

CHAMPIONSHIP OF INNOVATIONS. Seeing is believing.

REAL CHAMPIONS SHARE A COMMON VISION.

Winning is not enough. Champions strive for excellence and inspire through outstanding and impressive performance. Prepare to be wowed by the CHAMPIONSHIP OF INNOVATIONS.

Some Straumann products and services may not be available in all countries. Please contact your country sales representative for details.

Welcome to the gold standard in implant and esthetic dentistry

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*Regulatory approval pending

Straumann® – the global gold standard in implant and esthetic dentistry

Straumann® stands for Swiss premium quality, precision and pioneering innovation in dentistry, backed by the largest global scientific network. As the undisputed leader in implantology, we deliver innovations that are acknowledged as industry benchmarks and disruptive technological advancements backed by long-term scientific evidence.



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EXCELLENCE IN



IMMEDIACY

Straumann® Excellence in Immediacy

Innovation meets heritage.

To respond to market needs for shorter treatment times and simplified workflows, Straumann® has expanded its treatment portfolio to deliver leading solutions that provide versatility, reliability and predictable outcomes for immediate implant placement and immediate loading.

Our excellence in immediacy is attributed to the consolidation of advanced implant design, combined with the best surface, SLActive®, and the strongest material, Roxolid®, to maximize primary and secondary stability, even in the most demanding clinical situations and bone types.

Straumann® SLActive® Performance beyond imagination

BEYOND HYDROPHILICITY

More than 10 years ago, Straumann® pioneered accelerated osseointegration with the innovative hydrophilic SLActive® surface, reducing the healing period from 6–8 down to 3–4 weeks for most indications.¹ Since then SLActive® implants have made faster treatment and better outcomes a reality.¹ The extensive healing potential of SLActive® can now be seen even in severely compromised patients and with challenging treatment protocols.^{2,3}

MORE THAN 10 YEARS OF CLINICAL SUCCESS AND PROVEN PREDICTABILITY

IMMEDIATE LOADING

High predictability
in immediate
loading.

COMPROMISED PATIENTS

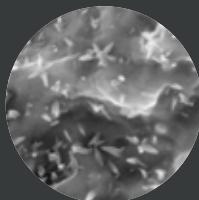
Outstanding success
in compromised
patient groups.

ENHANCED BONE GRAFTING

Significantly higher
formation of new
bone aggregate.

NEW INSIGHTS INTO SLACTIVE® SURFACE PERFORMANCE

NANO-STRUCTURES ON SLACTIVE® SURFACE



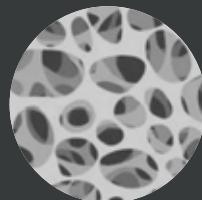
Distinct nano-structures are present
on the SLActive®, but not on the
SLA® surface.^{4,5}

INCREASED SURFACE AREA

+50 %

Nano-structures increase the SLActive®
surface area by more than 50%.⁶

NANO-STRUCTURES SUPPORT EARLY OSSEointegration



In-vitro research shows that
nano-structures enhance fibrin
network formation and bone cell
mineralisation.^{7,8}



Leading researchers worldwide are looking at what's behind the outstanding clinical performance of SLActive®. As new insights emerge, recently discovered nano-structures explain why the SLActive® surface goes beyond hydrophilicity.

Discover the science of high performance.



Discover new insights about our SLActive® surface today. Slactive.straumann.com



Straumann® BLT Q 2.9 mm – the SmallOne

Another legend is born:
Small, strong and enduring.



LESS INVASIVE
A perfect combination of shape, strength and healing power.



NATURAL LOOKING ESTHETICS

Novel prosthetic design that closely matches the anatomy of teeth.



FULL STRENGTH
A strong and reliable treatment option thanks to Roxolid®.

The SmallOne possesses the outstanding mechanical strength of our Roxolid® material and the extensive healing potential of our SLActive® surface. This made it possible to engineer an implant with a diameter as narrow as 2.9 mm that is reliable without compromising on strength.

