soft Tissue concept is characterized by the uniform contouring and diameter of all components.

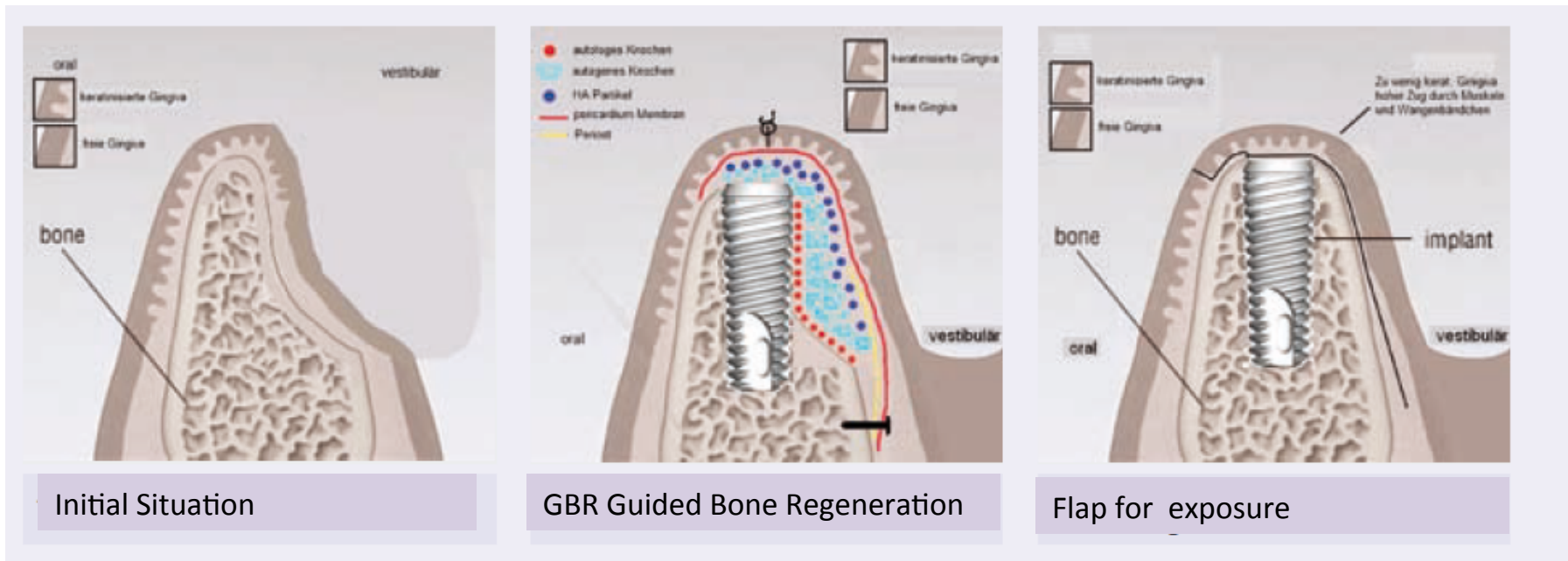
TRI[®] Implants

Soft Tissue Concept



TRI[®] Implants

Soft Tissue Concept

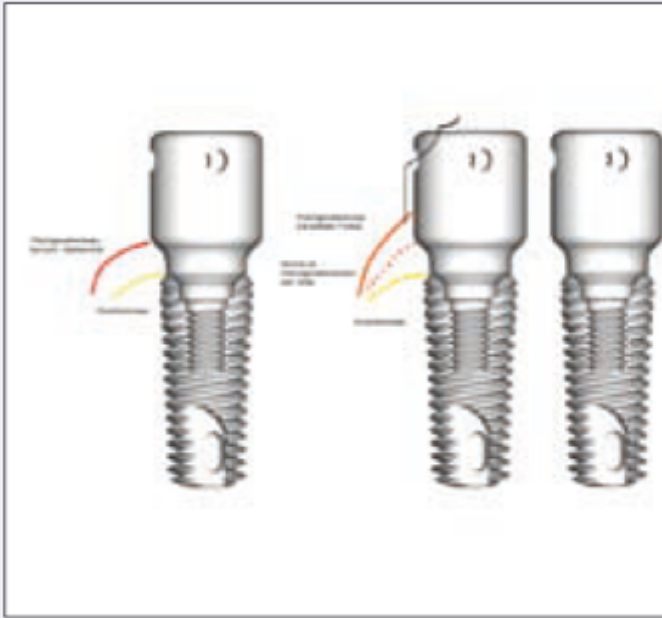


New implant system, modern biomaterial and innovative techniques for the prosthetic rehabilitation of a sophisticated case.

by Dr. Nicos Papagiannoulis

TRI® Implants

Soft Tissue Concept



Usage of a Aesthetic Healing Collar

New implant system, modern biomaterial and innovative techniques for the prosthetic rehabilitation of a sophisticated case.

