

ITI-Straumann Implantatsystem



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Semmelweis University, Faculty of Dentistry

Department of Oro- Maxillofacial Surgery and Stomatology

„Wir haben heute etwa
600
verschiedene Implantatsysteme...“

/Jokstad A.:Osseointegration and Dental Implants

Wiley-Blackwell **2009**/

Was zu wissen über Straumann AG. company?



Straumann AG. ist ein globaler Führer in der zahnärztlichen Implantologie und Geweberegeneration

Die kurze Geschichte der Firma Straumann

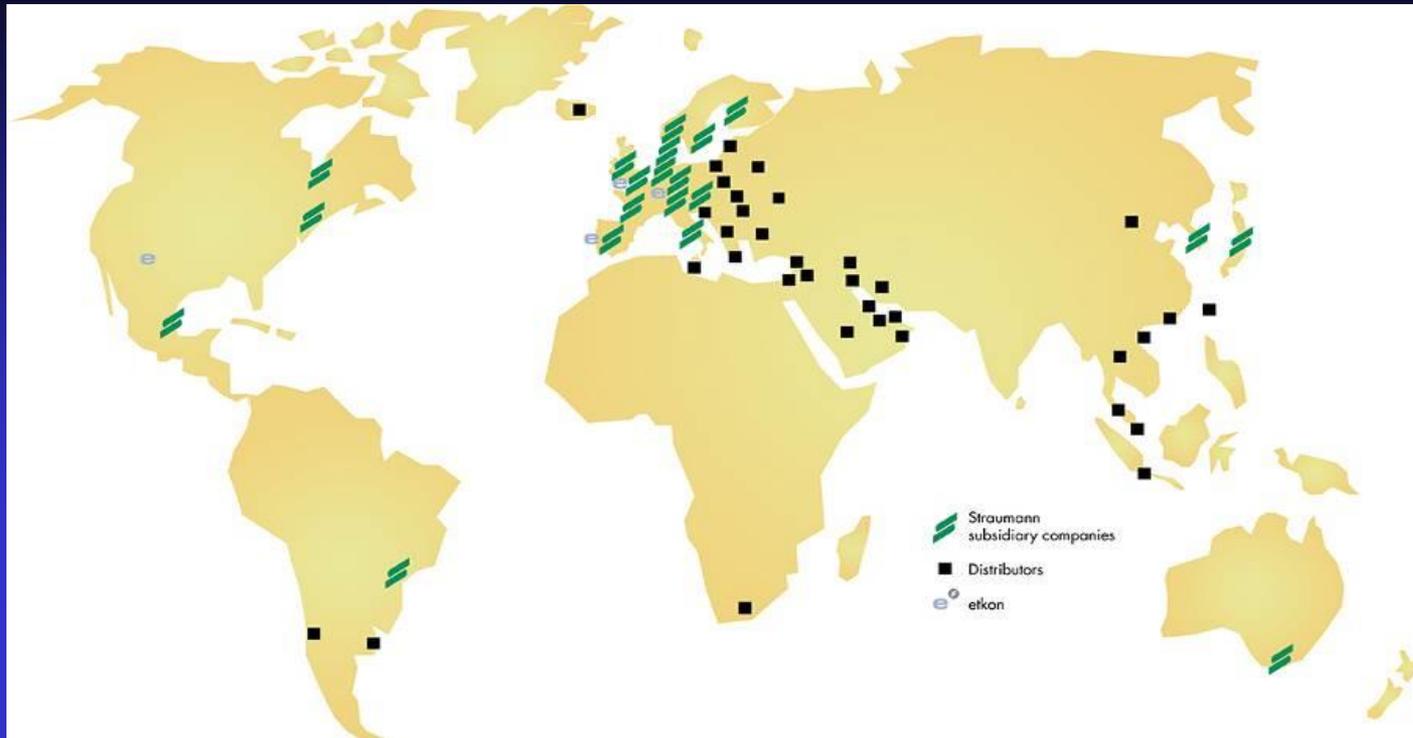
- 1954** Gründung einer Forschungsinstitute von Reinhardt Straumann
- 1954-1970** Herstellung Metallegierungen für Orthopedie, Traumatologie, Implantologie
- 1970-1990** Schrauben für Traumatologie, orale Implantaten
- 1980** ITI = International Team for Implantology zusammen mit der Universität Bern
/A.Schroeder/
- 1990-** orale Implantate

Alte Siedlung in Waldenburg



Neue Siedlung in Basel /von 2005/





Straumann Produkten und Dienstleistungen sind erreichbar auf 60 Länder über 21 Verkaufsstellen und marketing Agenturen.

IMPLANTAT



IMPLANTATSYSTEM



**CHIRURGISCHE
INSTRUMENTE**

**PROTHETISCHE
KOMPONENTE**

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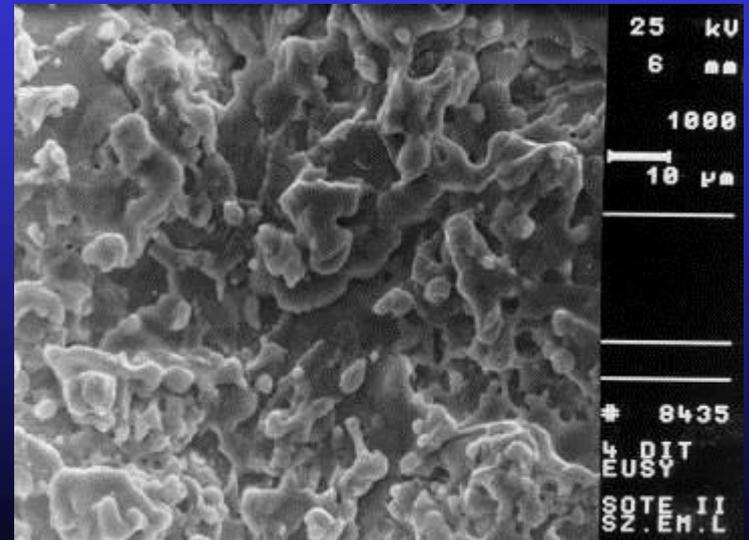
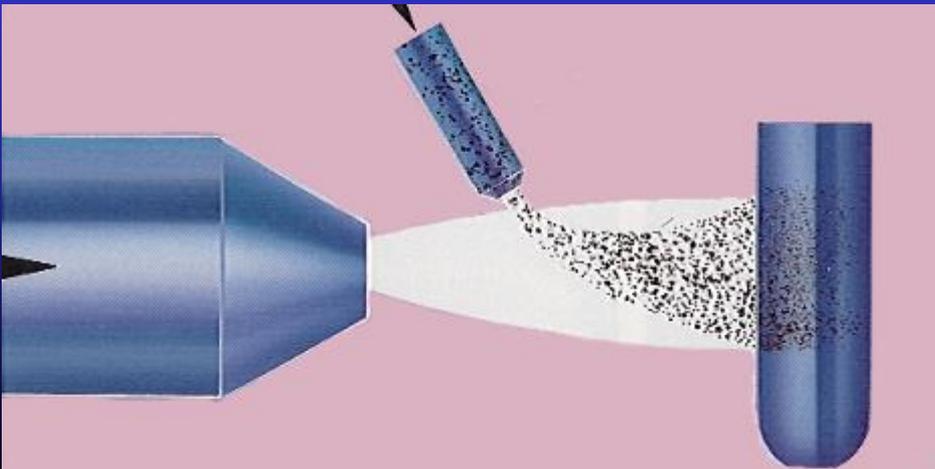
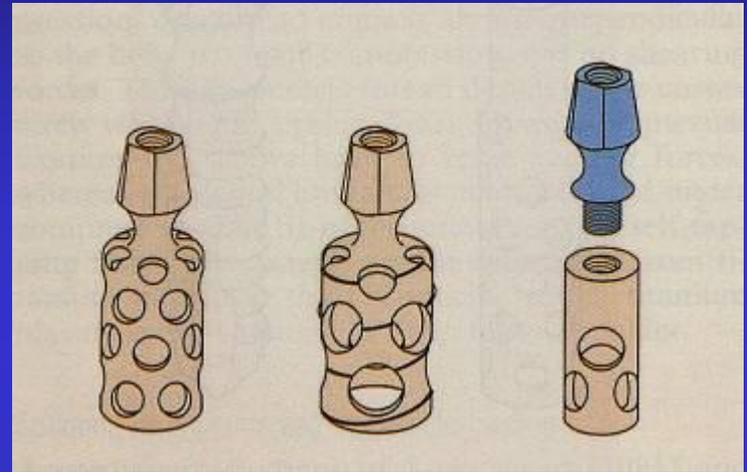
**CHIRURGISCHE
INSTRUMENTE**

**PROTHETISCHE
KOMPONENTE**

Die Entwicklung des Straumann Implantatsystems: **Implantate**

- **1974 Typ C
TPS Oberfläche**

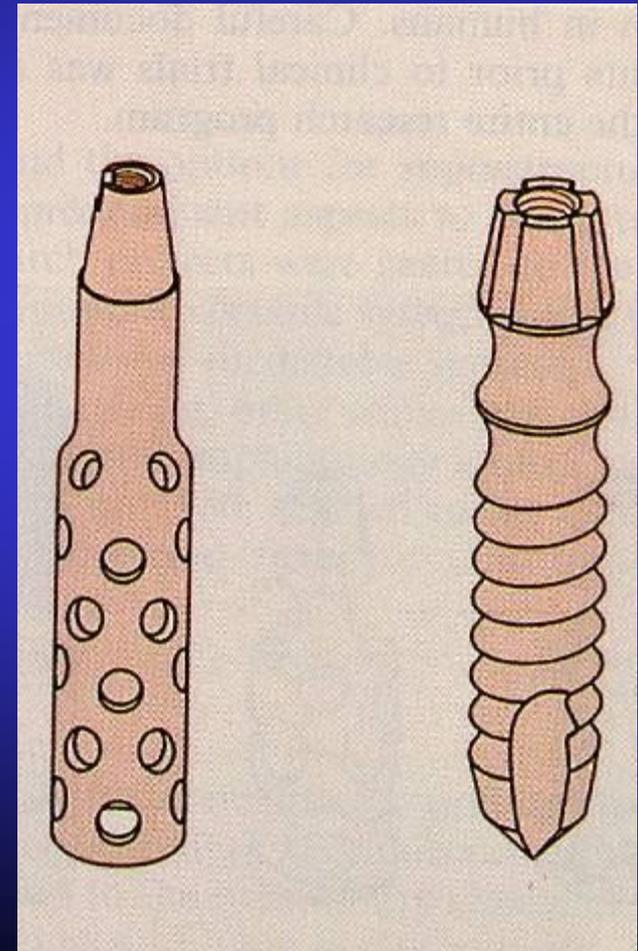
TITAN PLASMA SPRAY Beschichtung



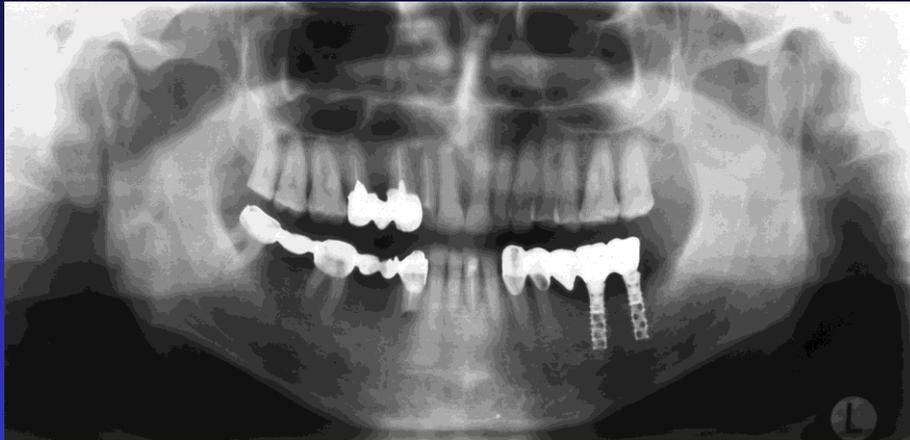
Die Entwicklung des Straumann Implantatsystems: **Implantate**