New prosthetic components in a unique oval design address the esthetic challenges. They provide enough space for surrounding soft tissue to achieve pleasing esthetic results in the anterior region.

With the SmallOne you can treat your patients with confidence and offer an ideal treatment solution to increase patient acceptance.



Get to know our new legend:
smallone.straumann.com

BIOMATERIALS



BIOLOGICS & ESTHETICS



Straumann® Biomaterials & Esthetics

Love your smile.

Ask for an exceptional range of Biomaterials and learn more about the Straumann® PURE Ceramic Implant System.



Biomaterials@Straumann®

When one option is not enough.



Decades of experience in dentistry and oral regeneration propelled us to understand and meet the diversity of needs, indications and preferences. The right solution in implantology and periodontology is designed to fit the individual. Straumann offers an exceptional range of biomaterials that meet your expectations and those of your patients. Ask for options. Contact Straumann.



FLEXIBILITY
Wide range of biomaterials to cover all indications.



ESTHETICS
Advanced options for soft and hard tissue reconstruction. Esthetic results in all indications.



PATIENT COMFORT
Emdogain®. Orchestrating wound healing to make oral surgery more tolerable for your patients.



EASE OF USE
Improved handling. Tested in the hands of thousands of clinicians.



INNOVATION
Dynamic portfolio with cutting edge technologies by dedicated research scientists.



Get to know your options:
www.straumann.com/biomaterials

Straumann® XenoFlex

Bovine bone grafting material with 10% porcine collagen.

Straumann® XenoFlex – a biomimetic composite material that resembles native bone in its basic biphasic composition of xenogenic collagen and hydroxyapatite.

Beneficial handling characteristics and the ability to be shaped to match the individual defect make Straumann® XenoFlex an efficient, easy to handle, volume-stable solution for the treatment of bone defects.



BIOCOMPATIBILITY

- Optimal balance of calcium and phosphate (comparable to human bone)



VERSATILITY

- The natural structure of the granular portion of Straumann® XenoFlex supports osteoconduction with interconnected porous granules, enhancing integration of new bone.
- The collagen portion of Straumann® XenoFlex supports the initial healing environment and the binding of the granules to the native bone.



VOLUME STABILITY

- Xenograft granules undergo superficial resorption only. The granules provide excellent space maintenance and predictably integrate into newly formed bone, ensuring volume maintenance and a strong long lasting matrix for successful placement of dental implants.^{9, 10}



EASY HANDLING

- Size is customizable to the patient defect and can be shaped dry or wet.
- After hydration, Straumann® XenoFlex changes to a slightly spongy consistency and can be applied with tweezers.

Versatile allograft portfolio enabling various treatment options.



SAFETY

- More than 80,000 bio-implants processed under pharma-regulations with no safety concerns
- Final sterilisation by means of gentle (25 to 35 kGy at <50 °C) gamma irradiation ensures a sterility assurance level (SAL) of 10⁻⁶ without structural or functional alterations.



RELIABILITY

- Predictable graft quality as well as validated inactivation of viruses and germs using the proprietary Allotec® process.
- Osteoconductive properties support natural and controlled tissue remodeling.



EFFECTIVENESS

- Clinically demonstrated to provide an effective scaffold for new bone growth. Shown to deliver strong structural support, rapid bone regeneration and volume preservation.¹¹
- Excellent and quick biological regeneration capability.¹¹



FLEXIBILITY

- botiss® maxgraft® are offered in an entire line of different shapes to complement a range of clinical indications and choices.

botiss® maxgraft® is an allograft material with preserved natural human bone structure. It's the safe and trusted bone regeneration solution most similar to a patient's own bone.

botiss® maxgraft® comprises an entire line of allograft products of different shapes, such as granules, blocks, customized blocks, rings, and plates.



PATIENT COMFORT

- A true alternative to autologous bone, eliminating donor site complications.