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TRI® Implants

Soft Tissue Concept



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Soft Tissue Concept

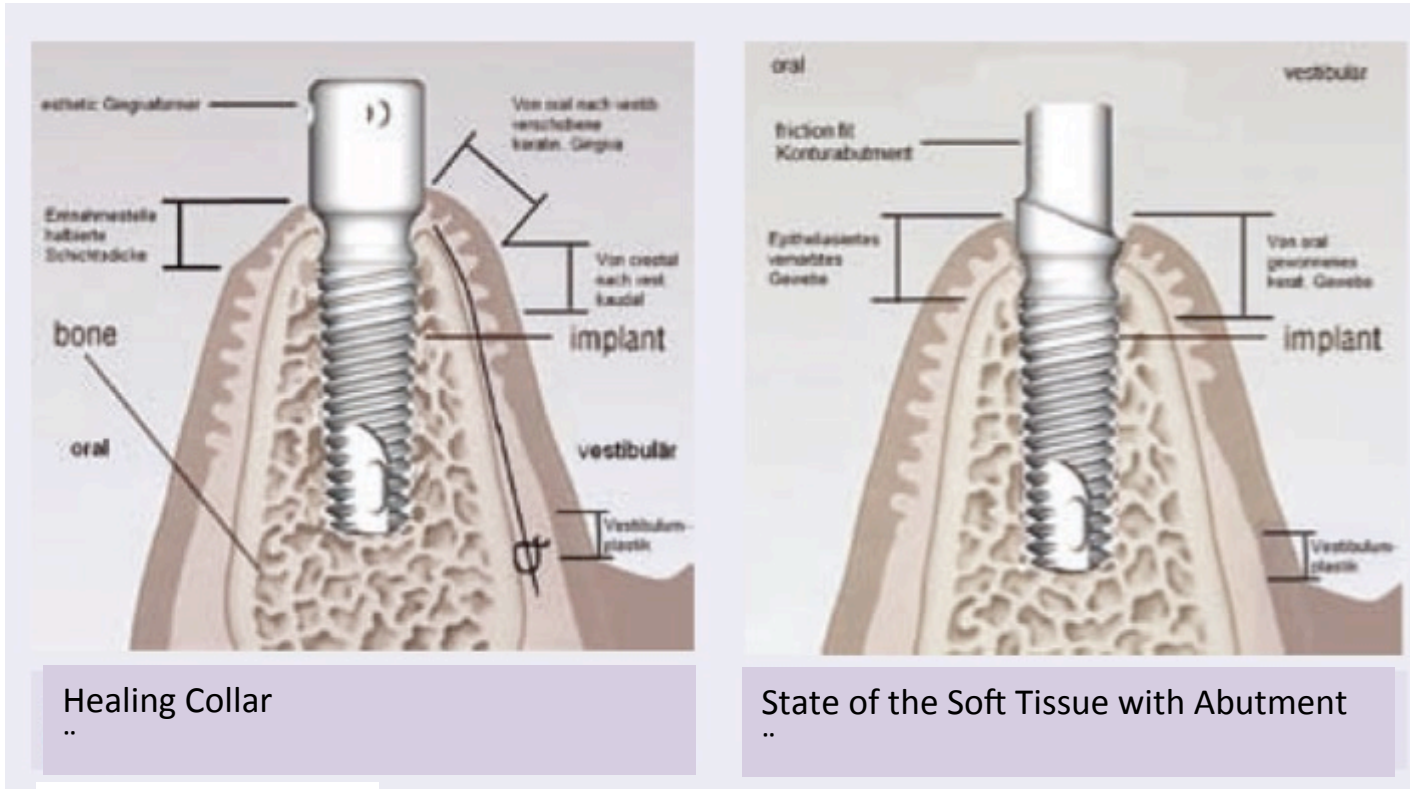


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Soft Tissue Concept



Healing Collar

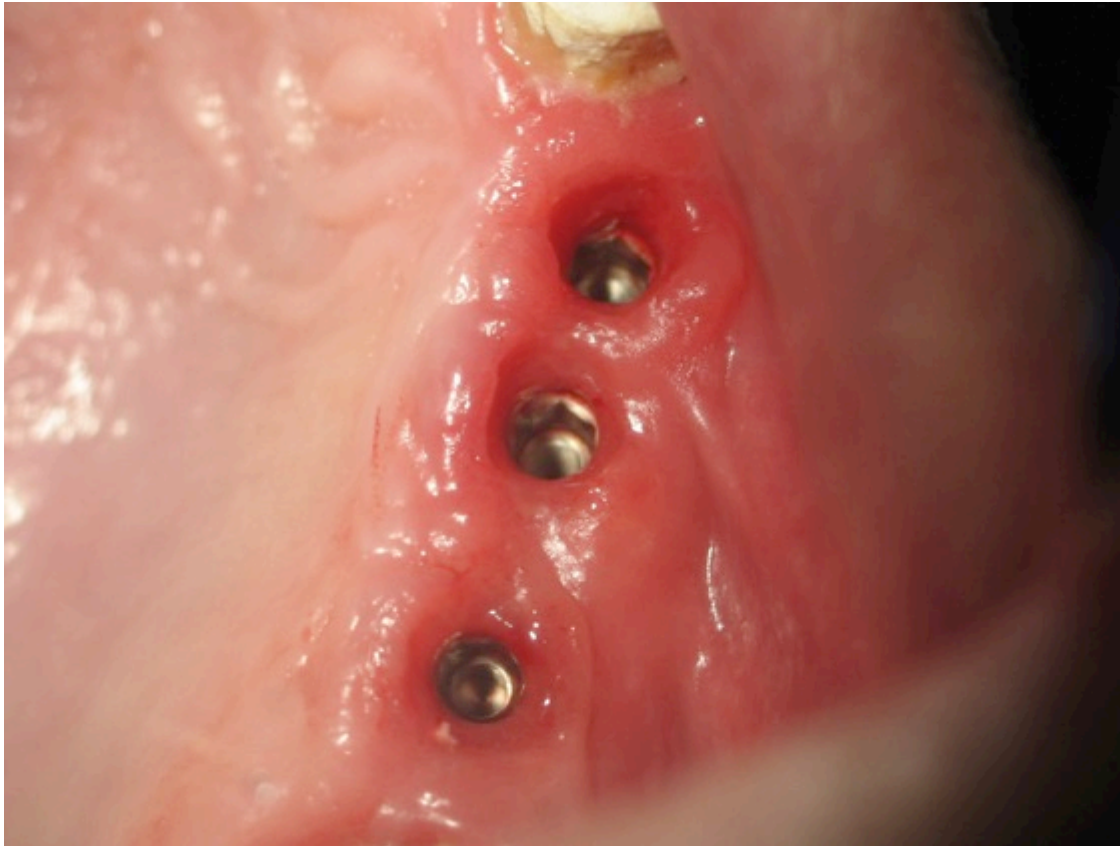
State of the Soft Tissue with Abutment

New implant system, modern biomaterial and innovative techniques for the prosthetic rehabilitation of a sophisticated case.

by Dr. Nicos Papagiannoulis

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Soft Tissue Concept



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Soft Tissue Concept

Diameter (Emergence Profile)



Case by Dr. Marius Steigmann

TRI[®] Implants

Soft Tissue Concept



Case by Dr. Nicos Papagiannoulis

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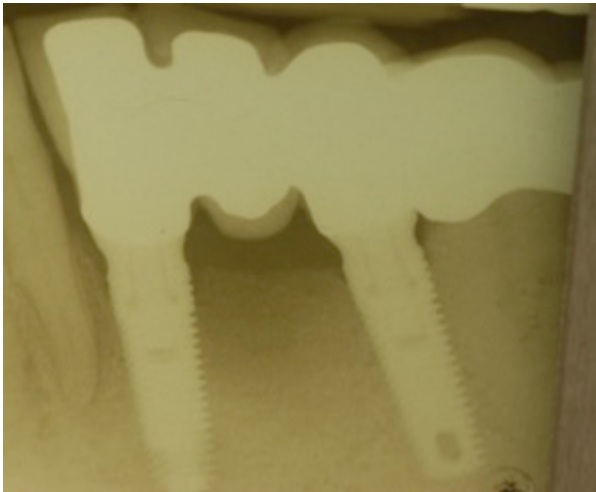
Soft Tissue Concept