- 1974 Typ C ,TPS Oberfläche

- **1976 Typ F, Schraube**



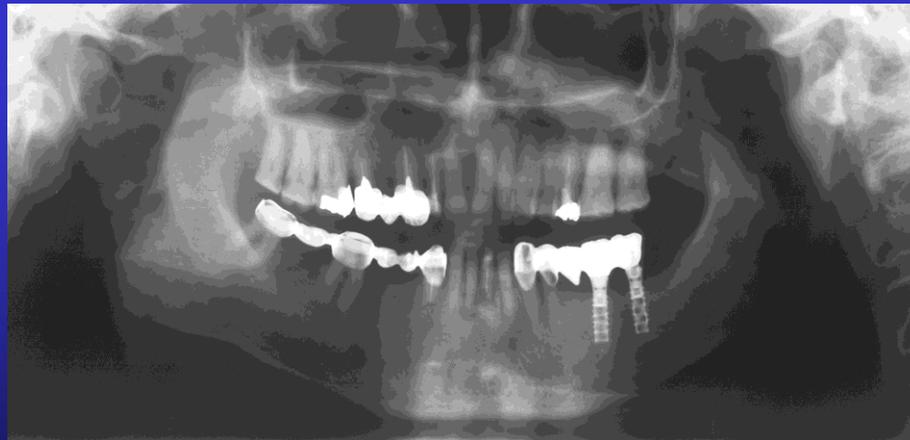
07.1993



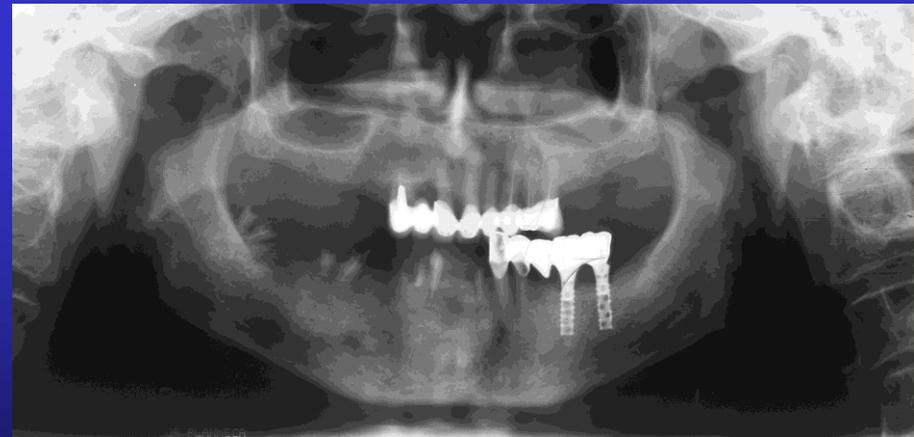
03.1995



10.1998

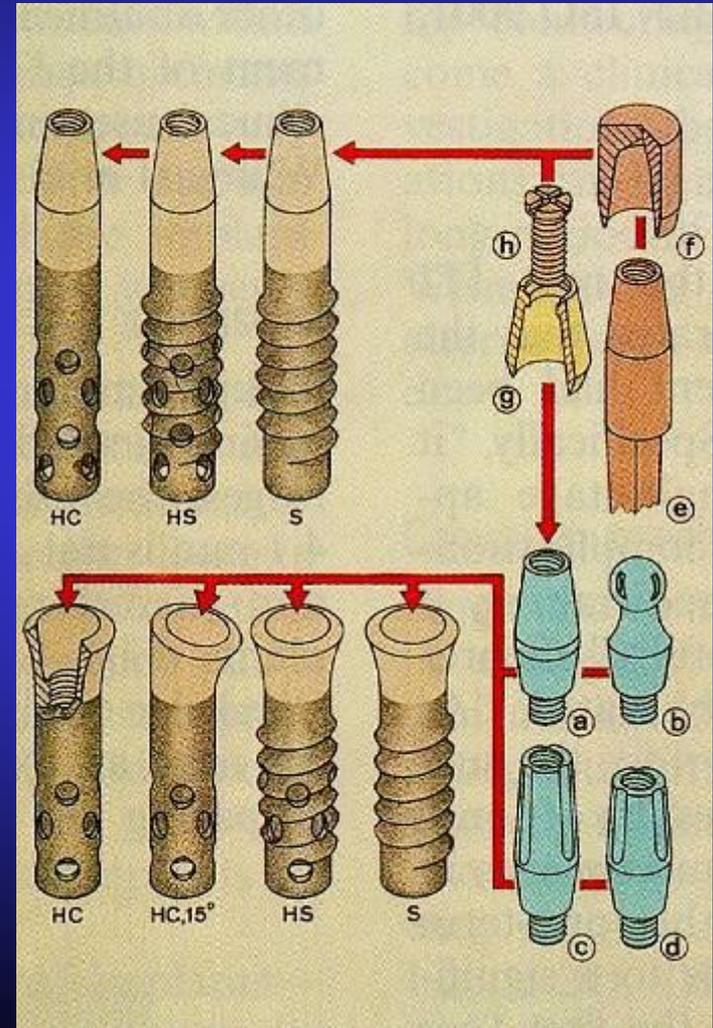


09.2008

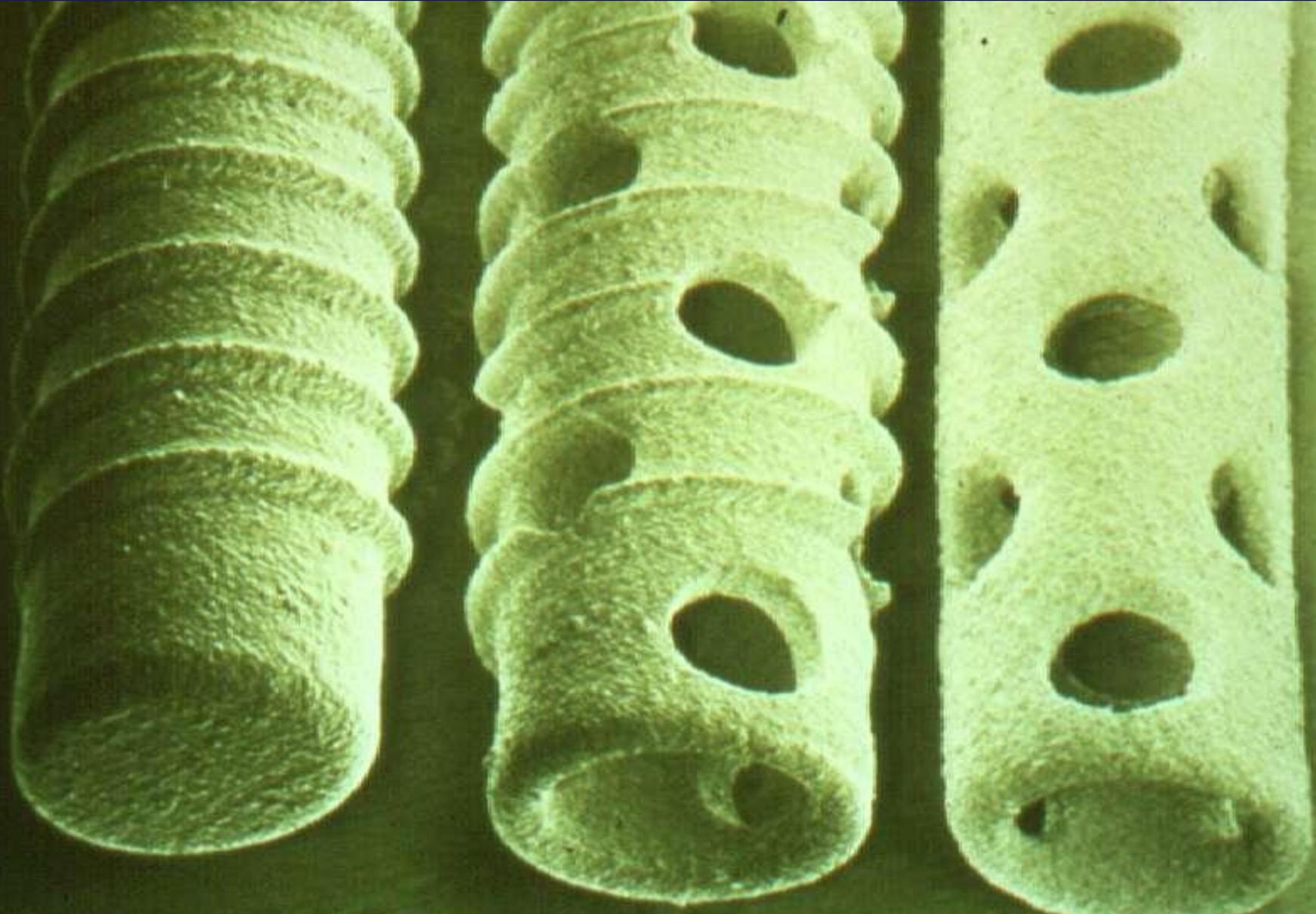


Die Entwicklung des Straumann Implantatsystems: **Implantate**

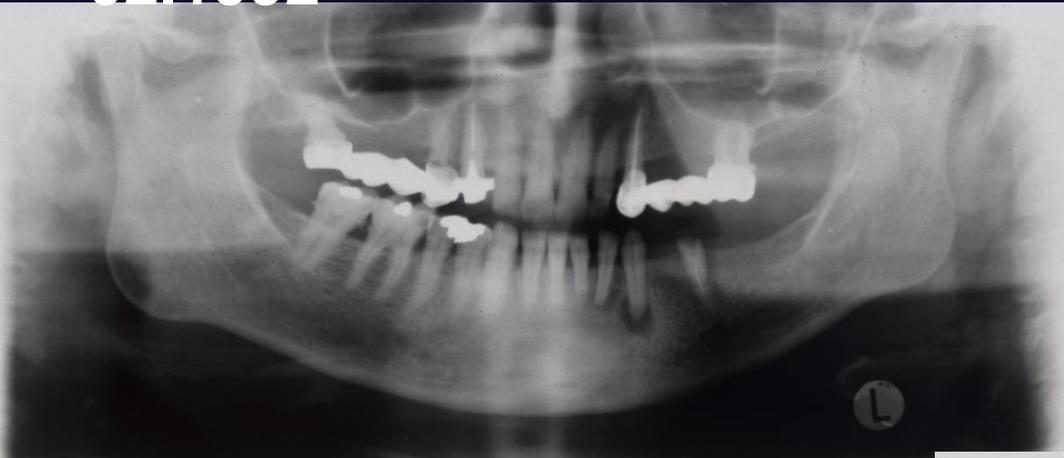
- 1974 Typ C, TPS Oberfläche
- 1976 Typ F, Schraube
- **1986 Bonelit® System**



Vergrößerung der Oberfläche auf makro
und mikro Niveau /Bonafit® Implantaten/



02.1992



Bonefit® Implantate

10.1993

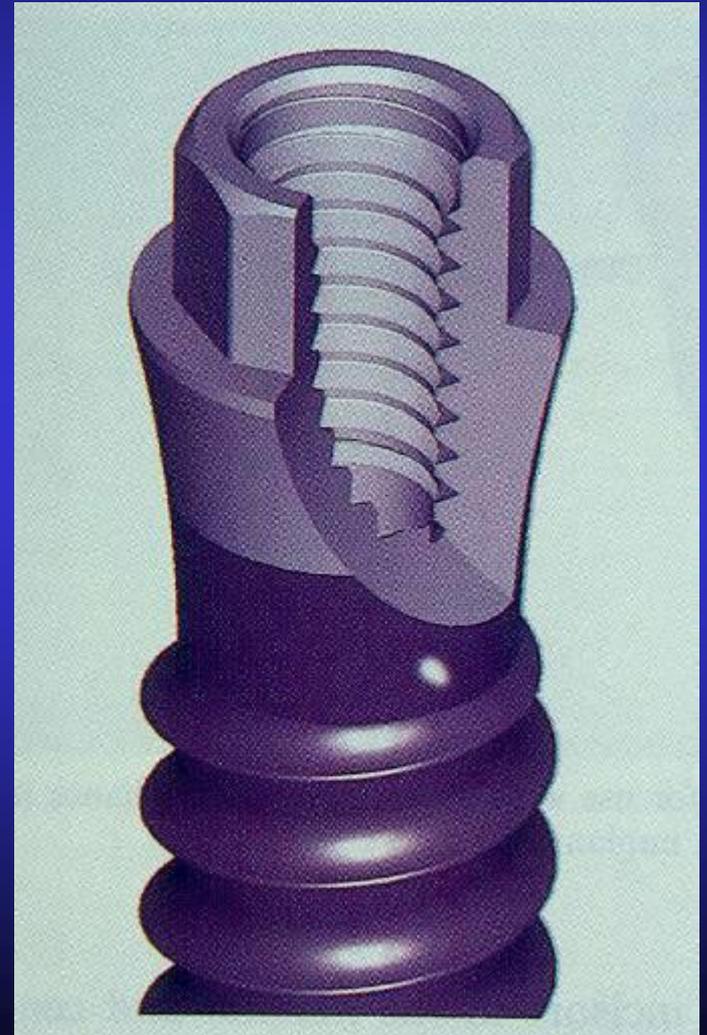


09.2006



Die Entwicklung des Straumann Implantatsystems: **Implantate**

- 1974 Typ C, TPS Oberfläche
- 1976 Typ F, Schraube
- 1986 Bonenefit System
- **1996 3,3 mm \emptyset
Implantat**



Die Entwicklung des Straumann Implantatsystems: **Implantate**

- 1974 Typ C, TPS Oberfläche
- 1976 Typ F, Schraube
- 1986 Bonelit System
- 1996 3,3 mm \varnothing Implantat
- **1997 SLA Oberfläche**

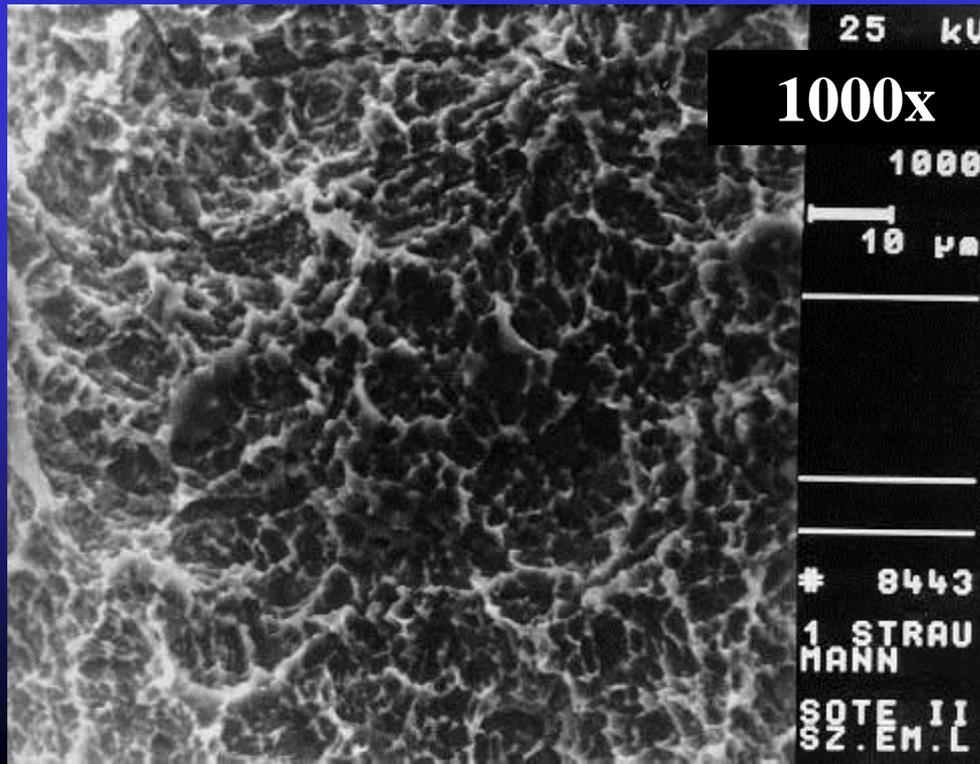
Sand –blasted

Large grit

Acid-etched

Die wichtigen Eigenschaften von ITI-Straumann System:

- SLA Implantat Oberfläche

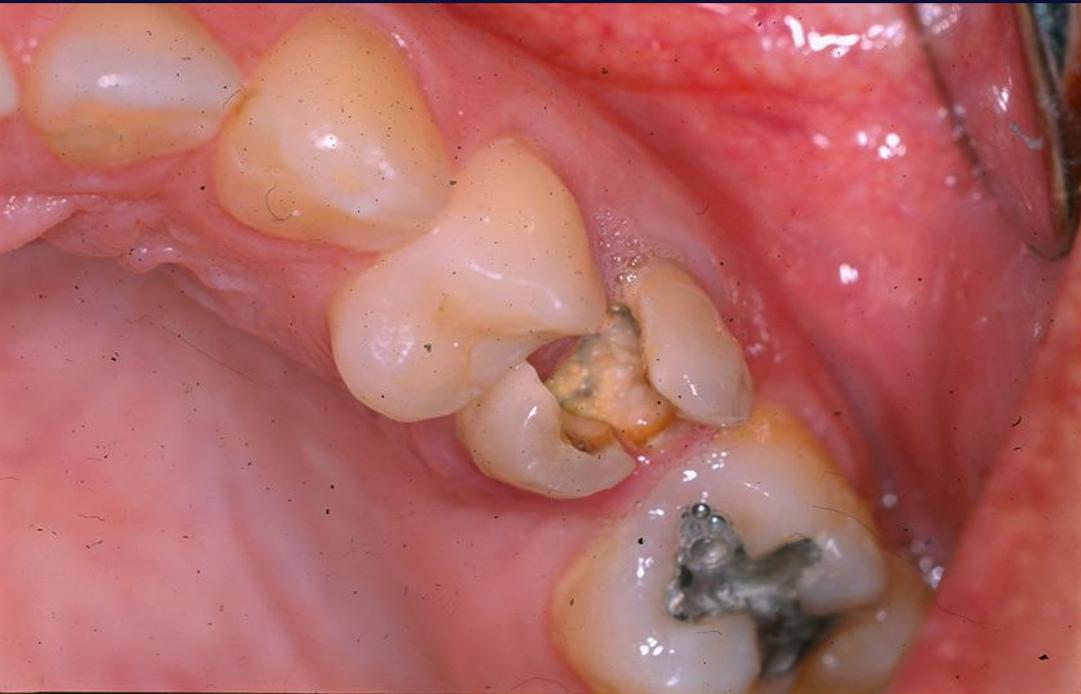


6 Wochen Heilung

Die Entwicklung des Strauman Implantatsystems: **Implante**

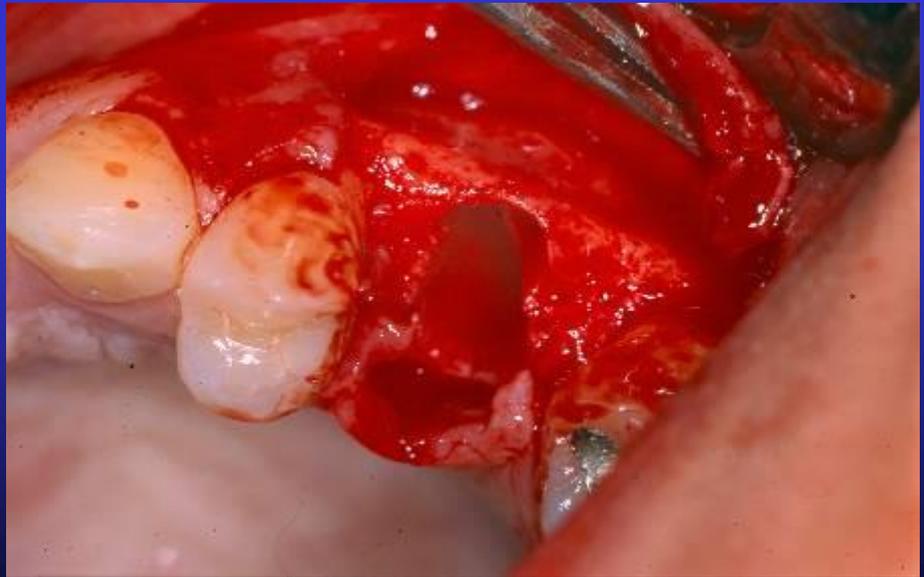
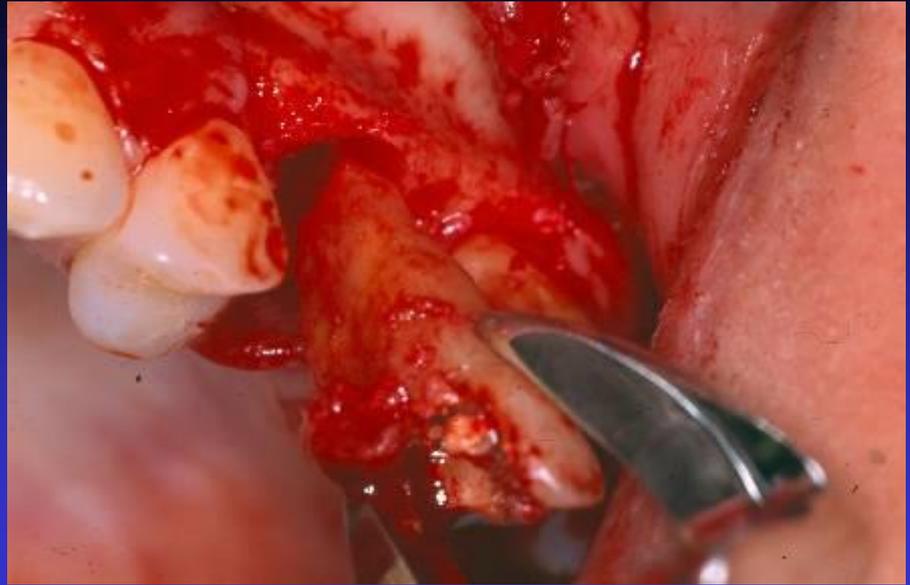
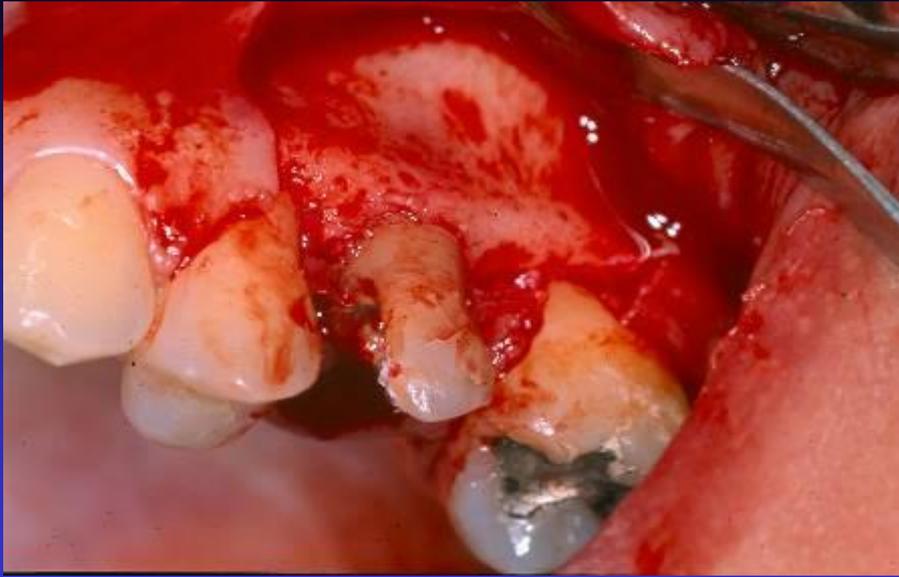
- 1974 Typ C, TPS Oberfläche
- 1976 Typ F, Schraube
- 1986 Bonelit System
- 1996 3,3 mm ø Implantat
- 1997 SLA Oberfläche
- **2002 TE Implantat für
sofort Implantation**