AVAILABLE
SOON

Straumann® Emdogain®

For flapless use*

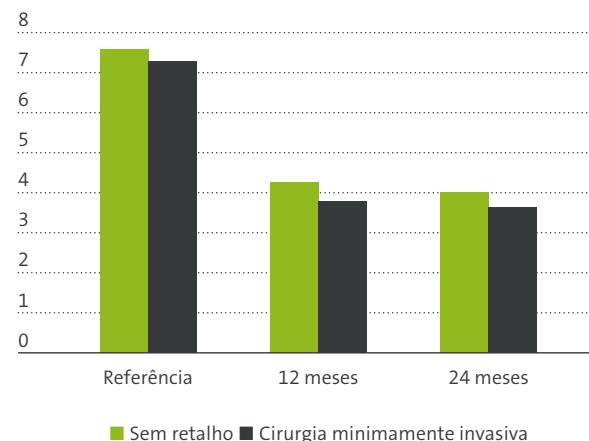
Following decades of clinical success in regenerative periodontal flap surgery and thanks to the introduction of a new applicator, Emdogain®, the unique gel containing enamel matrix derivative can now be applied in periodontal pockets up to 9 mm deep after scaling and root planning procedures. For the first time, true periodontal regeneration can be achieved without raising a surgical flap.

Independent studies show that adding Emdogain® to the thorough scaling and root planning procedure of periodontal pockets up to 9 mm deep leads to:

- similar clinical results to when Emdogain® is applied with flap surgery after 24 months¹²
- true periodontal regeneration, as evidenced by the formation of new cementum, new periodontal ligament and new bone in human histological studies¹³

* regulatory approval pending





Probing Pocket Depth (mm) at baseline, 12 months and 24 months after treatment with Emdogain® either with a flapless approach or a surgical approach.¹²

The difference between the flapless group and the surgical group is not statistically significant (p-value >0.05)





Straumann® PURE Ceramic Implant System
The natural and strong solution.
Makes patients love their smiles.





Nothing is more winning than a light-hearted and happy smile. With the PURE Ceramic Implant System even very demanding patients can smile with confidence. Without compromising on esthetics, reliability and the most natural choice of material.

With the Straumann® PURE Ceramic Implant System you can grant the best esthetic, natural and strong treatment to your patients. They will benefit from all the highly esthetic advantages of a natural ceramic implant, ivory-colored like a natural tooth root and not shining through, even in cases of thin gingival biotypes. Yet you can rely on our high-performance zirconia ceramic material, which is even stronger than the gold standard, grade-4 titanium implants.



Discover natural PURE white:
pure.straumann.com



OUTSTANDING ESTHETICS

Favorable soft tissue attachment, high-end esthetic restorations



PROVEN QUALITY

High performance zirconia ceramic, 100 % proof tested



EXCEPTIONAL SURFACE

ZLA® surface with revolutionary osseointegration features



FLEXIBILITY

Flexible treatment protocols, digital pre-operative implant planning



INNOVATIVE

A new system that helps you expand your patient pool

DIGITAL PERFO



DIGITAL PERFORMANCE

CARES® Integrated Digital Solutions

Plug & play for dentists

CARES® Integrated Digital Solutions connect carefully selected, efficient dental equipment with the latest digital technology and premium materials to provide a seamless, open and fully validated digital workflow for dental professionals. Fully orchestrating the digital dental industry leaders.

CARES® IO Scanner Powder-Free Handpiece

Employs the unique Multiscan Imaging™ technology to provide the same class-leading ergonomics, patient comfort, and clinical access with an exceptionally small and robust handpiece (105 gram weight).

The new Powder-Free Intraoral Scanner handpiece is compatible with the original CARES® IO Cart and the new Portable CARES® Intraoral Scanner systems.



CARES® IO Portable

CARES® Portable Intraoral Scanner has all the same performance yet in a small portable form, ideal for practices with limited space or multiple operatories. For doctors who wish or need to move their IO scanner frequently.