Case by Dr. Nicos Papagiannoulis

TRI[®] Implants

Soft Tissue Concept

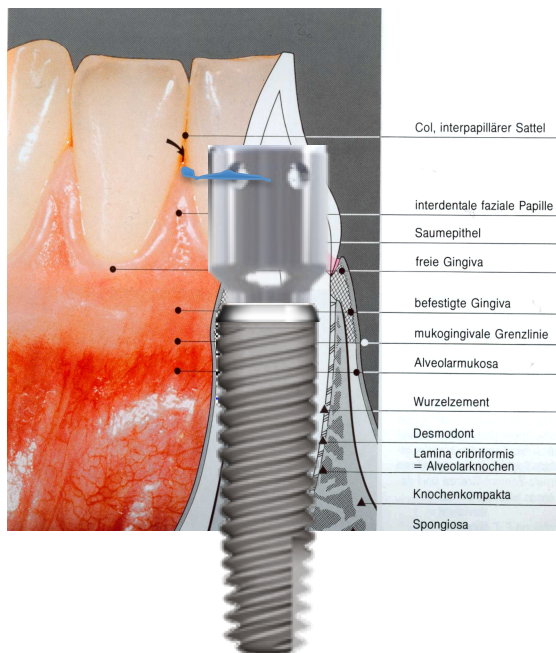


Case by Dr. Nicos Papagiannoulis

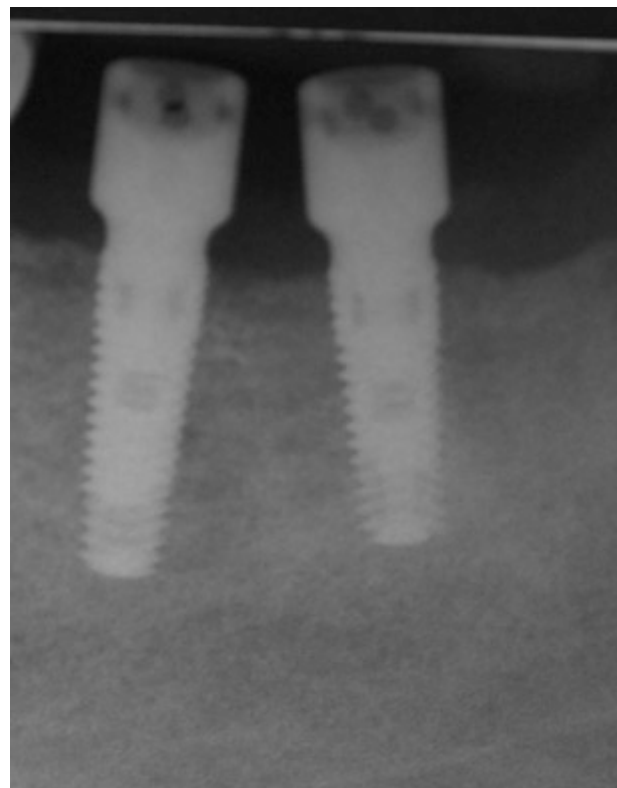
TRI[®] Implants

Soft Tissue Concept – Unique Products

Suture Healing Collar – TRI[®]-Vent & TRI[®]-Narrow



Case by Dr. Marius Steigmann

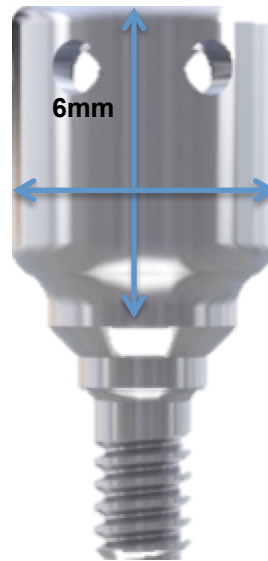


TRI[®] Implants

Soft Tissue Concept – Unique Products

Suture Healing Collar – TRI[®]-Vent & TRI[®]-Narrow

The Healing Collar - Esthetic has perforations in the upper range. It gives the surgeon the capability to thread in his/her suture material, to fix a vascular flap.



Diameter (Emergence Profil)