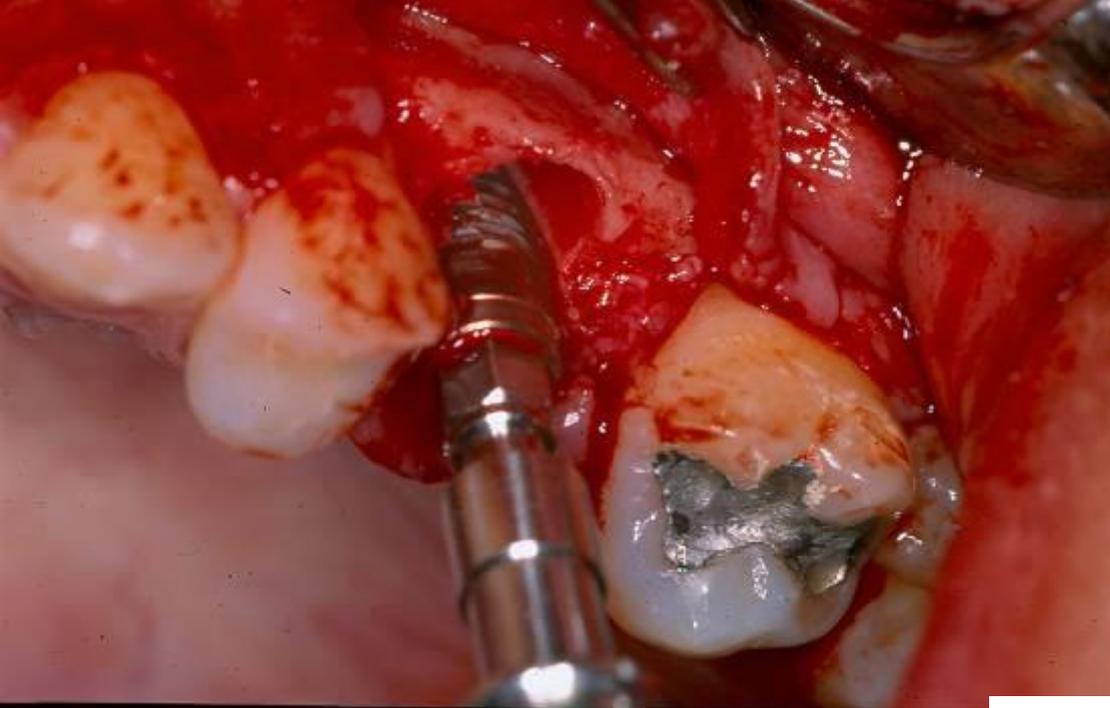


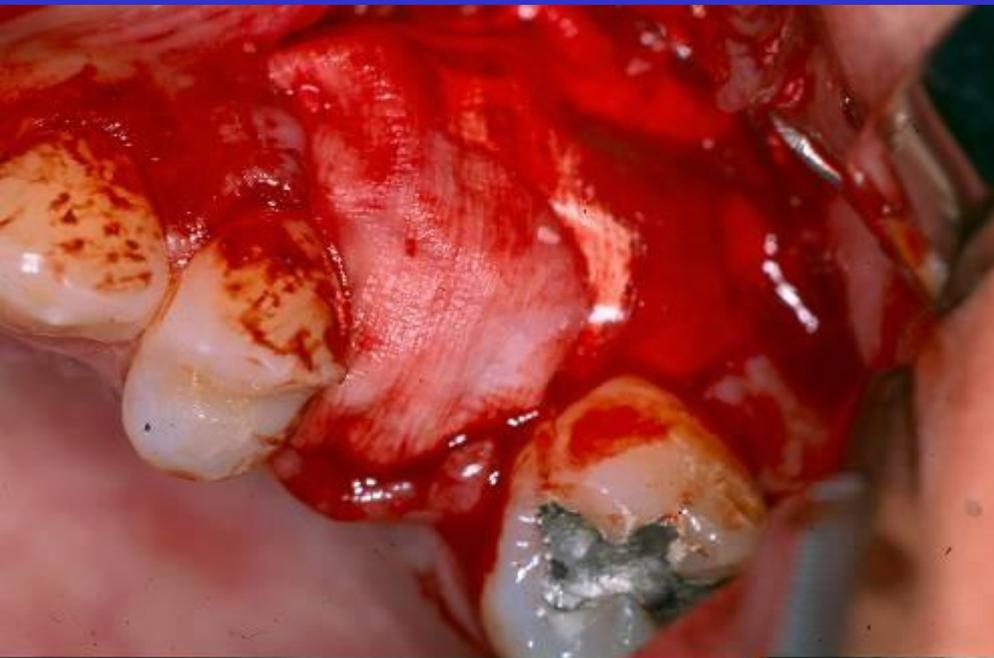
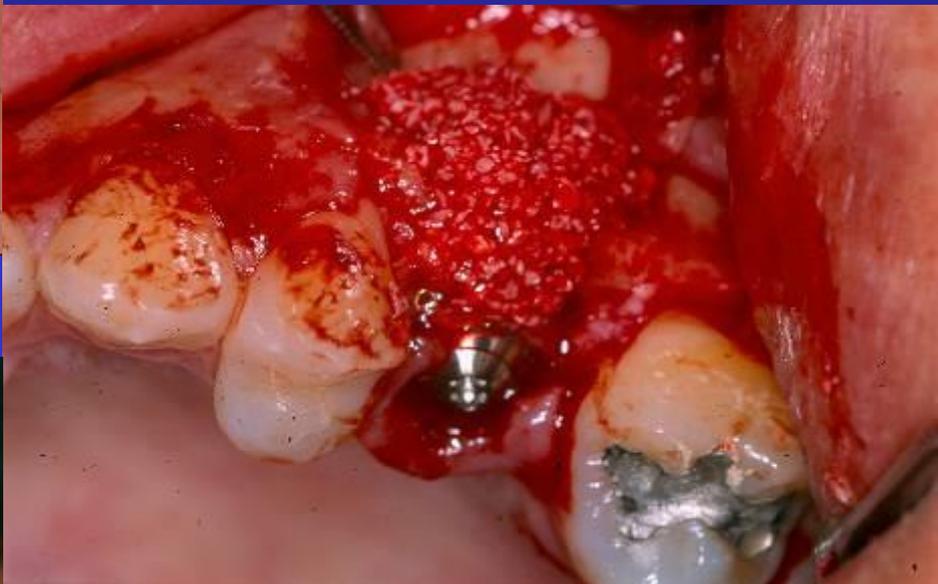
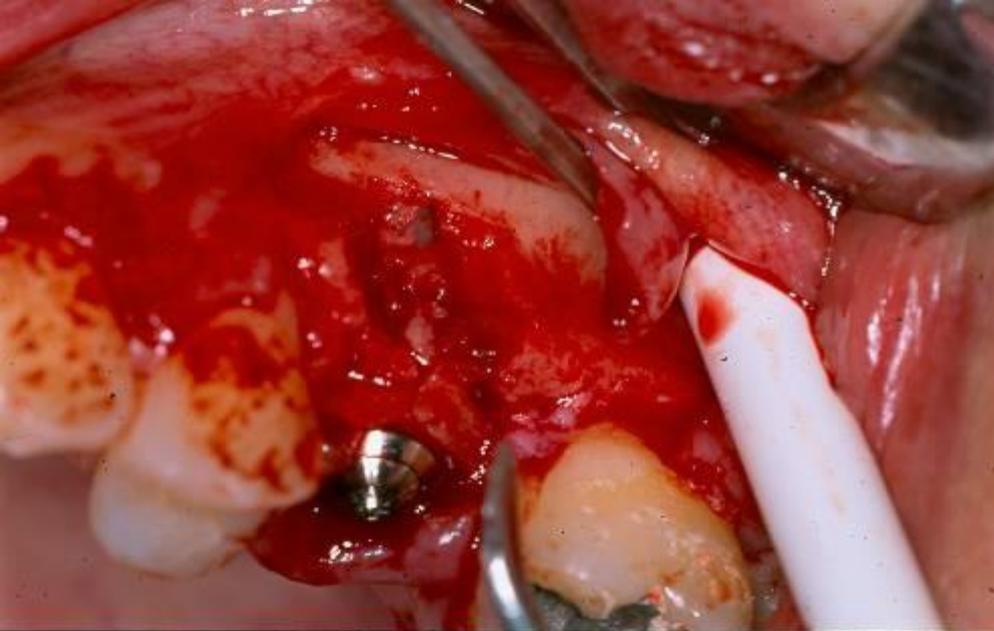


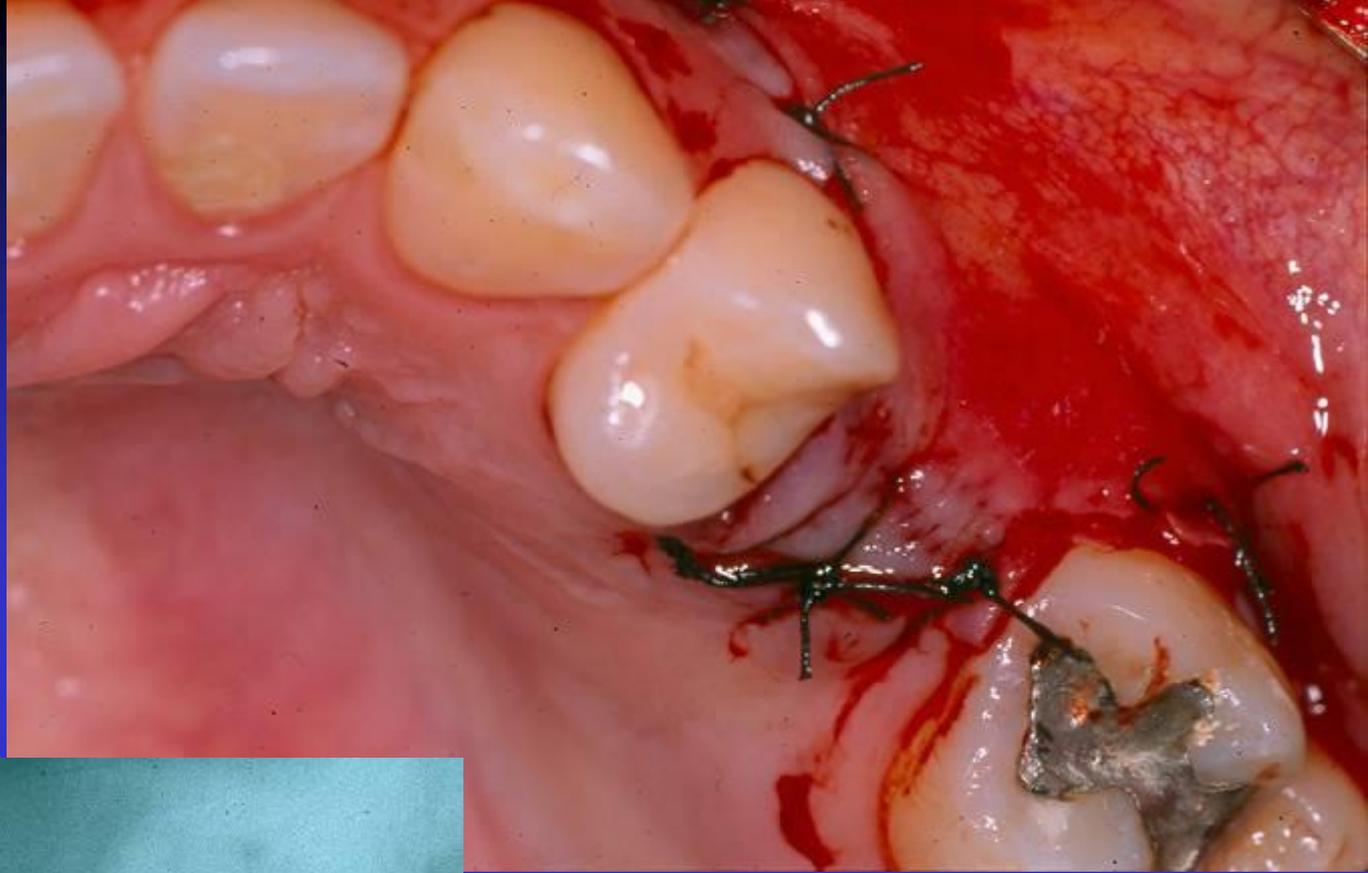
Fallbeispiel













Die Entwicklung des Straumann

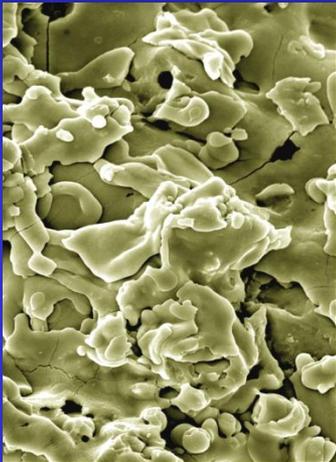
Implantatsystems: **Implantate**

- 1974 Typ C, TPS Oberfläche
- 1976 Typ F, Schraube
- 1986 Bonelit System
- 1996 3,3 mm ø Implantat
- 1997 SLA Oberfläche
- 2002 TE Implantat für sofort Implantation
- **2006 SLActive Oberfläche**

3-4 Wochen Heilung

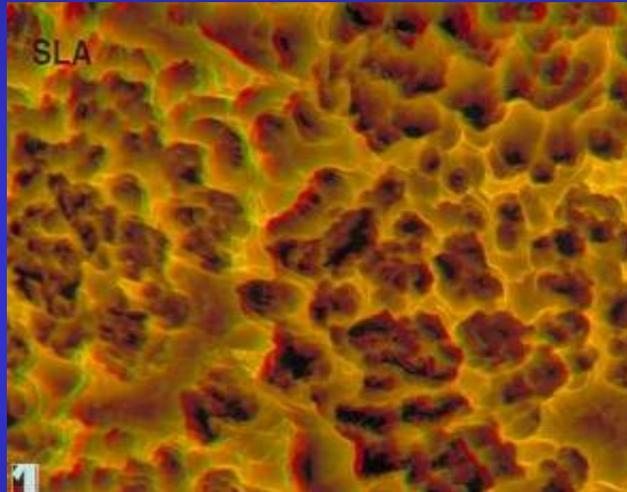
Entwicklung der **Oberfläche** bei Straumann Implantaten

1974



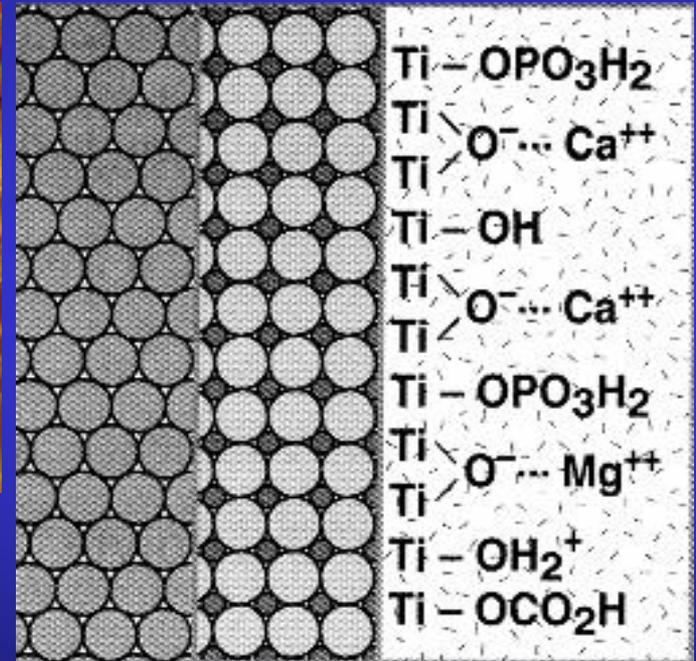
Straumann® TPS
(Macro)

1998



Straumann® SLA
(Micro)

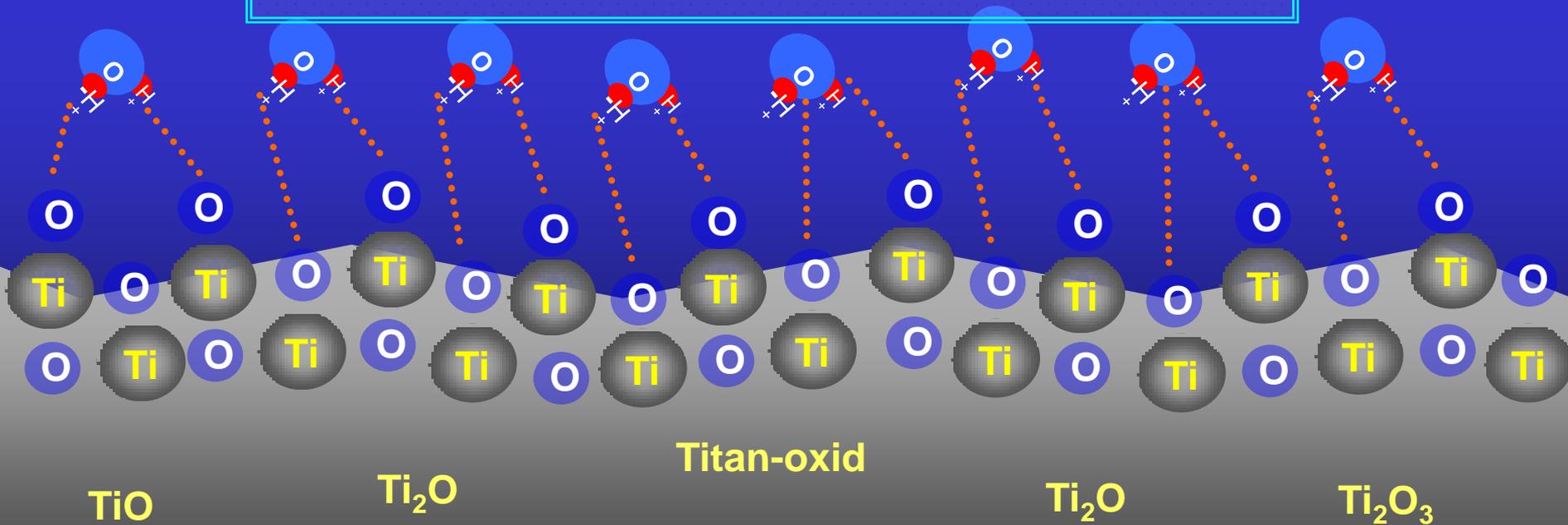
2005



Straumann® SLActive
(Molekular)