3Shape TRIOS® intraoral scanner provides enhanced patient experience, reduced chair-time and unlocks the widest range of treatment opportunities. Backed by continuous software updates, upgradable hardware and add-on treatment modules, TRIOS® ensures your practice stays ahead and your business grows stronger.

TRIOS® 3 Scanner

Handheld 3D scanner with Ultrafast Optical Sectioning™ technology for spray- and powder-free intraoral scanning in colors. Capable of measuring shades of teeth and adding HD photos to the 3D model. Available with pen grip or handle.

TRIOS® 3 Mono Scanner

Entry level handheld 3D scanner with Ultrafast Optical Sectioning™ technology for spray- and powder-free intraoral scanning in black and white texture. Available with pen grip or handle. Upgradable to color capabilities.



Discover more: www.straumann.com/cares-digital

TRIOS® 3 Pod/Mono Pod

Designed to connect the TRIOS® Scanner to a computer. A mobile and flexible alternative to the cart solution, e.g., for dentists working in multiple locations or for clinics with limited space. Computer not included. See latest version of the 3Shape PC Catalog for approved PCs.



CARES® C series

CARES® C series is an extremely robust and compact 4-axis wet milling and grinding equipment for in-house processing. Specially designed to provide reliable and predictable precision when milling glass ceramic and hybrid materials for a wide variety of indications. CARES® C series is equipped with intelligent 4-axis technology and improves the daily practice routine in terms of efficiency and productivity.

CARES® P series – the new standard in speed and reliability

Specially tailored to satisfy the highest demands in medical practice and the dental laboratory: the new 3D printer generation from Straumann for professional high-speed production of certified, maximum-precision and top-quality dental products. Sturdy, reliable and suited to a wealth of applications – tomorrow's solution from the innovation leader for 3D printing in the dental field.



Discover more: www.straumann.com/cares-digital

CARES® SOLUTIONS FOR DENTISTS

- Provides a fully-rounded portfolio of integrated solutions, including leading chairside scanning and milling technology, 3D printing and centralized milling as an extension of your practice.
- Combines interconnected software platforms, open and fully validated workflows alongside a wide variety of materials—a true benchmark in digital dentistry.

SCANNING — DESIGN- ING

STRAUMANN® CARES®
IO SCANNER AND CARES®
VISUAL



3SHAPE TRIOS®
SCANNER AND
DESIGN STUDIO

- Enables industry-leading partners to offer cutting-edge customizable and upgradable technology to meet your evolving needs.
- Offers Straumann service support, implants and biomaterials conveniently from a single source.

MILLING

3D-PRINTING

CARES®
C SERIES



CADCAM MATERIALS
FOR CHAIRSIDE MILLING



Discover more: www.straumann.com/cares-dentists

CARES® SOLUTIONS FOR DENTAL LABS

- Provides an all-round solution for dental labs, complemented by our high volume, high precision centralized milling service
- Enables dental labs to produce a wide range of prosthetics from a very broad selection of materials
- Offers validated workflows providing high versatility and complete freedom of choice



SINTERING

3D-PRINTING

THERM/ARGOTHERM
FURNACE



CADCAM MATERIALS
FOR IN-LAB MILLING



Discover more: www.straumann.com/cares-labs

PROSTHETIC EF



EFFICIENCY

Straumann® Prosthetic Solutions

Performance. Partnership.
Perfection.

Because you are passionate about performance, Straumann Prosthetic Solutions provide a cutting edge, comprehensive portfolio for all indications and workflows. Our complete range of solutions delivers flexibility, efficiency and reliability, while supporting you every step of the way. Straumann creates a supportive environment where dentists and lab technicians enjoy a close relationship built on understanding each other's needs and technical skills to provide the foundation of a trustful collaboration.

Straumann® Angled Solutions

Flexibility and precision for a great performance.

What makes a great performance?

Expand your options to leverage the quality of Straumann® screw-retained restorations. With flexibility and precision from a different angle.



ORIGINAL

Leverage the precise fit and the quality of the original Straumann® connection



EASY TO USE

Straightforward workflow, easy handling



ESTHETIC

Up to 25° of screw channel angulation. Small screw channel diameter.