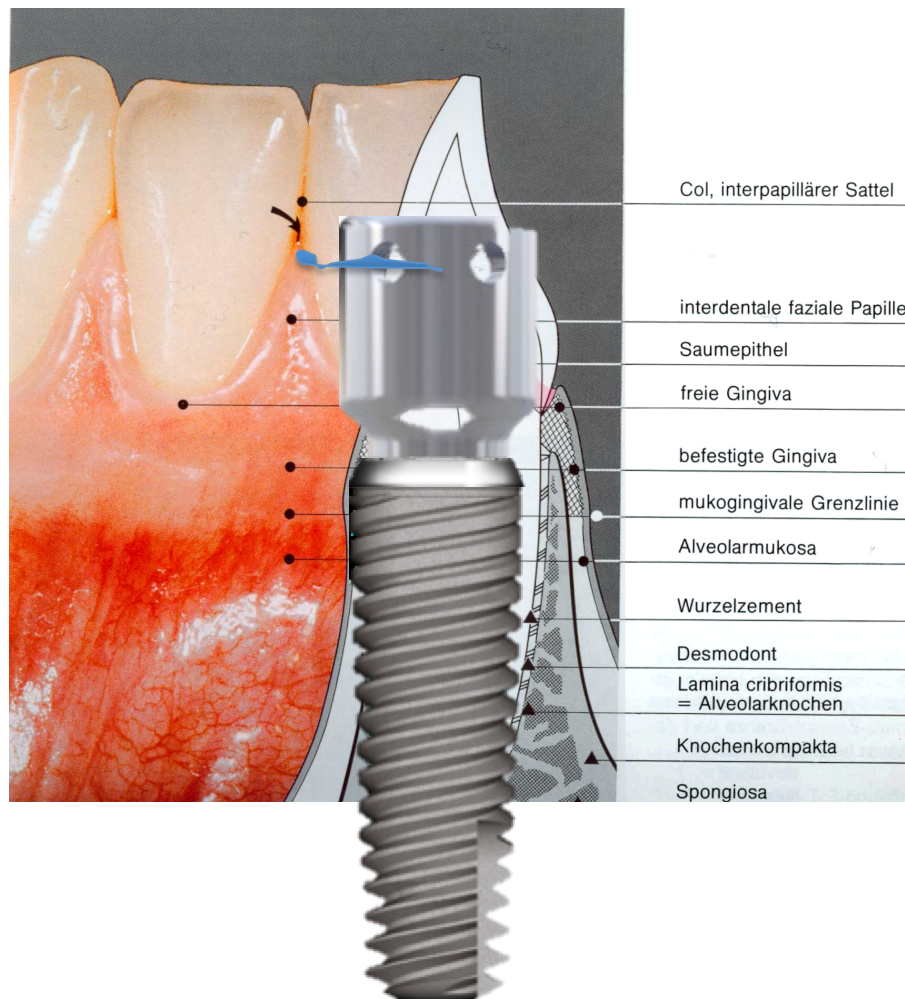
TRI-Vent
3,5mm
5mm

TRI-Narrow
3,5mm

TRI[®] Implants

Soft Tissue Concept – Unique Products

Suture Healing Collar – TRI[®]-Vent & TRI[®]-Narrow



Suture Healing Collar

TVHC50-60-A

TVHC35-60-A

TNHC35-60-A

TRI[®] Implants

Soft Tissue Concept – Unique Products

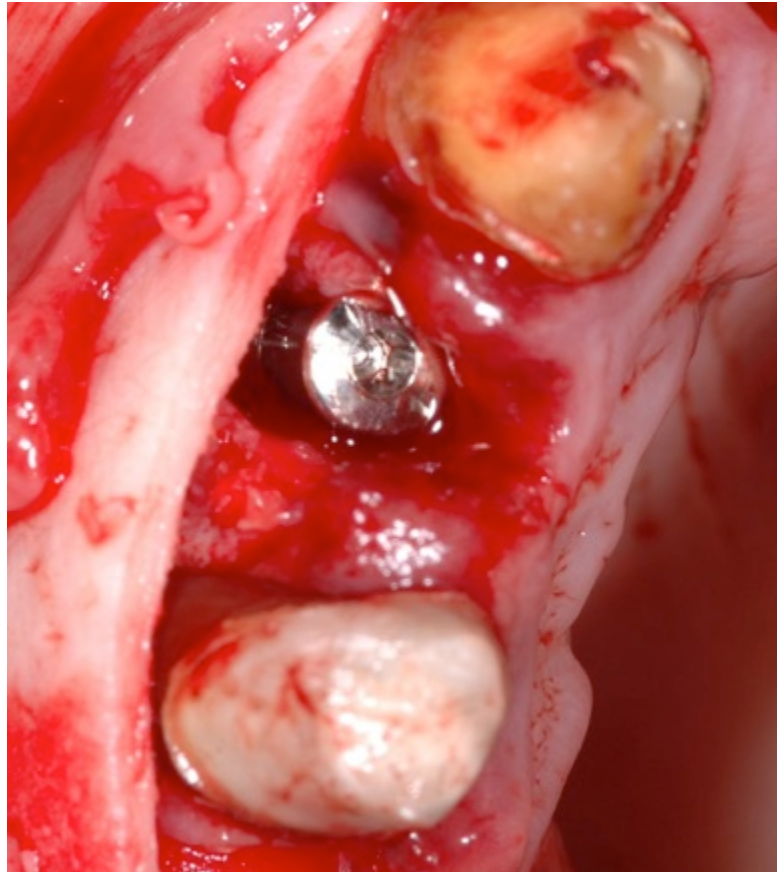
Suture Healing Collar – TRI[®]-Vent & TRI[®]-Narrow