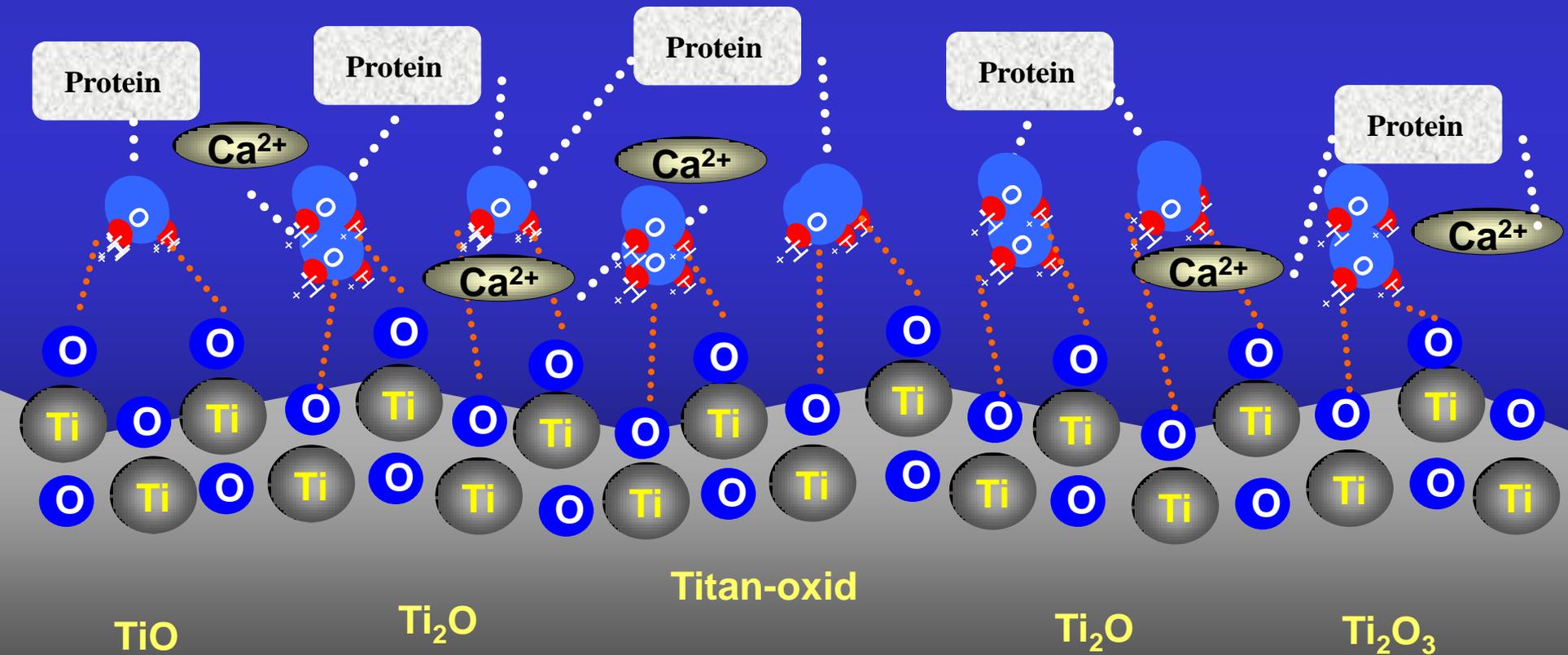
Knochenintegration von Titanimplantaten

Metalloberfläche, metallische Bindung
Bipolare Zone
delokalisierte Elektronen

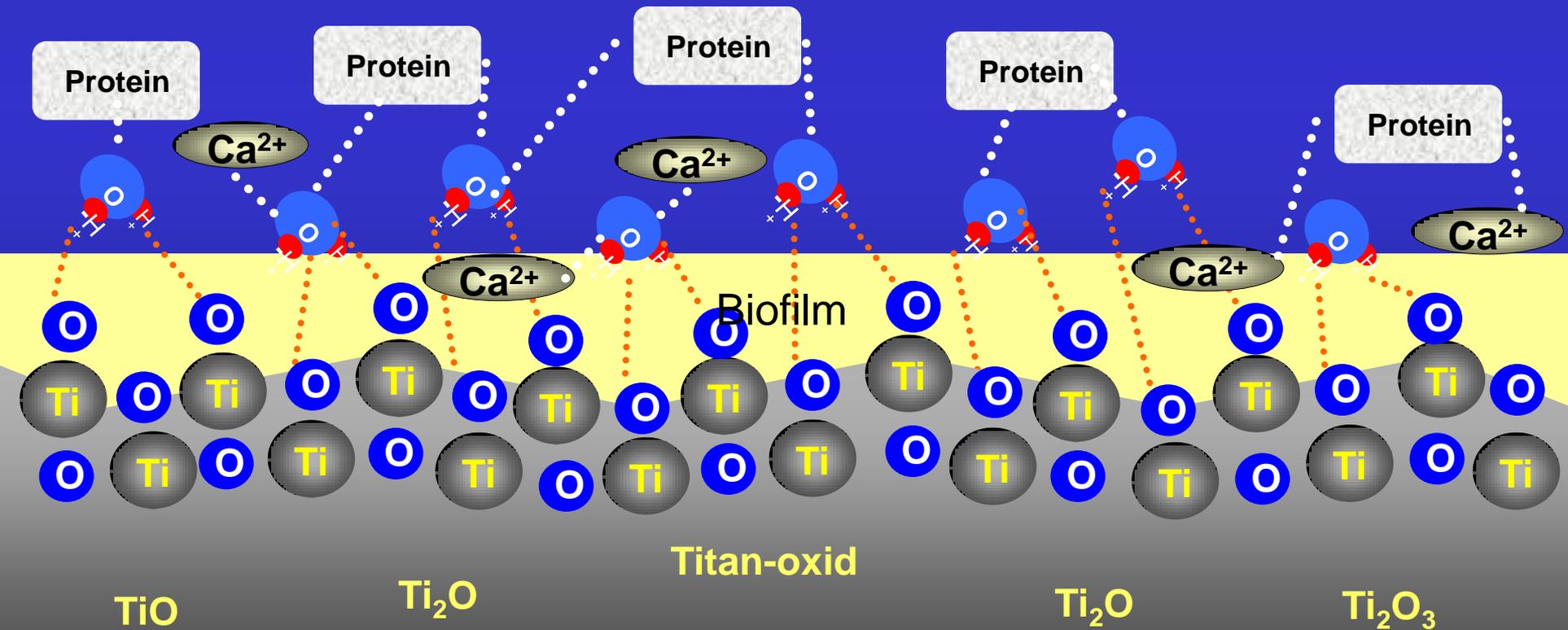


Knochenintegration von Titanimplantaten

Ionen, Plasmaproteine



Knochenintegration von Titanimplantaten

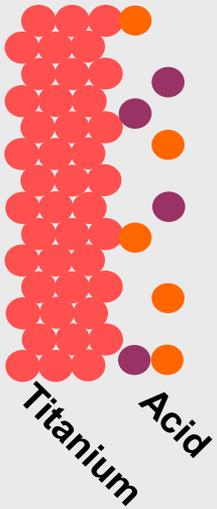


Vergleich der SLA and SLActive

Innovation production process

Acid etching

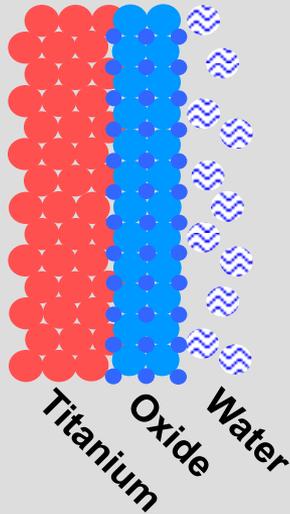
- SLA topography
- Acid on surface



SLA & SLActive

Rinsing with water

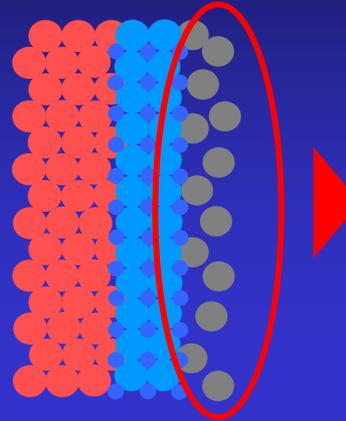
- Chemically active surface
- Hydrophilic Surface



SLA & SLActive

Conventional surface treatment

- Formation of a passive layer

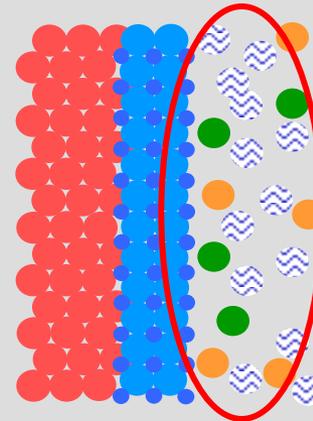


Full healing potential
Is limited due to
passive layer on surface

SLA

SLActive treatment

- Kept active
- Surface attracts blood (hydrophilic)

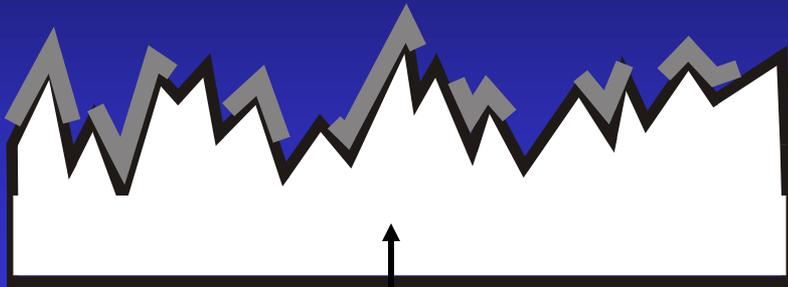


Body can directly
access the active
surface for
osseointegration

SLActive

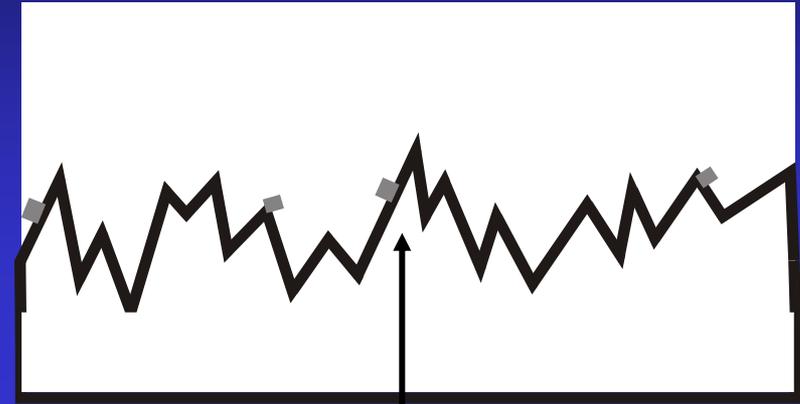
SLActive bewährt die ideale Reinigkeit der Oberfläche

SLA



Surface partially covered with hydrocarbons due to atmospheric contact

SLActive



Surface not covered with hydrocarbons



providing a **greater accessible surface area**

Lagerung des Implantats mit SLActive Oberfläche

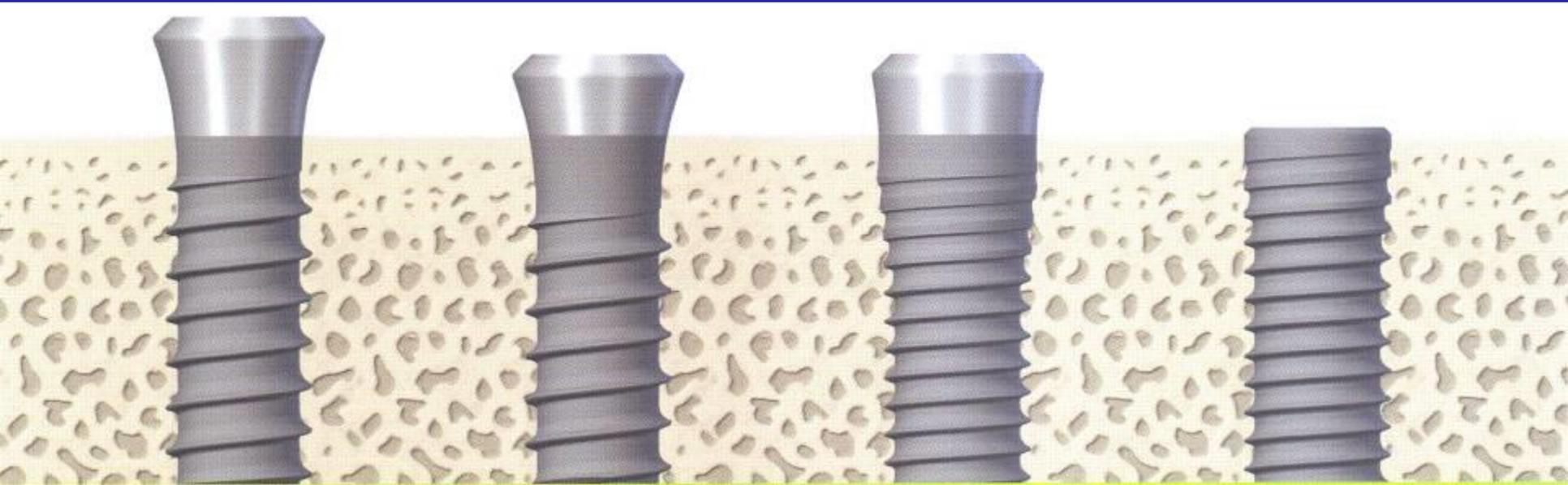


Soft-tissue /transmukosale/ level ITI- Straumann

Implantate



Die Formentwicklung der Straumann Implantaten



Straumann®
Standard

1986

Straumann®
Standard Plus

Straumann®
Tapered Effect

2002

Straumann®
Bone Level

2007

IMPLANTAT



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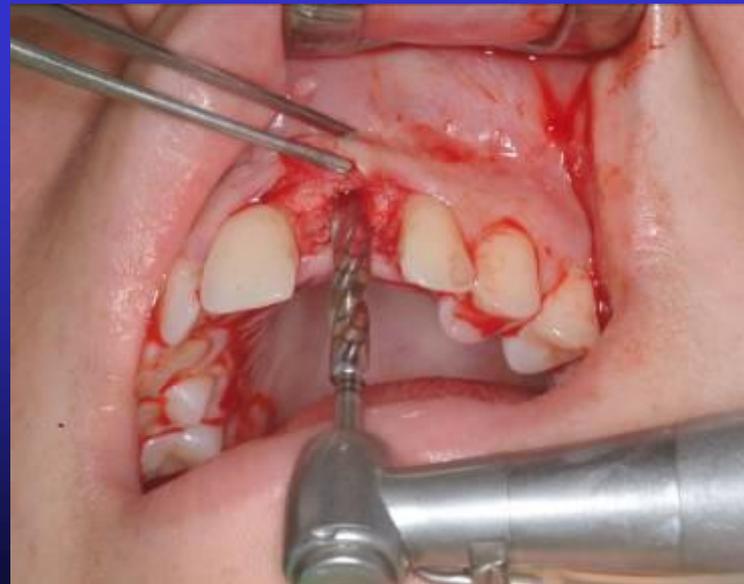


**CHIRURGISCHE
INSTRUMENTE**

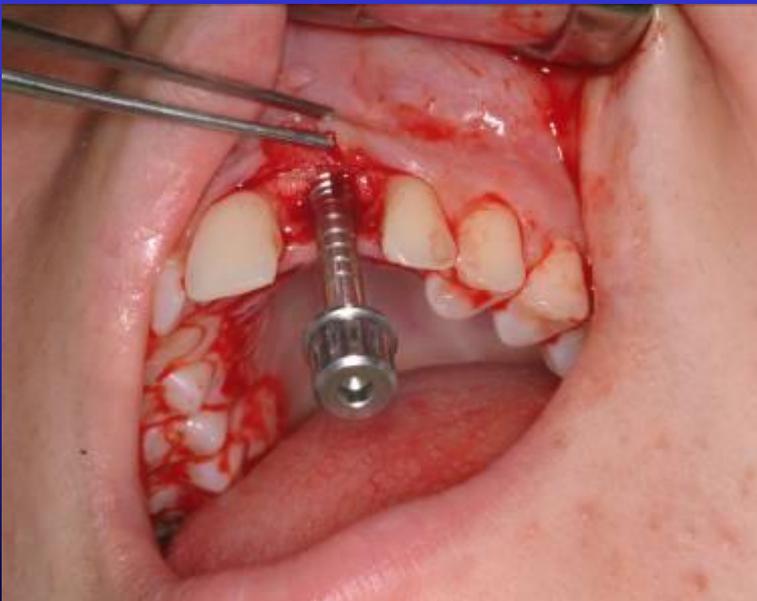
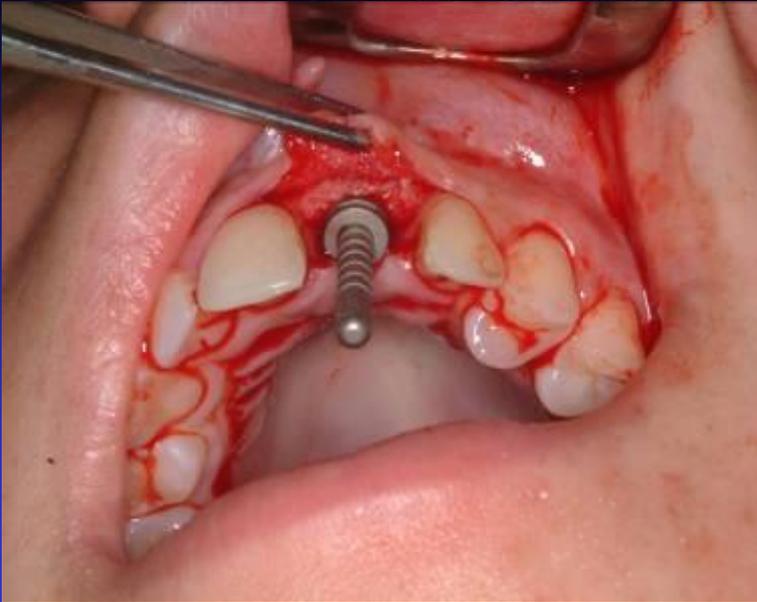
/Operationstechnik/