FLEXIBLE

All indications, platforms, digital and conventional



Flexibility sets the stage for a great performance. The Angled Solutions combine angled screw channels and a best-in-class self-retaining screwdriver. They offer treatment options for a wide variety of indications in the anterior and posterior zone and give the option for either a conventional or digital design.

Precision and attention to detail make the difference. We have refined the angled screw channel of the restoration to help achieve the best esthetic and functional outcome. No matter the implant, the screw channel can be tilted by up to 25° in all directions. Yet its diameter has been designed to be as small as possible to leave more space for a restoration. The proven Straumann conical screw connection and insertion torque of 35 Ncm provide strong retentive power.



Discover Straumann® Variobase® for Crown AS:
www.straumann.com/variobase-as





36 CARES® Abutment CoCr (straight & angled)



CARES® Abutment CoCr (straight & angled) Uncompromising quality. Efficient use.

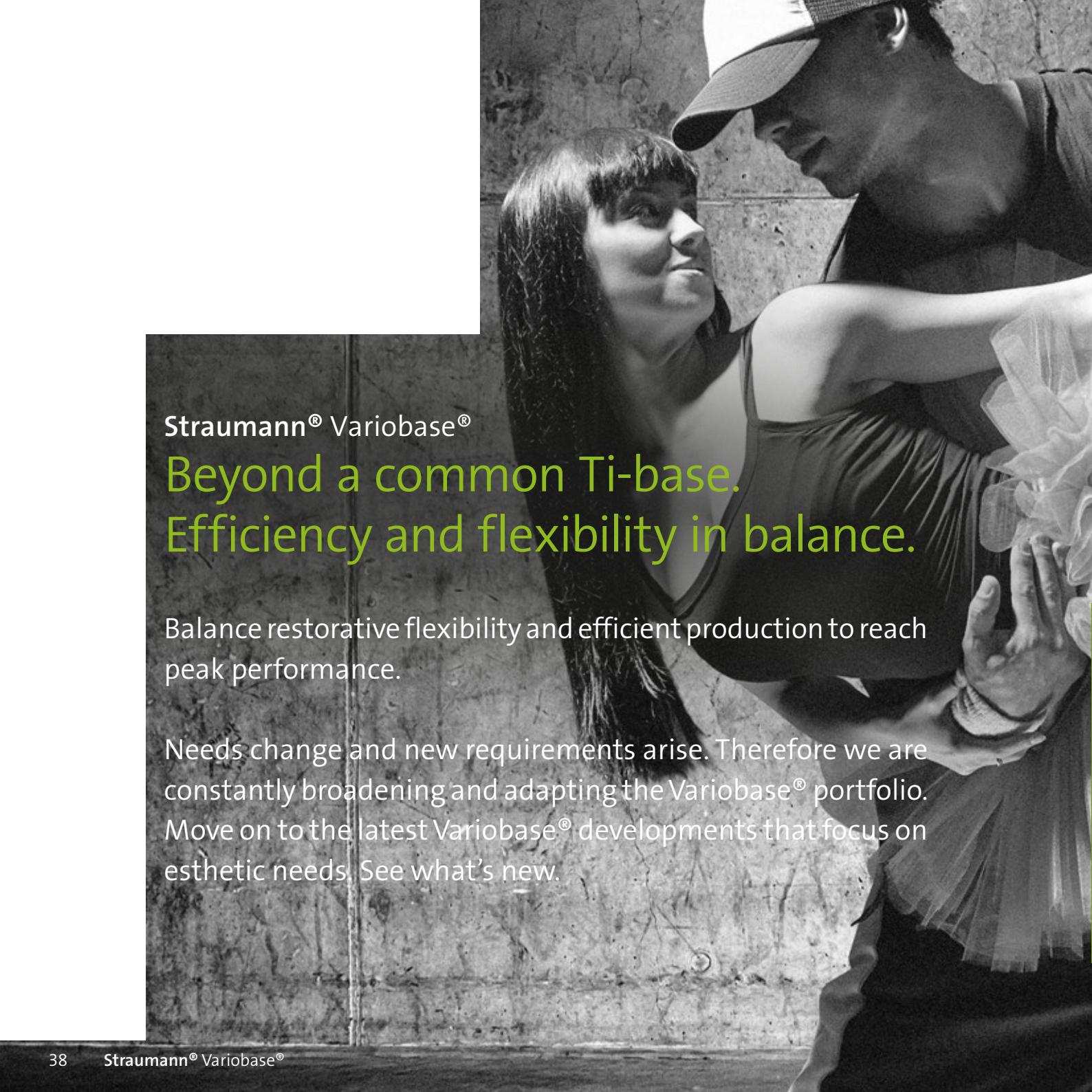
CUSTOMIZED AND DIRECTLY VENEERABLE.