TRI[®] Implants

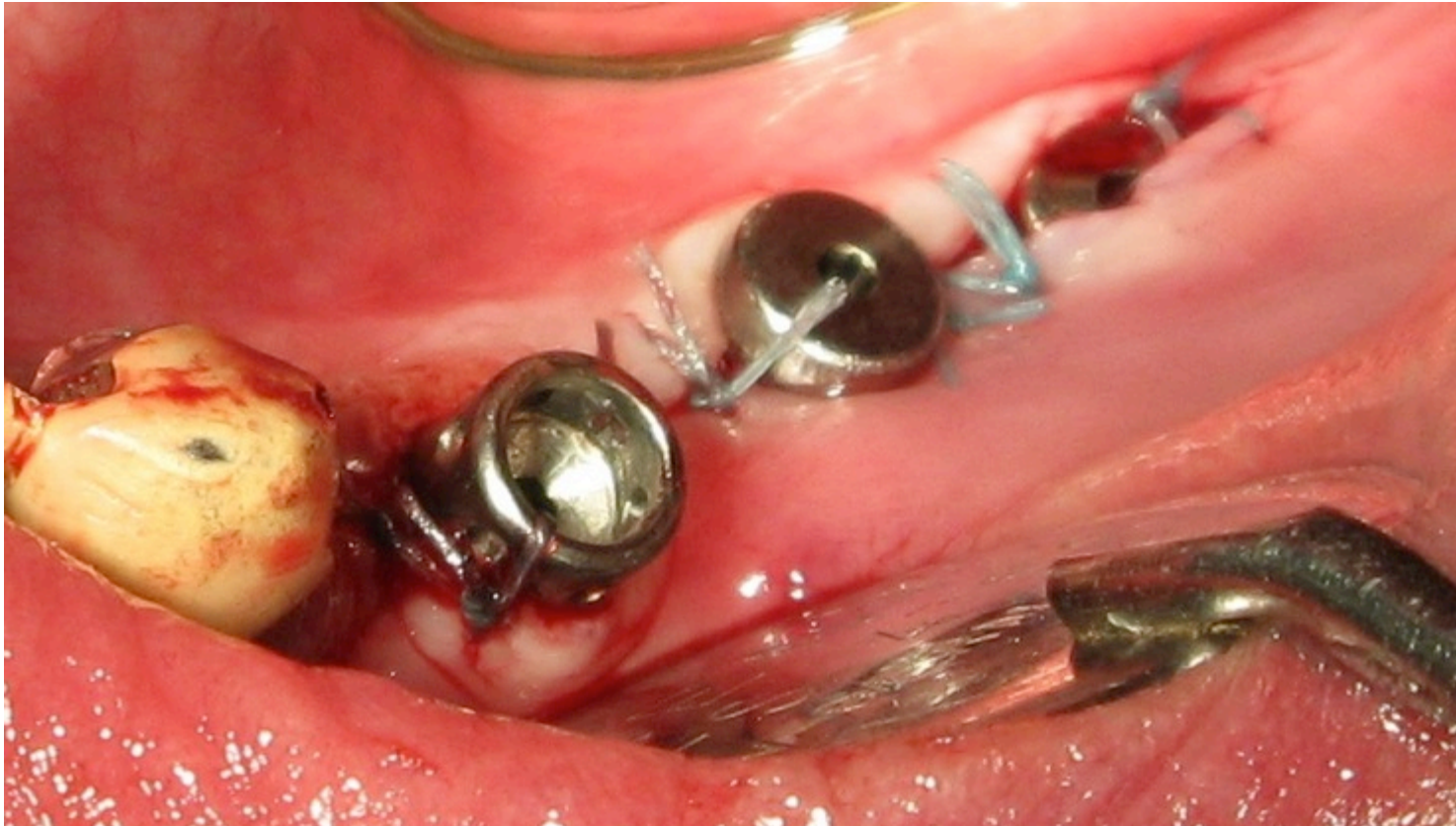
Soft Tissue Concept – Unique Products

Suture Healing Collar – TRI[®]-Vent & TRI[®]-Narrow



TRI[®] Implants

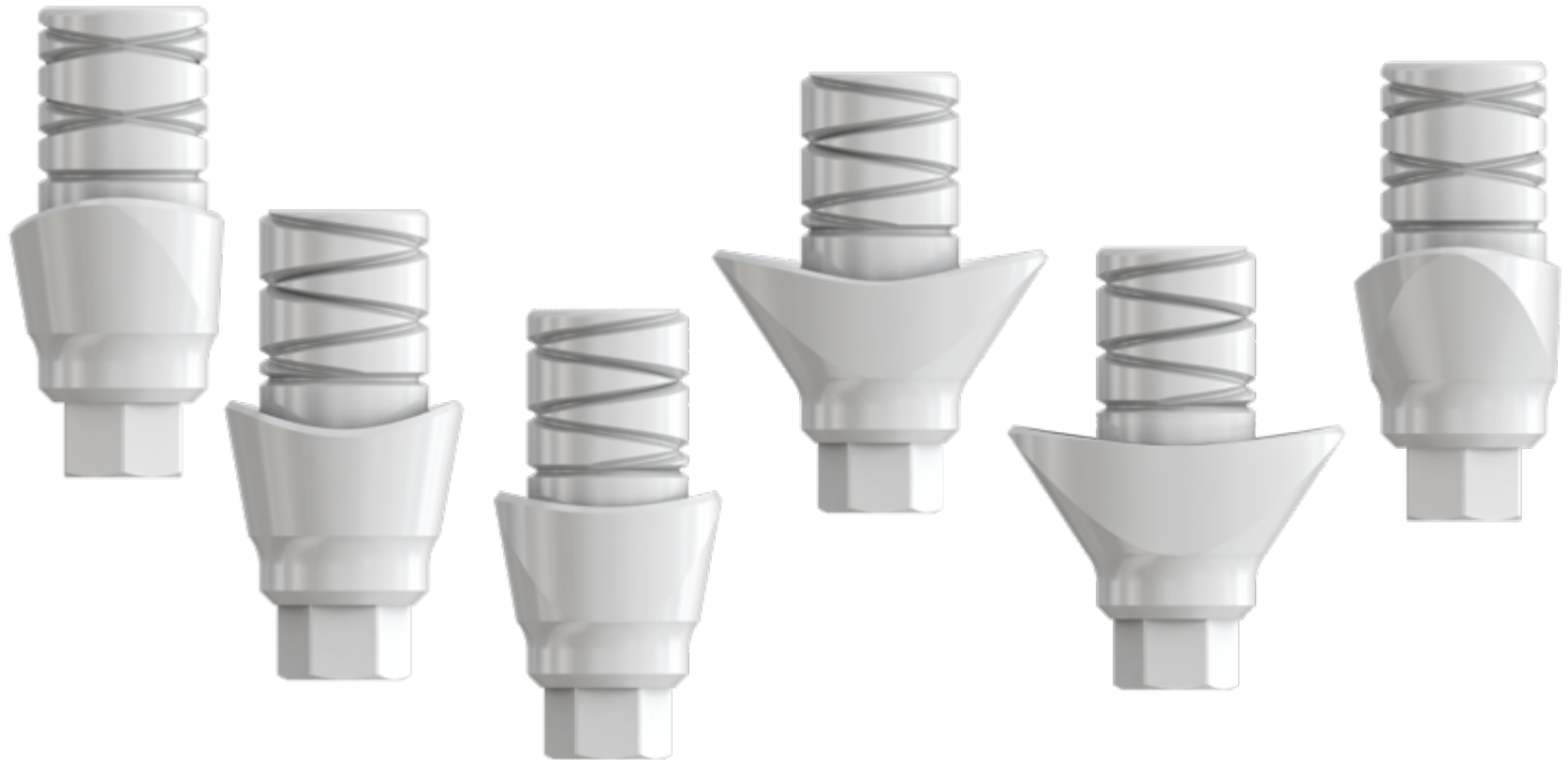
Soft Tissue Concept – Unique Products
Suture Healing Collar – TRI[®]-Vent & TRI[®]-Narrow