**PROTHETISCHE
KOMPONENTE**

Einsetzen des ITI-Straumann Implantates



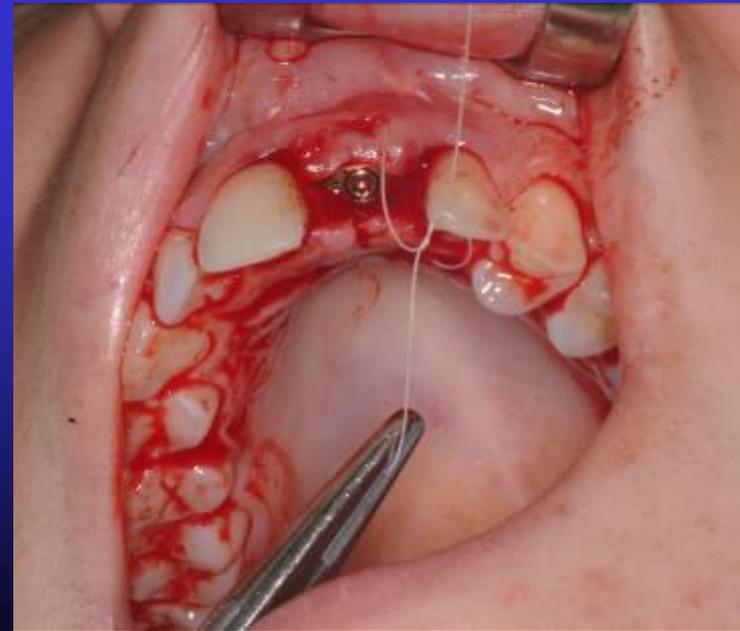
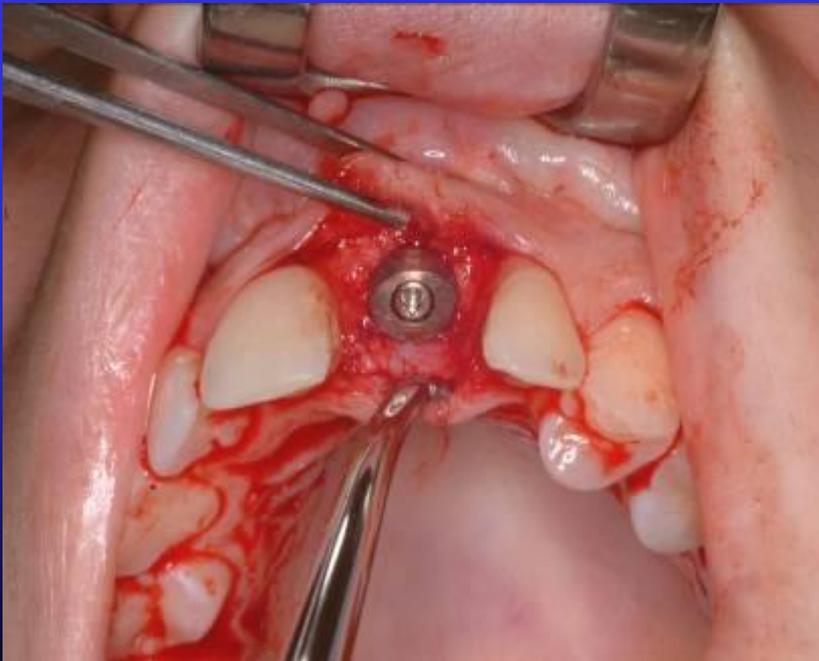
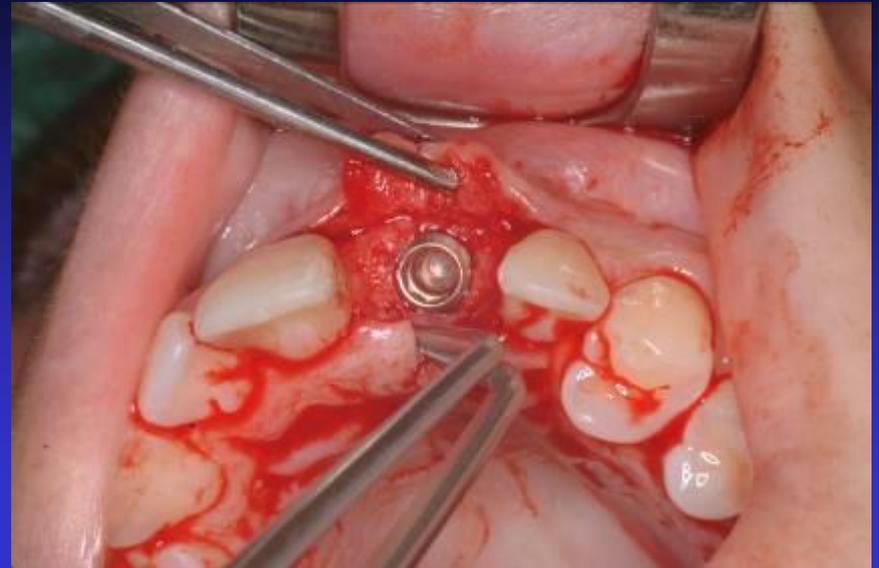
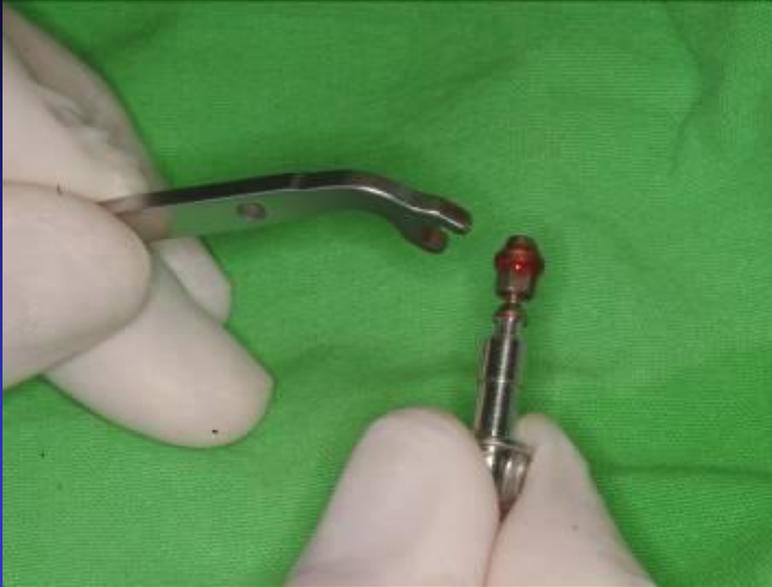
Einsetzen des ITI- Straumann Implantates



Einsetzen des ITI- Straumann Implantates

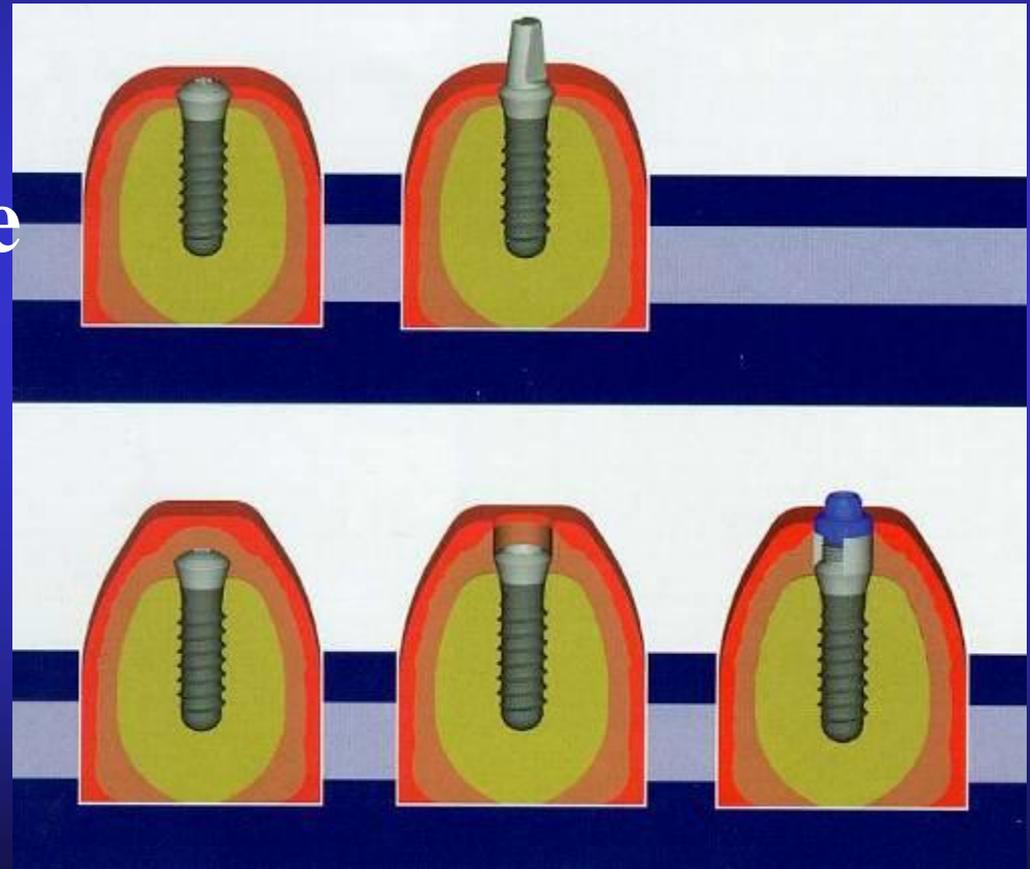


Einsetzen des ITI- Straumann Implantates

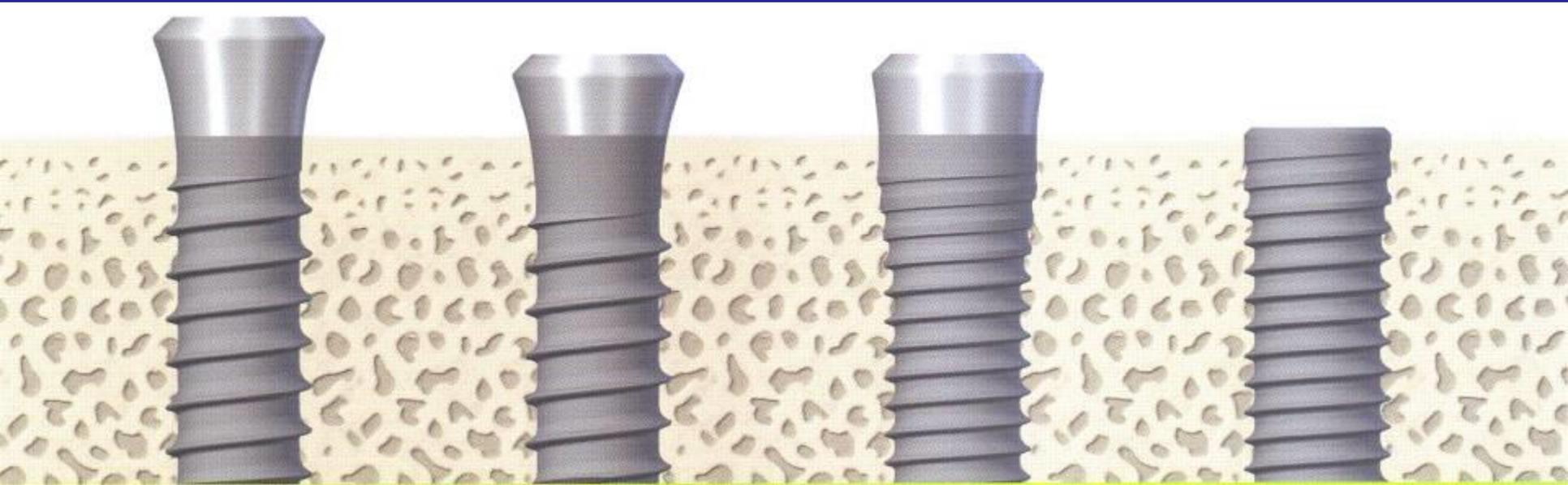


Die wichtigen Eigenschaften von ITI-Straumann System:

- Es wird für transmukosale Heilung geplant



Die Formentwicklung der Straumann Implantaten



Straumann®
Standard

1986

Straumann®
Standard Plus

Straumann®
Tapered Effect

2002

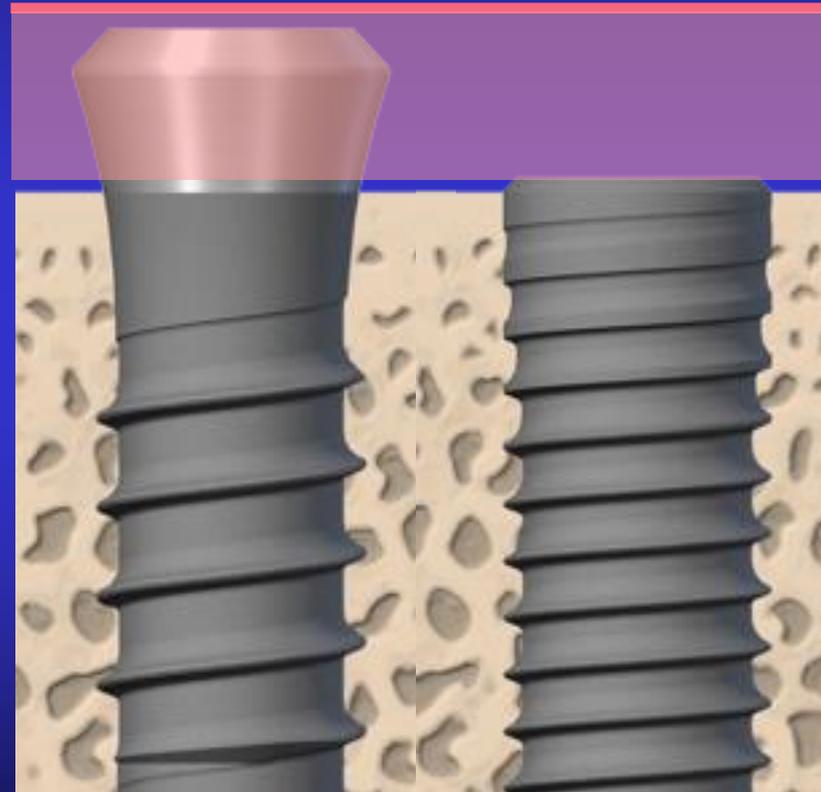
Straumann®
Bone Level

2007

Bone Level /BL/ Implantat 2007

RN

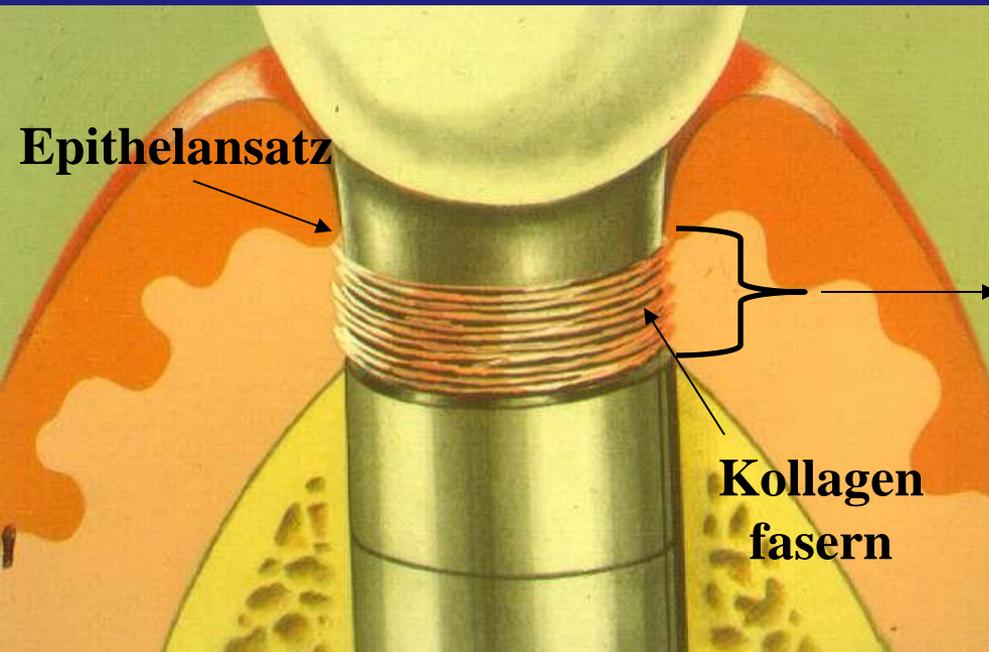
BL



- **Bone level design**

Biologische Breite

/biologic width/



Konstante vertikale
Größe des
periodontalen und
des
perimplantären
Weichgewebes

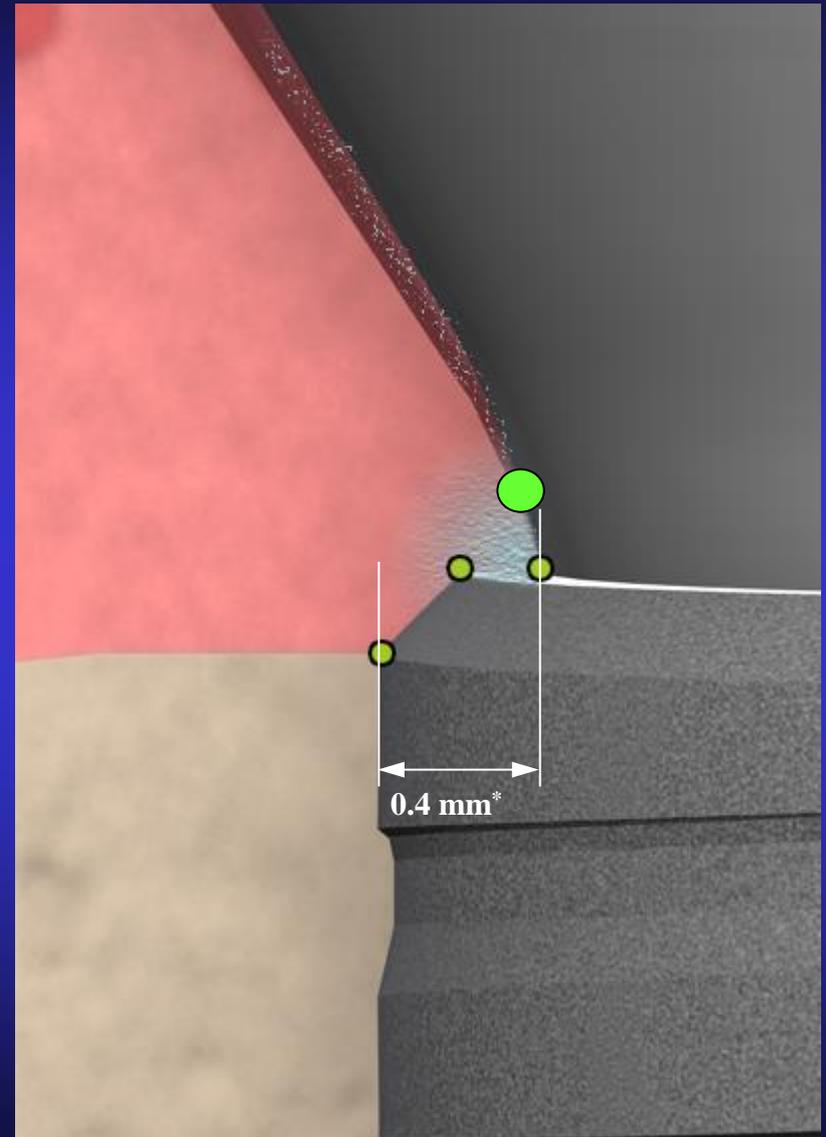
Hermann JS, Buser D, Schenk RK, Schoolfield JD, Cochran DL.:

Biologic Width around one-and two-piece titanium implants

Clinical Oral Implants Research 12, 2001; 559-571

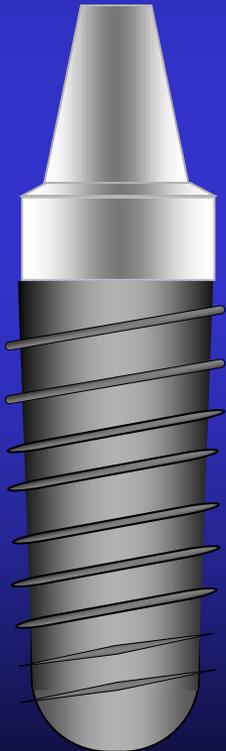
Bone Control Design™

- Respektiert die biologische Distanz: erhält das krestale Knochenniveau



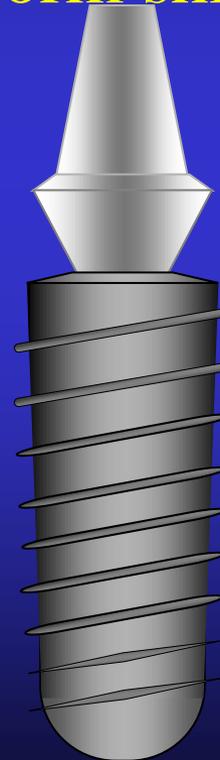
Implantat-Pfost Verbindung

Marginale

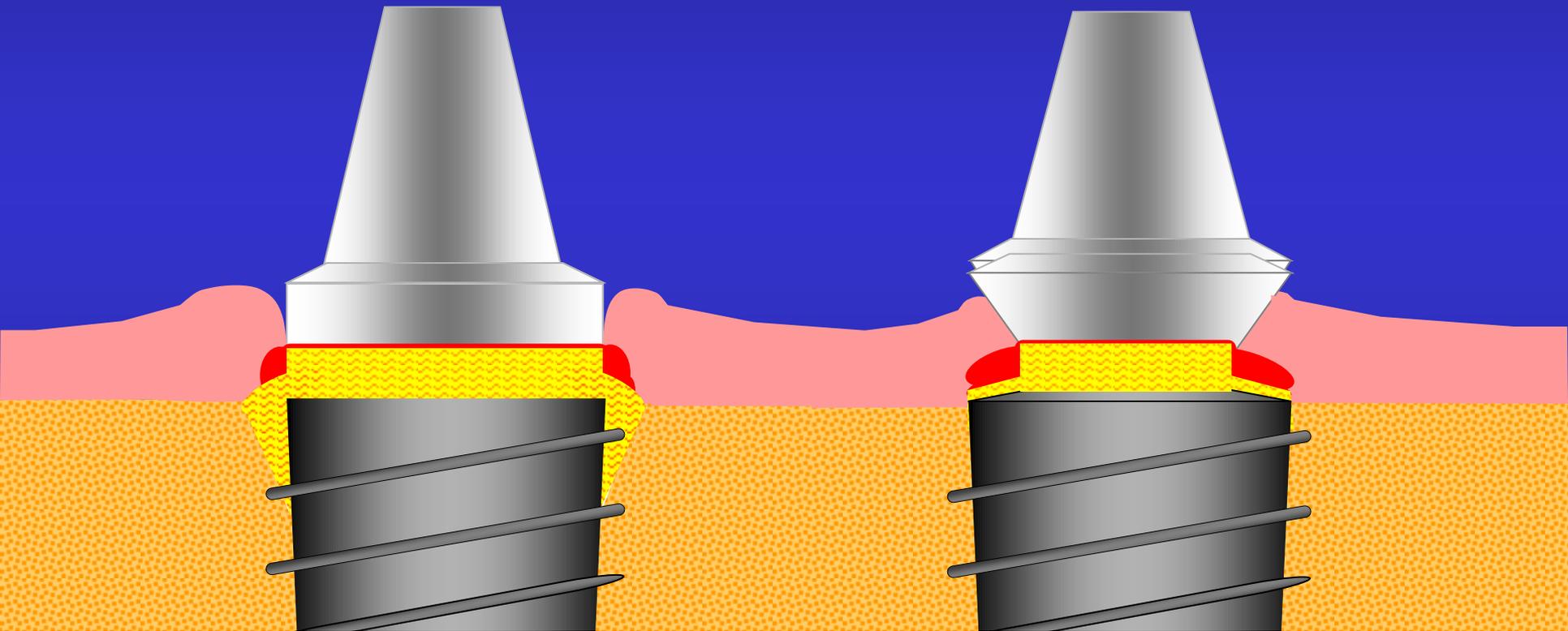


Centrale

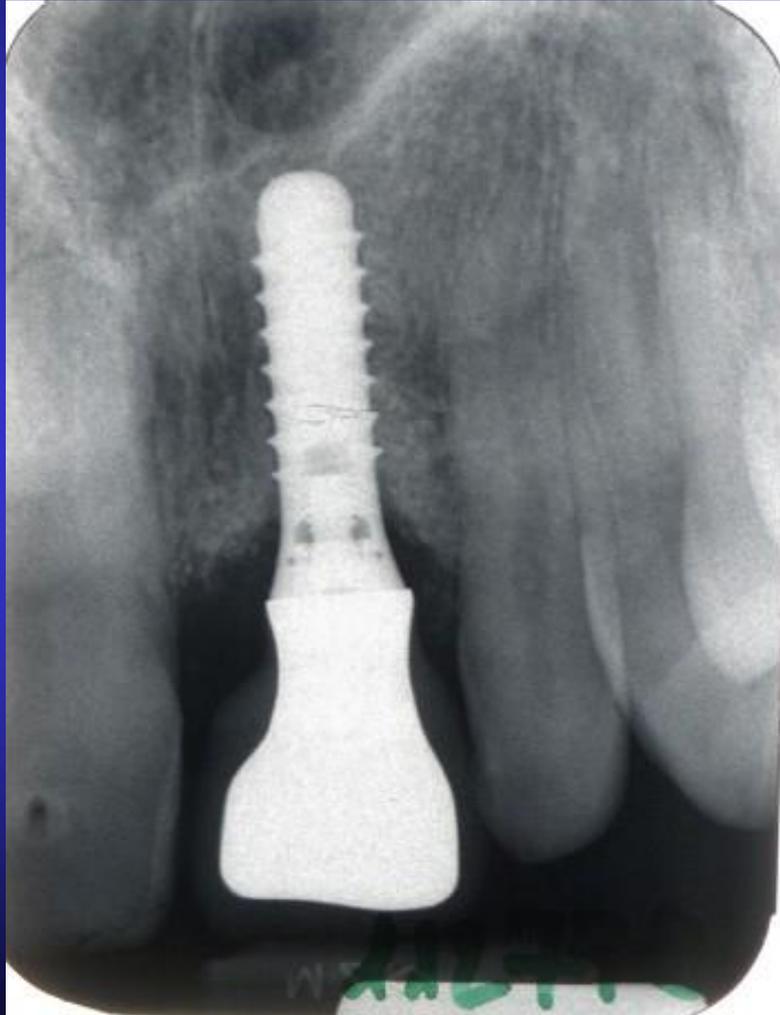
/platform switching,
platform shifting/



Umwandlung der „Biologische Breite“ infolge des Pfosteneinsetzes



V-förmige Knochenabbau im Halsbereich des Implantats



IMPLANTAT



IMPLANTATSYSTEM



**CHIRURGISCHE
INSTRUMENTE**

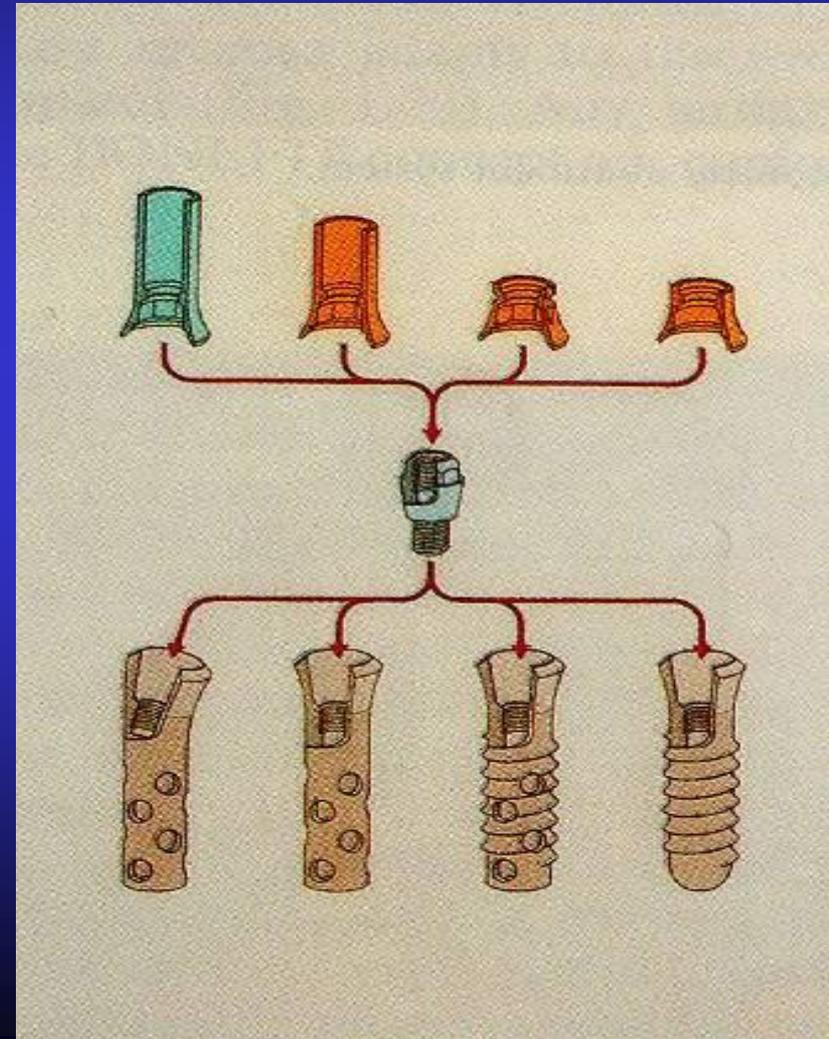
**PROTHETISCHE
KOMPONENTE**

Die Entwicklung des Straumann Implantatsystems: **Prothetikpfosten**

- 1986 Bonelit System

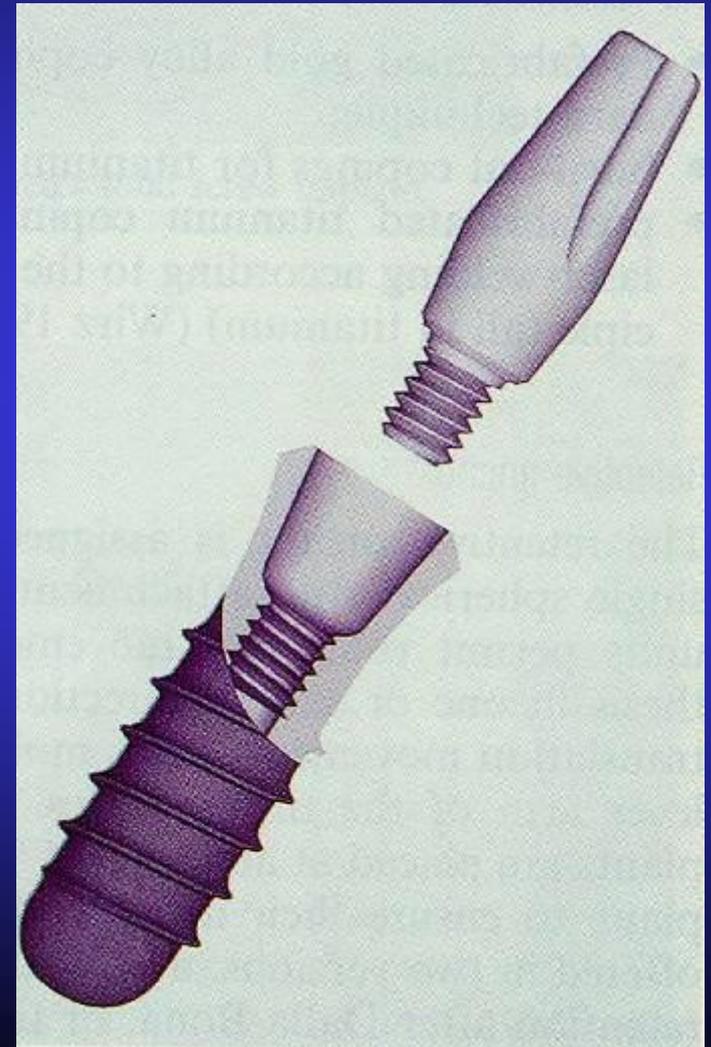
- 1991 Octa Pfosten

Konusverbindung

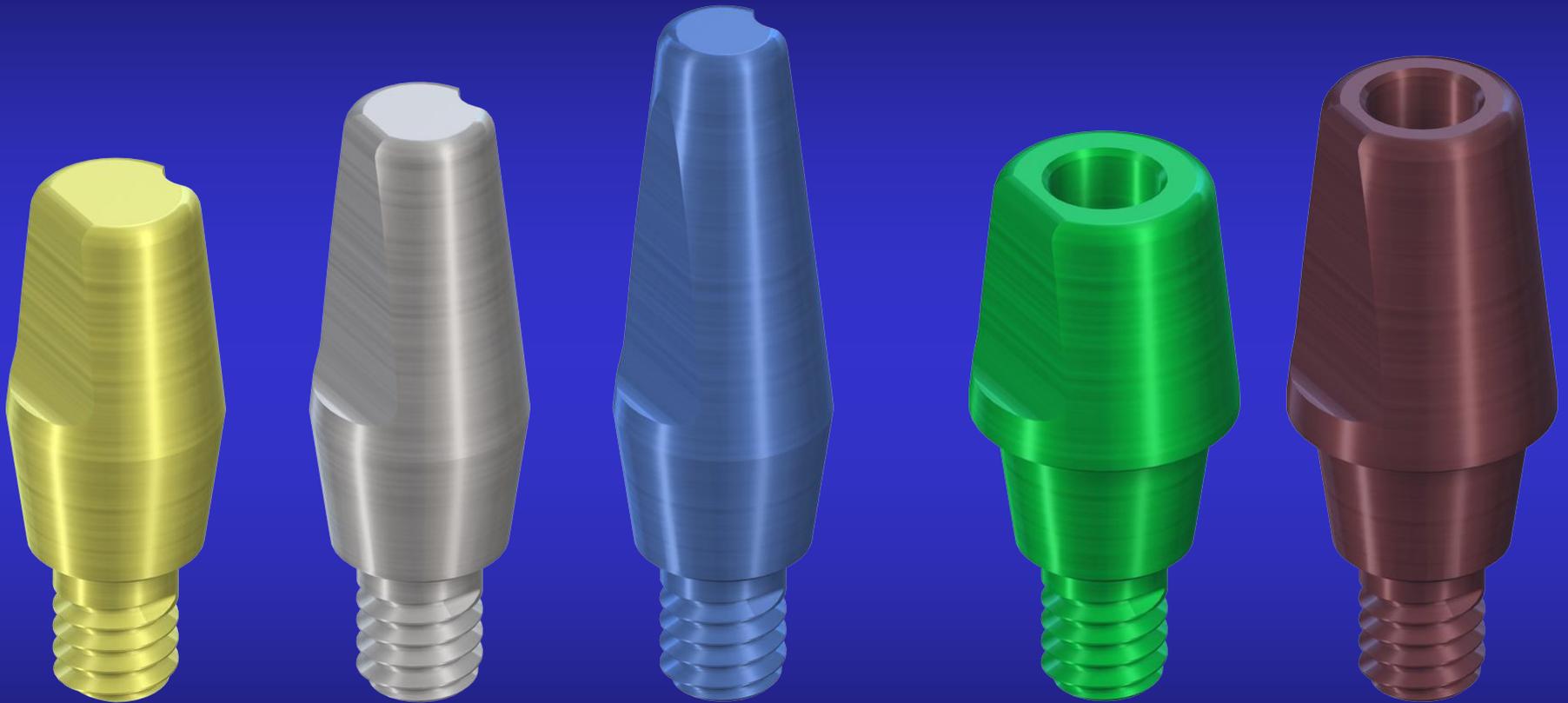


Die Entwicklung des Straumann Implantatsystems: **Prothetikpfosten**

- 1986 Bonelit System
- 1991 Octa Pfosten
- **1994-1997**
Konzept der
zementierbaren
Pfosten



Straumann Solid abutments



RN

4,0 mm

RN

5,5 mm

RN

7,0 mm

WN

4,0 mm

WN

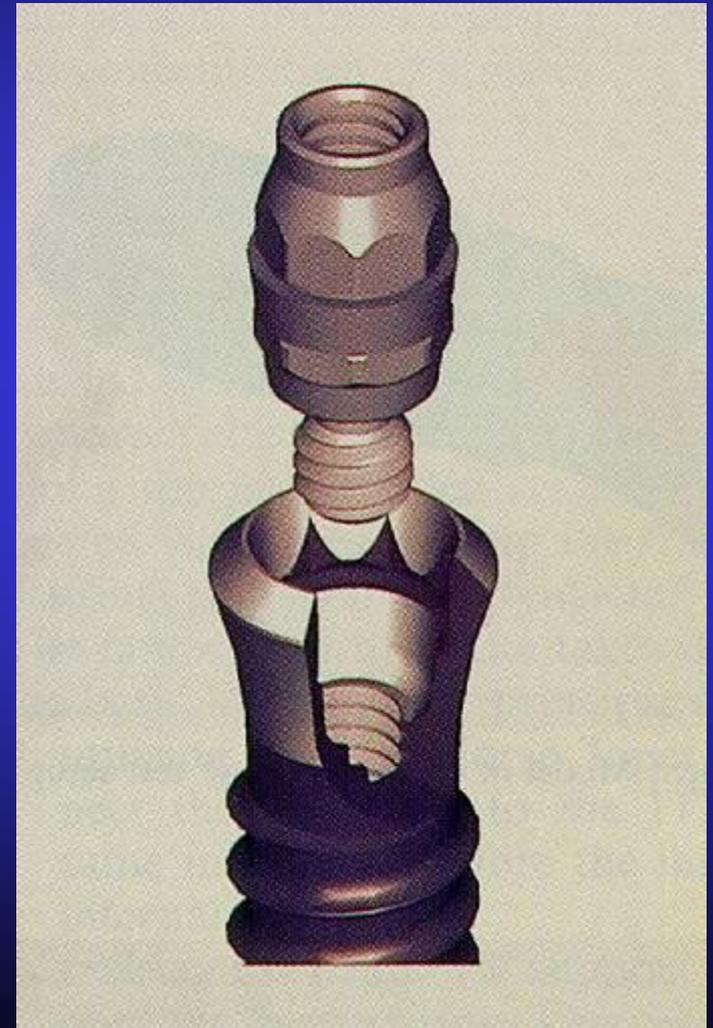
5,5 mm

Unilaterale Freiendlücke, zementierte Brücke



Die Entwicklung des Straumann Implantatsystems: **Prothetikpfosten**

- 1986 Bonelit System
- 1991 Octa Pfosten
- 1994-1997 Zementierbare Pfosten
- **1999 SynOcta Pfosten**
Stabile Konusverbindung