Case by Dr. Nicos Papagiannoulis

TRI[®] Implants

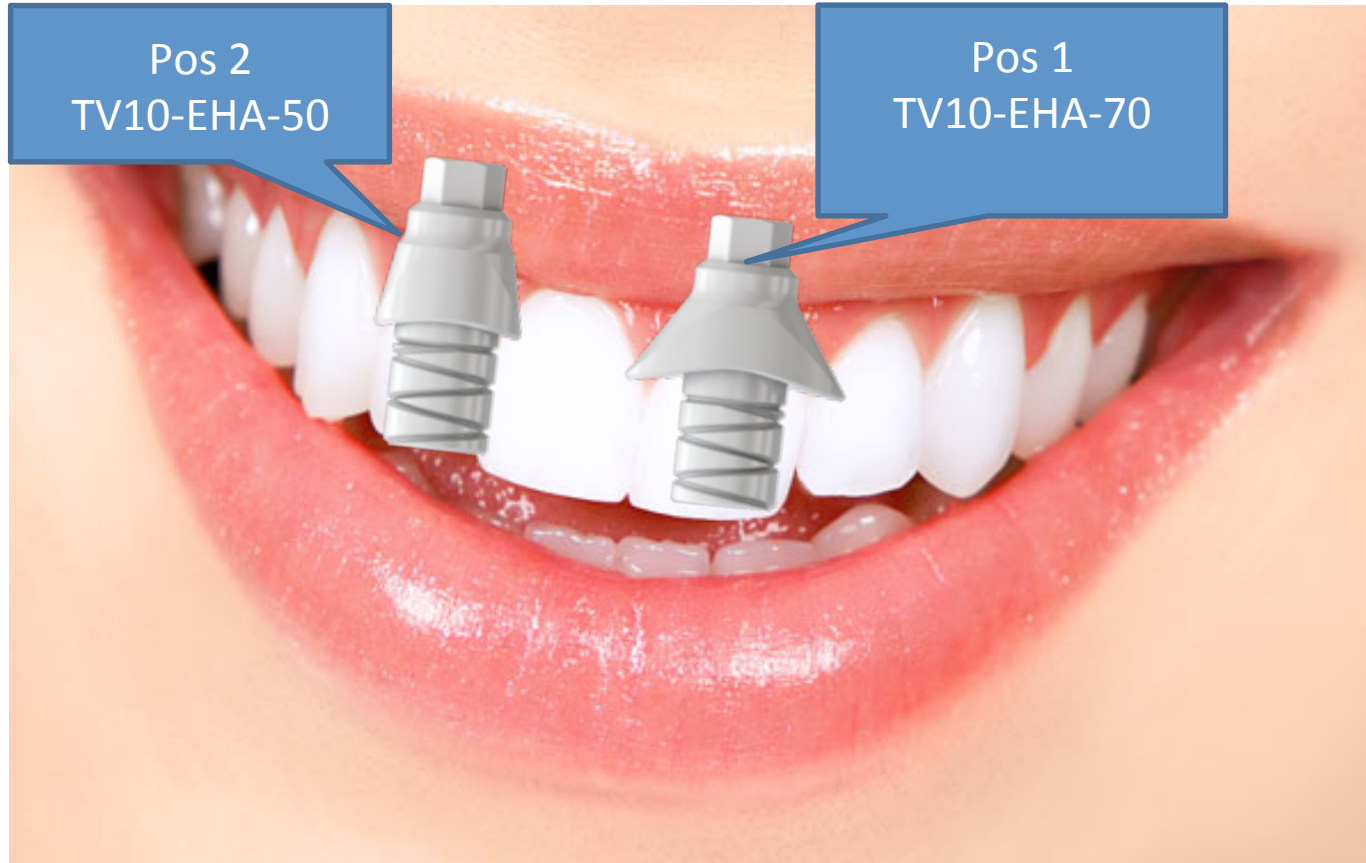
Soft Tissue Concept – Unique Products
Esthetic Healing Abutment– TRI[®]-Vent



TRI[®] Implants

Soft Tissue Concept – Unique Products

Esthetic Healing Abutment– TRI[®]-Vent



TRI[®] Implants

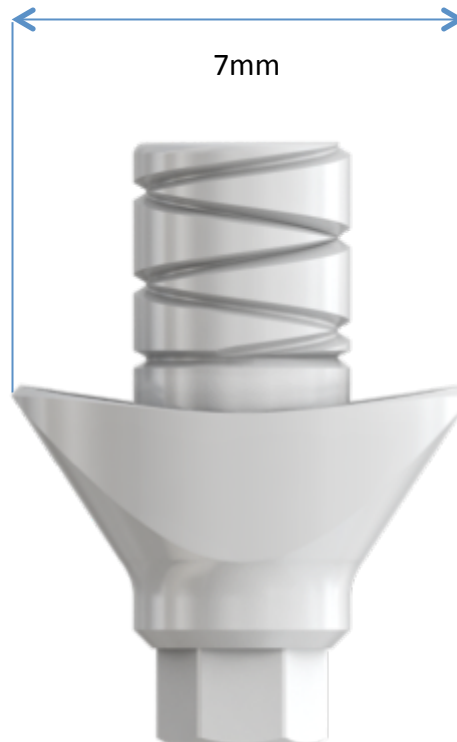
Soft Tissue Concept – Unique Products

Esthetic Healing Abutment– TRI[®]-Vent

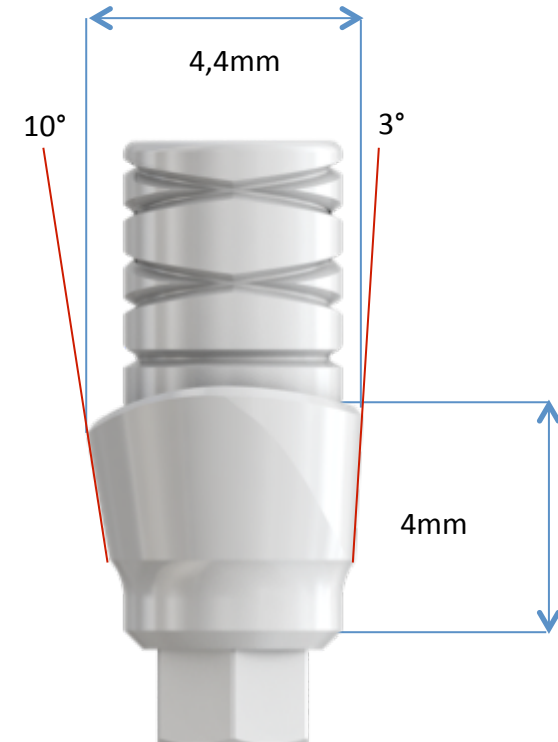
- One product – two possible functions



TV10-EHA-50



TV10-EHA-70



Lateral View

TRI[®] Implants

Soft Tissue Concept – Unique Products Esthetic Healing Abutment– TRI[®]-Vent

- One product – two possible functions



- Healing Collar and temporary abutment
- Material: PEEK (Polyetheretherketon)
- Indicated for 90 days



Abutment area - with non-parallel groove, for better protection against twisting..



Healing collar area - with anatomical shape.