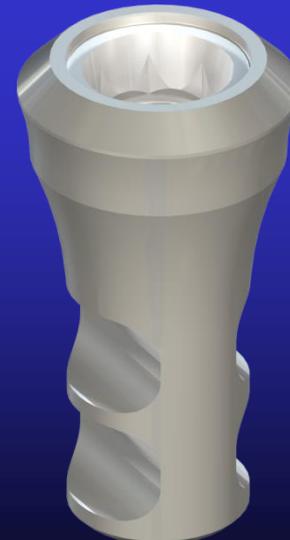


SynOcta zementierbare Pfosten

RN



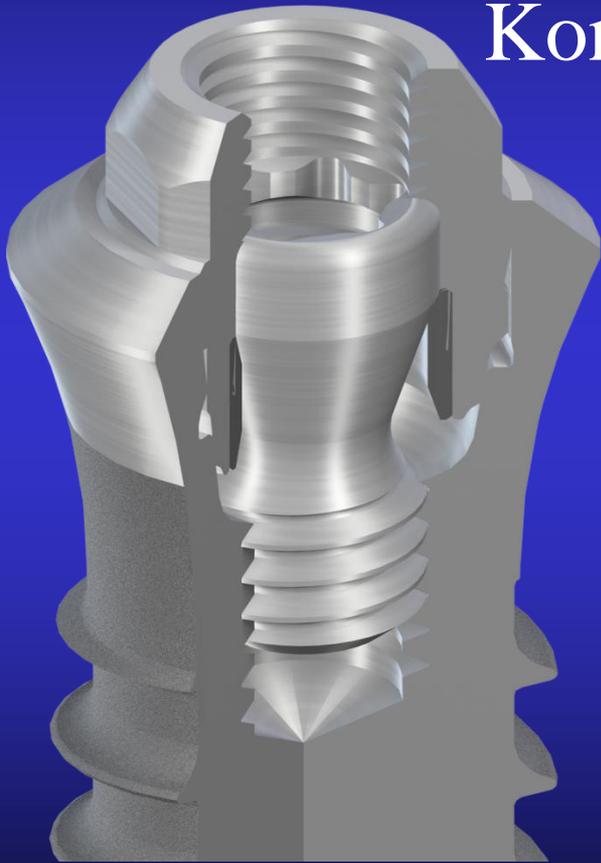
WN





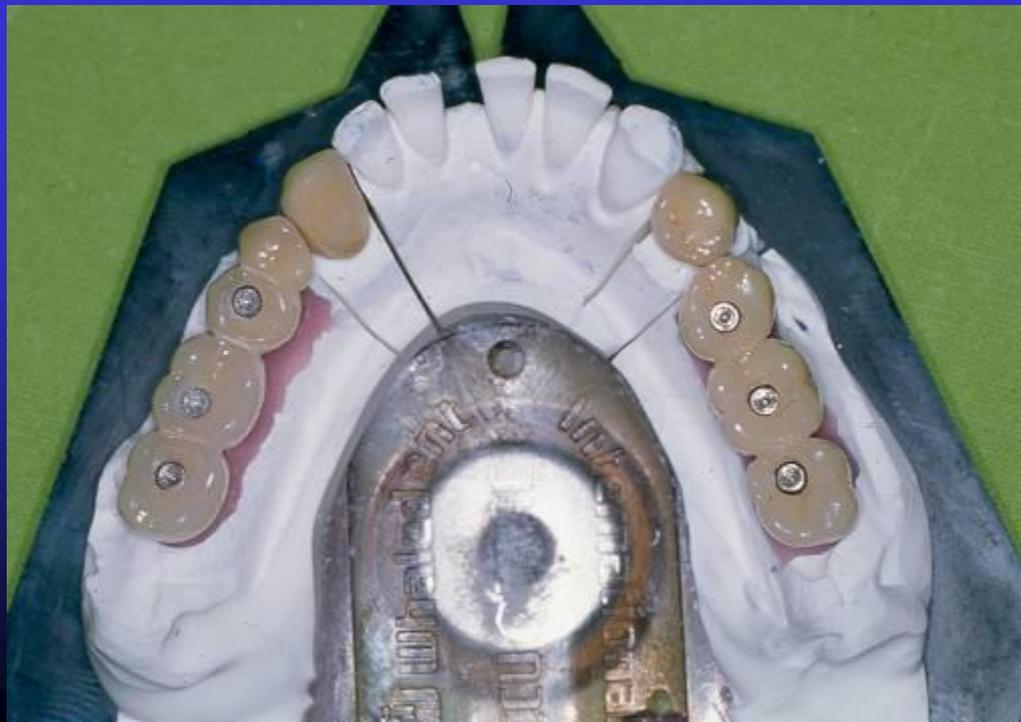
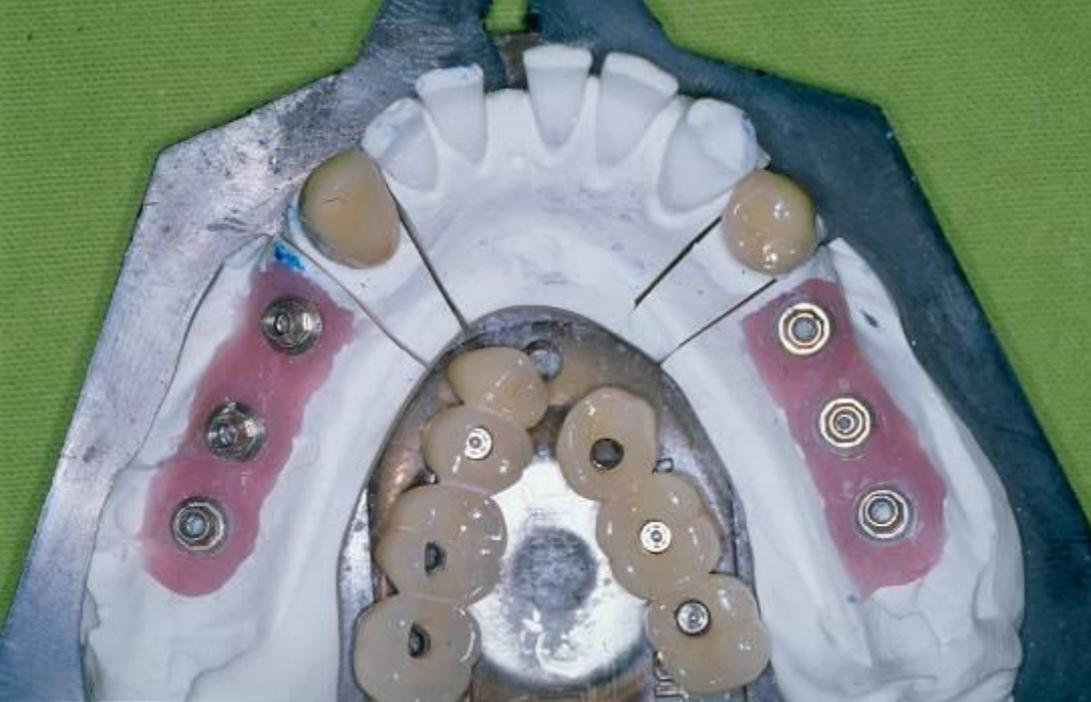
Straumann® SynOcta Abutment für Schraubenfixierung

/Innere Oktagon and stabile
Konusverbindung/



**Bilaterale Freie dlücke,
verschraubte Brücke auf
SynOcta Pfosten.**









Die Entwicklung des Straumann Implantatsystems: **Prothetikpfosten**

- 1986 Bonelit System
- 1991 Octa Pfosten
- 1994-1997 Zementierbare Pfosten
- 1999 SynOcta Pfosten
- **2006 Individuelle zirkonoxide Pfosten**



/CARES/

Straumann® CARES / Computer Aided REstoration Service /



Narrow CrossFit



Regular CrossFit

CARES-etkon – wax up abutment

Dentist



Impression

Dental lab



Wax-up sleeve



Modeling



Scan



Order



Completion

Dental lab



Finish

STMN



Delivery



Manufacture

Zirconia Abutment auf SynOcta und vollkeramische Krone



Die Entwicklung des Straumann Implantatsystems: **Prothetikpfosten**

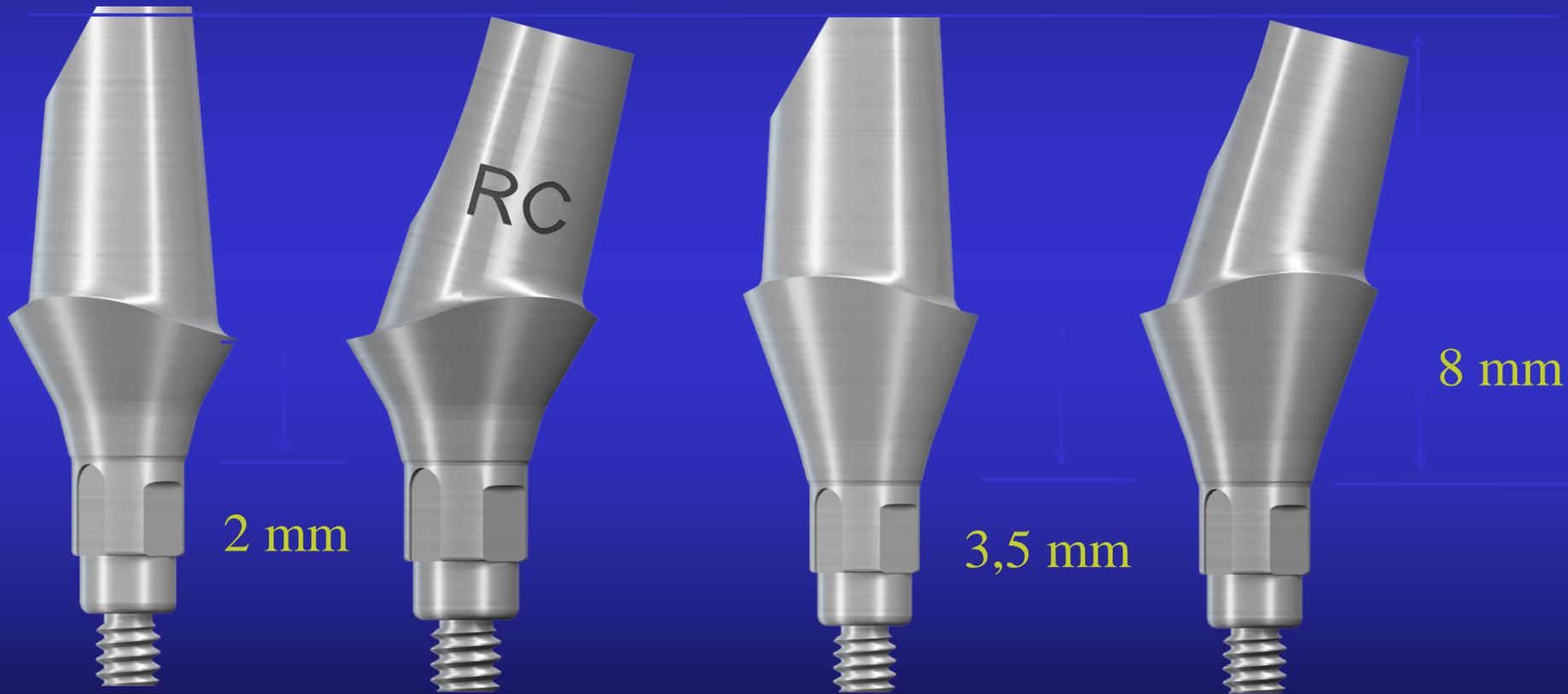
- 1986 Bonelit System
- 1991 Octa Pfosten
- 1994-1997 Zementierbare
Pfosten
- 1999 SynOcta
Pfosten
- 2007 **Crossfit Verbindung bei
Bone Level Implantaten**



Zirconia abutment connected to implant with full ceramic crown



Zementierbare anatomische Pfosten für Bone Level Implantate



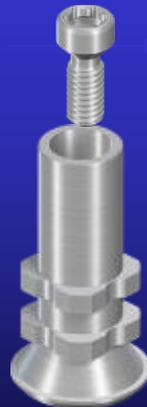
BL Implantat: Multi-Base Abutment und Zubehören