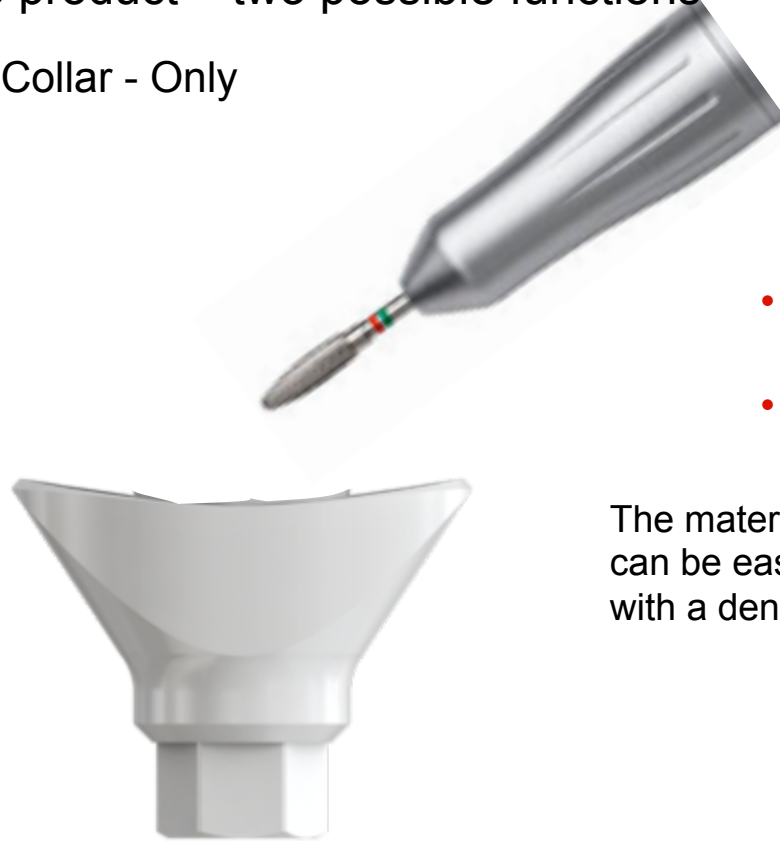
TRI[®] Implants

Soft Tissue Concept – Unique Products

Esthetic Healing Abutment– TRI[®]-Vent

- One product – two possible functions

Healing Collar - Only



- Material: PEEK
(Polyetheretherketon)
- Indicated for 90 days

The material PEEK
can be easily grinded
with a dental shaper.

TRI[®] Implants

Soft Tissue Concept – Unique Products

Esthetic Healing Abutment– TRI[®]-Vent

- Anatomical and esthetic shaping of the gingiva – the natural tooth is not round.



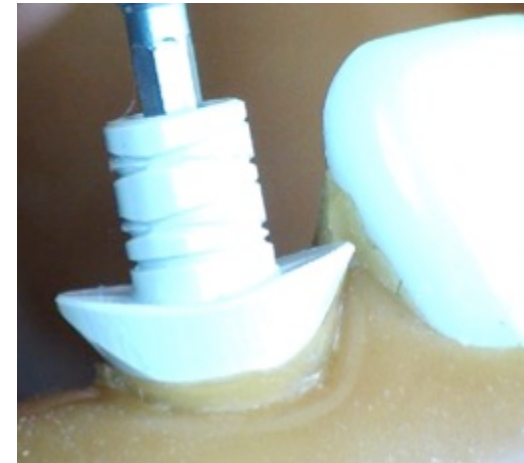
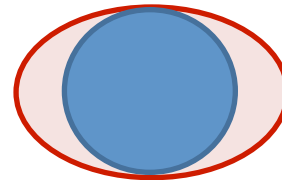
Oval socket after extraction.



Ready- made ovale healing collar.



Oval socket with round standard healing collar.



TRI[®]- Vent & TRI[®]- Narrow

Soft Tissue Concept – Unique Products

Surgical Cover Screw for Sinus Lift - TRI[®]-Vent & TRI[®]-Narrow

Surgical Cover Screw
for Sinus Lift

5mm Durchmesser



Surgical Cover Screw -
standart

3.5mm Durchmesser



TRI[®]- Vent & TRI[®]- Narrow

Soft Tissue Concept – Unique Products

Surgical Cover Screw for Sinus Lift - TRI[®]-Vent & TRI[®]-Narrow



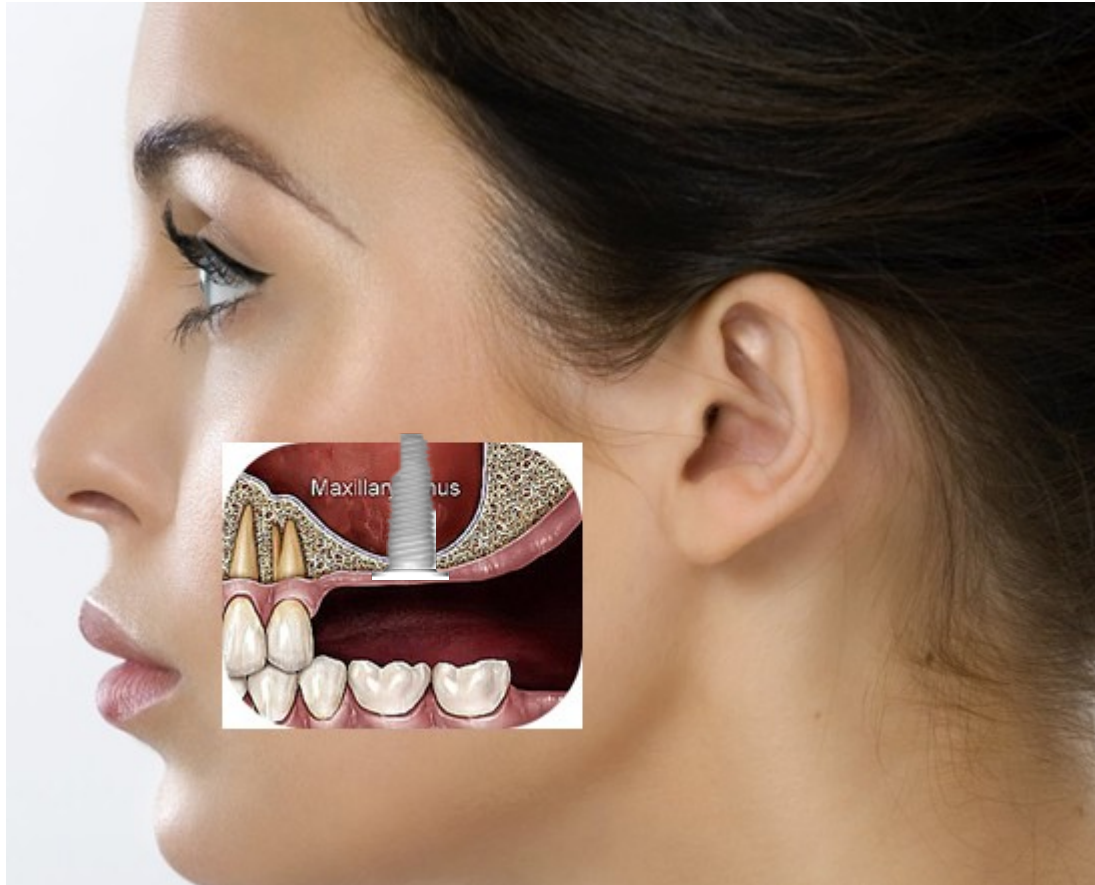
Surgical Cover Screw – Standard

- To prevent unintended slipping into the sinus.
- To use as a lock-nut, in the case of a thin bone layer.

TRI®- Vent & TRI®- Narrow

Soft Tissue Concept – Unique Products

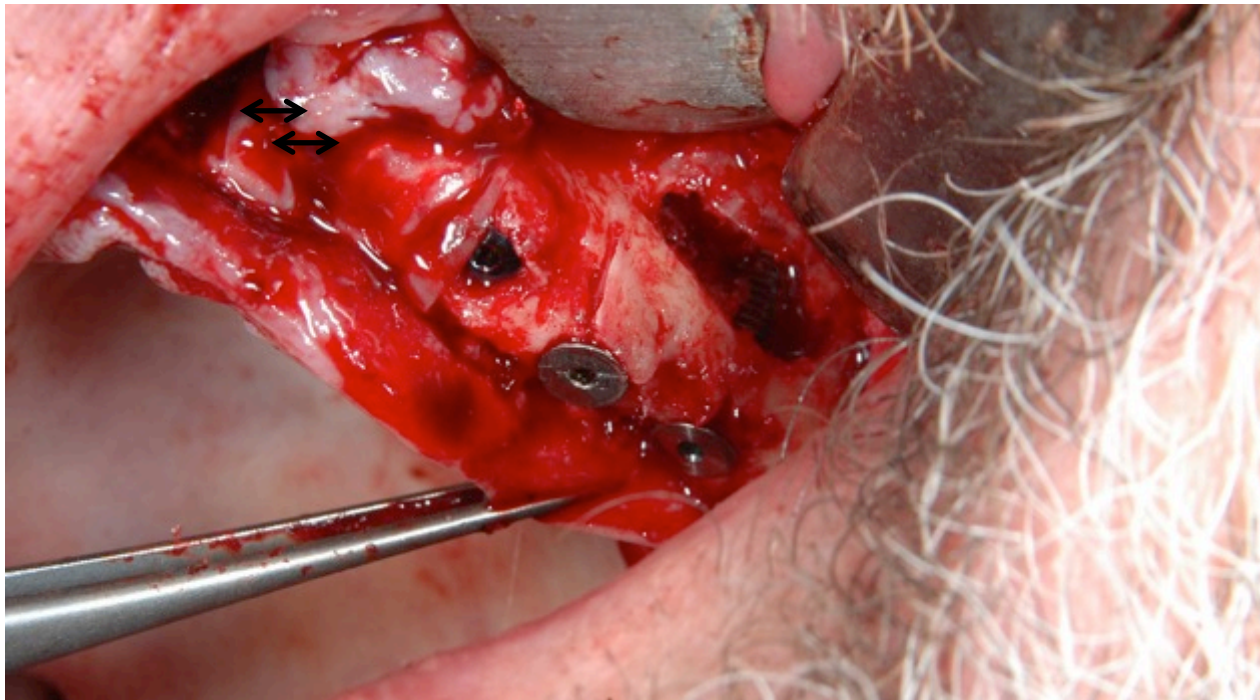
Surgical Cover Screw for Sinus Lift - TRI®-Vent & TRI®-Narrow



TRI[®]-Vent & TRI[®]-Narrow

Soft Tissue Concept – Unique Products

Surgical Cover Screw for Sinus Lift - TRI[®]-Vent & TRI[®]-Narrow



TVSCS-SL
Surgical Cover Screw for Sinus Lift









TRI®- Vent & TRI®- Narrow

Unique products

Product Catalogue, page 4, 5 & 7

Healing Collars, Implant Analogs



TISSUE HEALING - HEALING COLLAR

Catalog Number		Ø	CH	Material	Qty	Sterile
TVHC35-30	Healing Collar	3.5 mm	3.0 mm	Ti-6Al-4V	1	
TVHC35-45	Healing Collar	3.5 mm	4.5 mm	Ti-6Al-4V	1	
TVHC35-60	Healing Collar	3.5 mm	6.0 mm	Ti-6Al-4V	1	
TVHC35-60-A	Suture Healing Collar	3.5 mm	6.0 mm	Ti-6Al-4V	1	
TVHC50-30	Healing Collar	5.0 mm	3.0 mm	Ti-6Al-4V	1	
TVHC50-45	Healing Collar	5.0 mm	4.5 mm	Ti-6Al-4V	1	
TVHC50-60	Healing Collar	5.0 mm	6.0 mm	Ti-6Al-4V	1	
TVHC50-60-A	Suture Healing Collar	5.0 mm	6.0 mm	Ti-6Al-4V	1	

CH = Cuff Height



SURGICAL COVER SCREWS

Catalog Number		Ø	Material	Qty	Sterile
TVSCS		3,5 mm	Ti-6Al-4V	1	
TVSCS-SL		5,2 mm	Ti-6Al-4V	1	



TRI® - Vent & TRI® - Narrow

Unique products

Product Catalogue, page 4, 5 & 7

PLASTIC TEMPORARY ABUTMENTS - INCLUDES SCREW RS-TV20

Catalog Number		Ø	Material	Qty
TV10-PTA	Temporary Abutment, Straight	4.5 mm	PEEK	1
RS-TV20	Replacement Retaining Screw		Ti-6Al-4V	1
RS-TV20-Lab	Replacement Retaining Screw - Lab Use - Red		Ti-6Al-4V	1
TV10-EHA-50	Esthetic Healing Abutment	5.0 mm	PEEK	1
TV10-EHA-70	Esthetic Healing Abutment	7.0 mm	PEEK	1
RS-TV10	Replacement Retaining Screw		Ti-6Al-4V	1
RS-TV10-Lab	Replacement Retaining Screw - Lab Use - Green		Ti-6Al-4V	1
DTRS-TV05	Retaining Screw - long for TV10HCA		Ti-6Al-4V	1




TV10-PTA



TV10-EHA-70

SURGICAL COVER SCREW

Artikelnummer		Ø	Material	Menge
TNSCS		3,2 mm	Ti-6Al-4V	1 



TNSCS