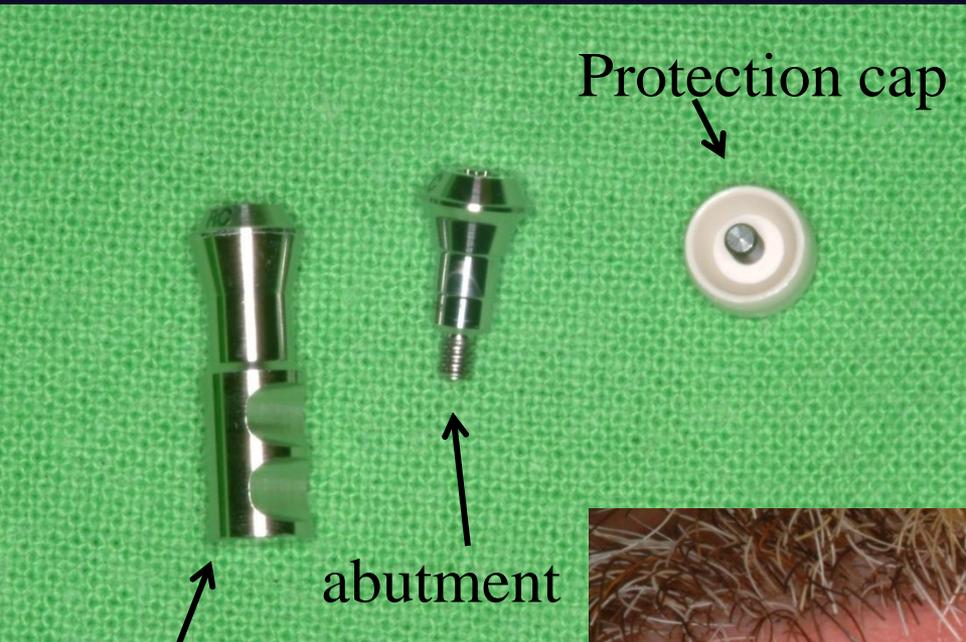
Abutment

Abformung

Hygiene

Dental lab



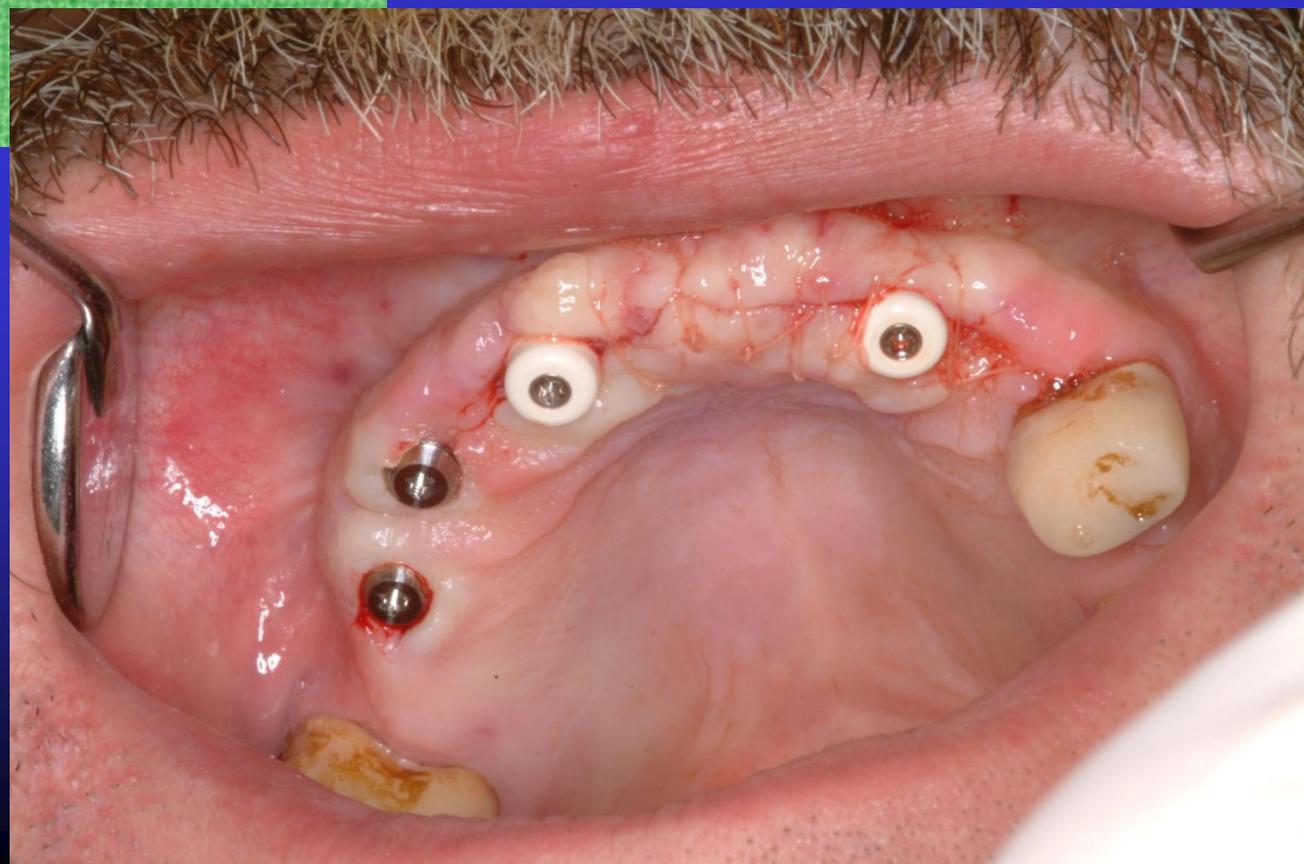


Protection cap

abutment

Multi-Base Abutment im Mund

technical
analog



Kugilverankerung für zahnlose Kiefers

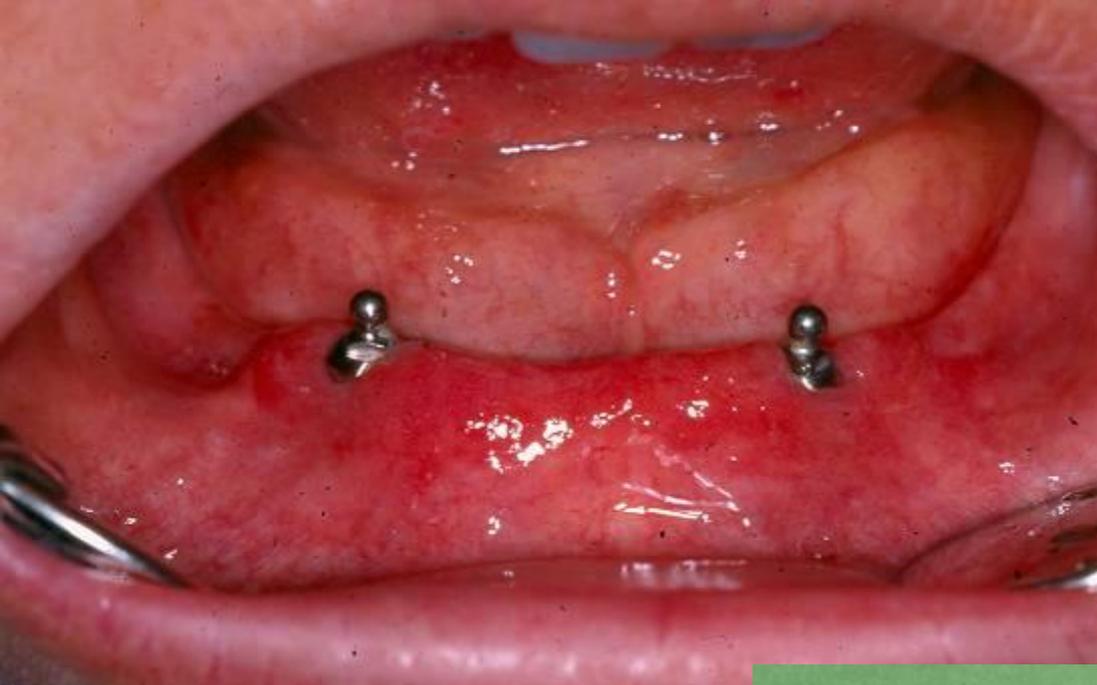
35 Ncm



**Wirksame, sozio-
ökonomische Lösung für
zahnloser Unterkiefer:**

**Kugelkopf-Attachments auf
zwei Implantaten.**

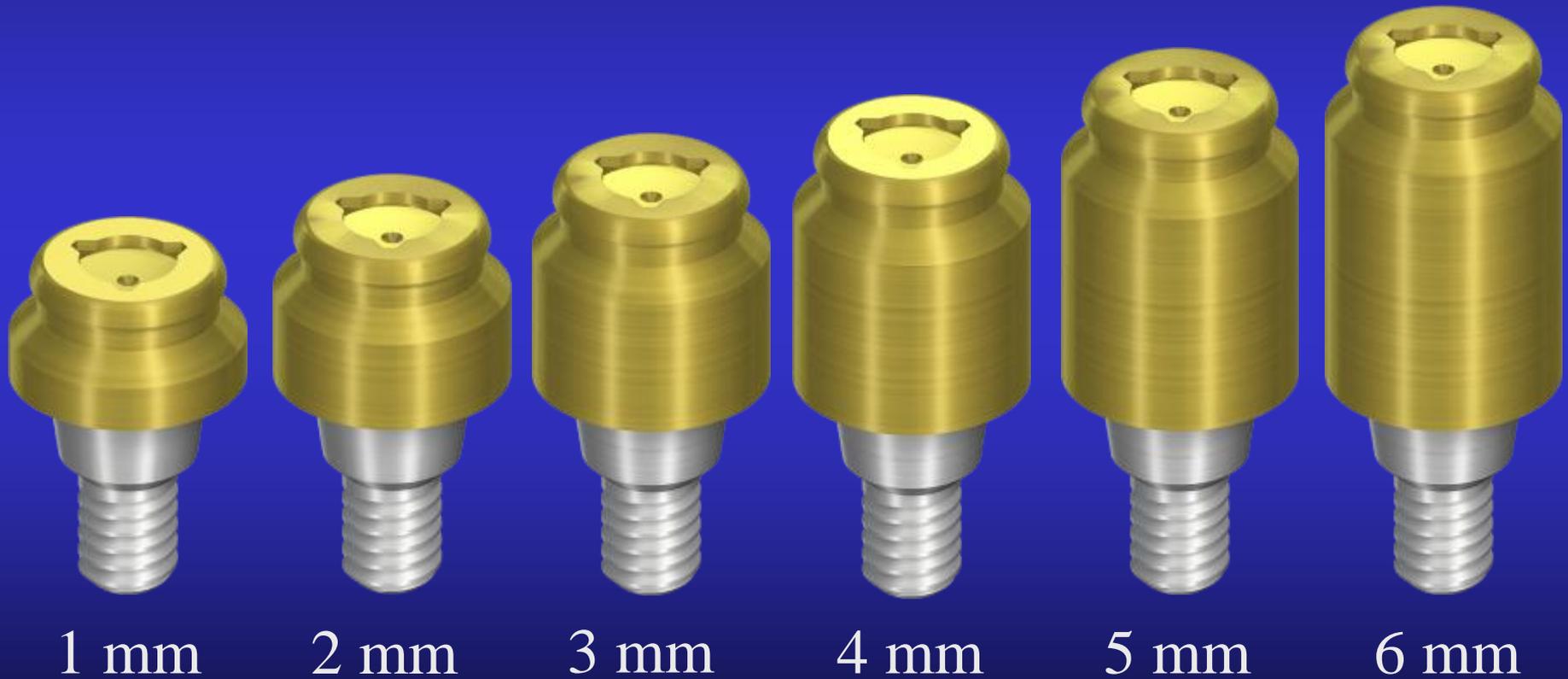
Herausnehmbare Prothese.



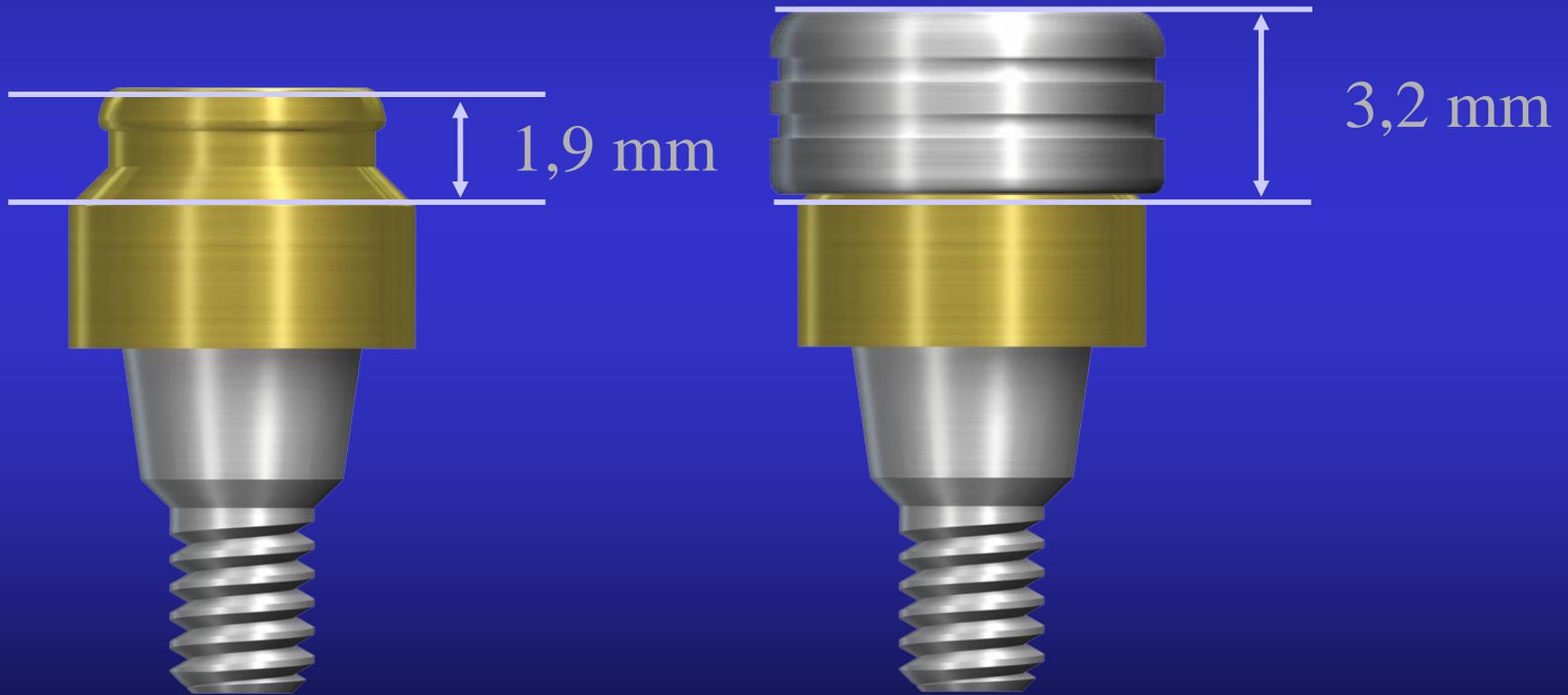
Kugel Verankerung
mit Prothese



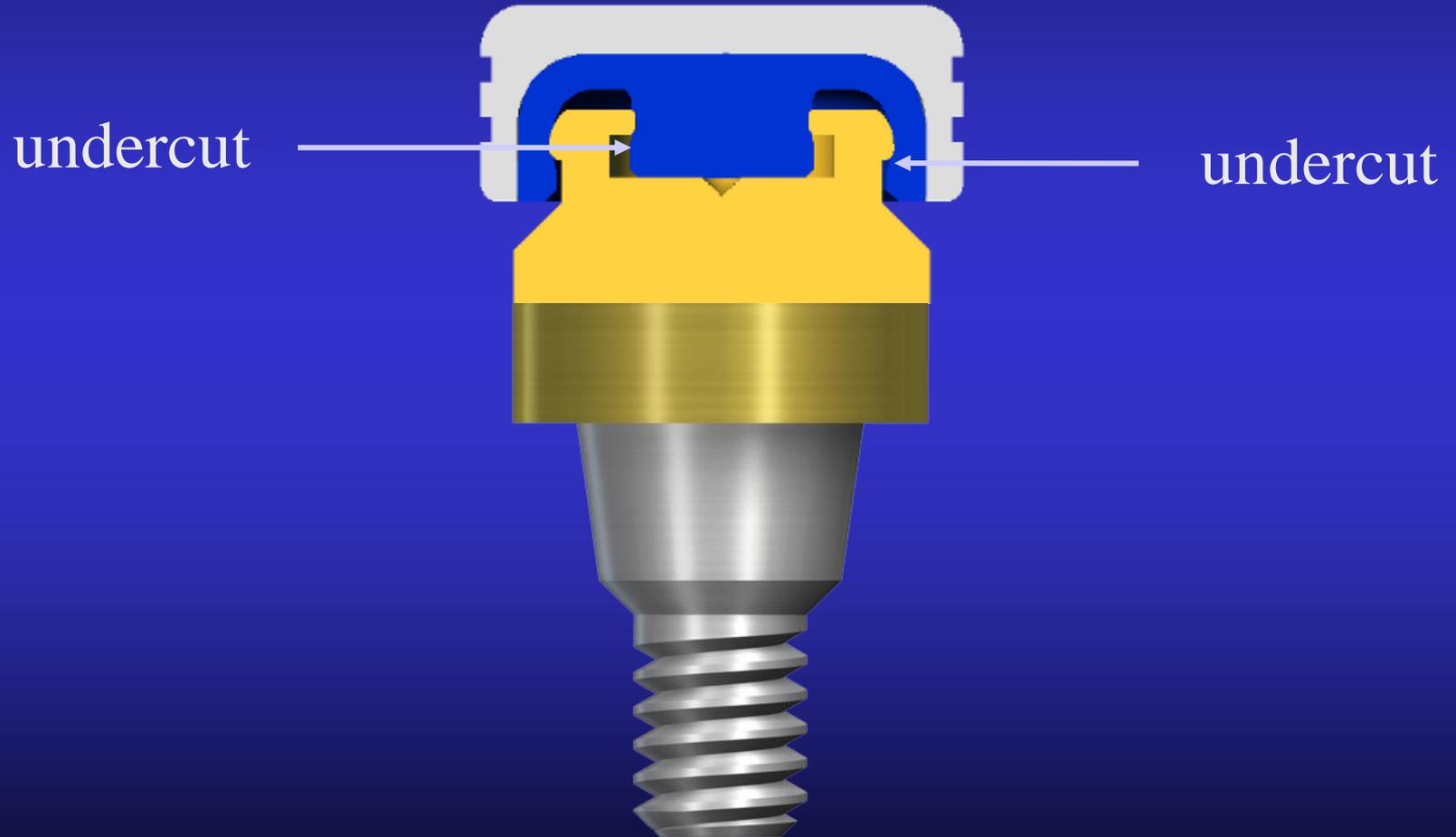
LOCATOR[®] Pfosten für zahnlose Kiefers



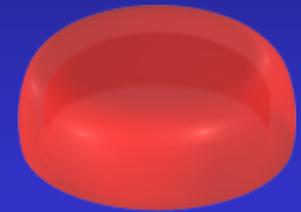
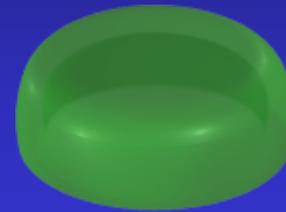
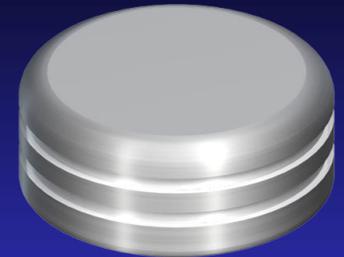
Teile des Locators®



Duale Retention des Locators



Retentionskräfte der LocatorKomponente

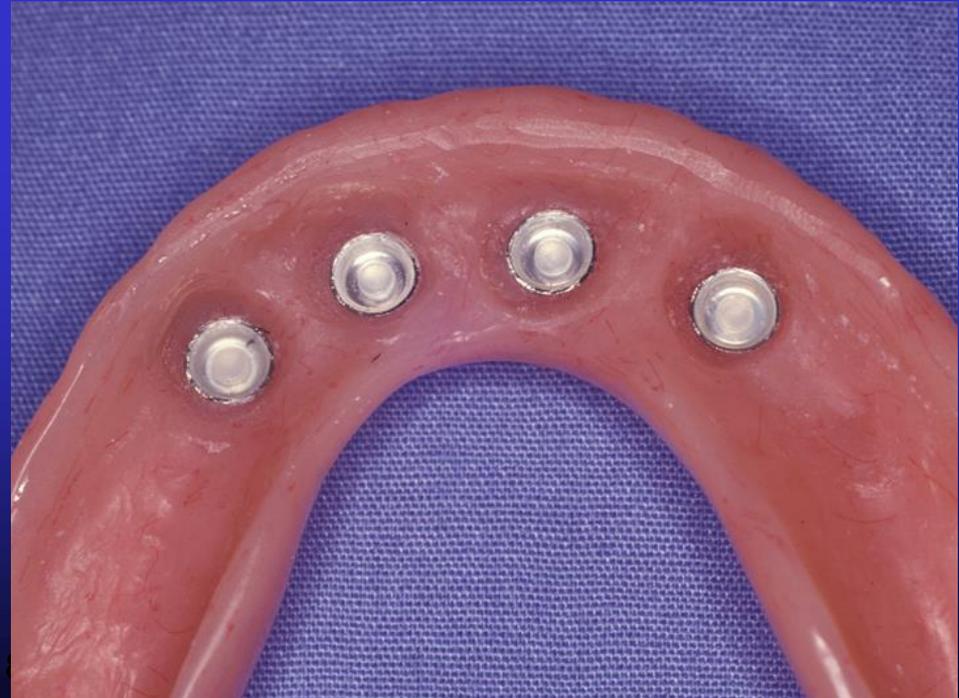
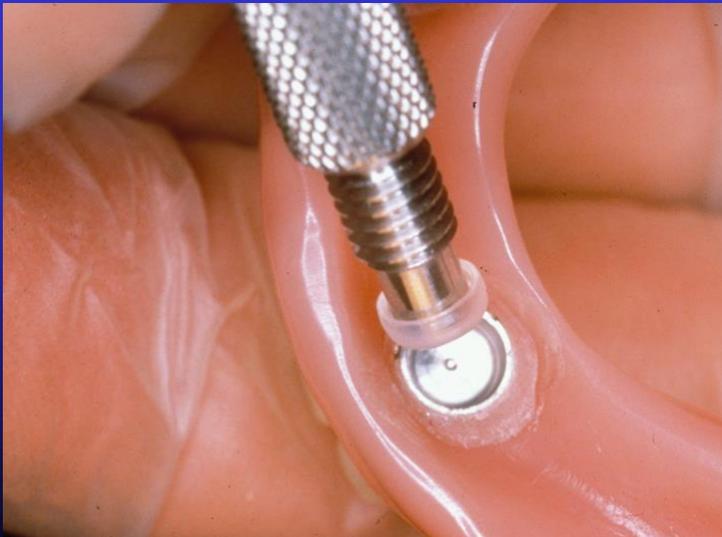


white	pink	blue	green	red
1°-10° *	1°-10° *	1°-10° *	11°-20° *	11°-20° *
5 lbs**	3 lbs**	1,5 lbs**	3-4 lbs**	1,5 lbs**
2,27 kg	1,36 kg	0,68 kg	1,36-1,84 kg	0,23 kg

* For axial correction

** lbs = retentive force

Insertion des Locators



Für die Rigorosum!

Die wichtigen Eigenschaften von ITI- Straumann System:

- Es wurde für transmukosale Heilung geplant
Paradigmawechsel: Bone Level Implantat
- Evidence based Implantat-Oberflächen
/SLA, SLActive/
- Konus, Stabile-Konusverbindung
Bone Level: Platform Shifting



<http://go>

***Danke für Ihre
Aufmerksamkeit!***