CARES® Abutments made of cobalt chromium in uncompromising Straumann® quality. Screw-retained one-piece abutment for use in your standard procedures. Available as straight or as Angled Solution.

- Design and creation according to the patient's individual situation for highly esthetic outcomes
- The angled solution allows the screw channel to be tilted by up to 30°
- Direct-veneerable, high-quality material (coron®)
- Veneering with standard veneering-porcelain
- Perfect fit on Straumann® implants
- Connectivity to other systems
- Lifetime guarantee



Discover more: www.straumann.com/cares-cocr



Straumann® Variobase®

Beyond a common Ti-base. Efficiency and flexibility in balance.

Balance restorative flexibility and efficient production to reach peak performance.

Needs change and new requirements arise. Therefore we are constantly broadening and adapting the Variobase® portfolio. Move on to the latest Variobase® developments that focus on esthetic needs. See what's new.

SATISFY INDIVIDUAL PATIENT NEEDS IN THE MOST EFFICIENT WAY

Variobase® is Straumann's efficient yet flexible Ti-Base concept offering an unequalled range of restorative options: Choose from single-tooth to fully edentulous indications, find efficient solutions for straightforward or more demanding esthetic cases, and opt for a cement- or screw-retained fixation. For design and production, you can use your preferred workflow, either conventional or digital.

To satisfy more demanding esthetic needs, bone level options come in gingival heights of 1, 2 and 3 mm.



EFFICIENT

One concept covers individual needs. Use your preferred workflow for design and production



FLEXIBLE

Choose from an unequalled range of indications and materials



RELIABLE

Rely on high quality design and the use of original Straumann components.



Discover more: www.straumann.com/variobase



Straumann® n!ce®

Fully crystallized glass-ceramic.
n!ce® to meet you.

;-)



MEET AND EXCEED PATIENT NEEDS. BENEFIT FROM ADDED CONVENIENCE AND TIME SAVING.

As its name suggests, n!ce® is pleasantly simple and very reliable. With our glass-ceramic blocks you benefit from the Straumann quality assurance, faster turn-around time and increased efficiency.

You also benefit from greater patient satisfaction, as n!ce® glass-ceramic restores your patients' natural appearance and you can count on the reliability of tooth restorations performed with a CADCAM material backed by the Straumann® brand. Our high-quality, fully crystallized material guarantees a precise fit with very smooth margin lines, combined with strength and longevity that feels comfortable and natural.

The n!ce® range is the new high-tech, glass-ceramic solution from Straumann® that delivers fast, esthetic restorations and exceeds the expectations of patients and dental professionals.



Discover more: www.straumann.com/nice

EDENTULOUS P



PATIENTS

Straumann® Pro Arch Edentulous Solutions

Because we're all unique.

Individuality matters. Each patient is unique, each smile different and one solution does not fit all. Make use of individual treatment options, taking account of individual patient expectations and unique anatomical and clinical situations. Evidence-based technologies, customized training programs, and value-added services help achieve predictable outcomes for each patient.

AVAILABLE
SOON

Straumann® Mini Implants

Mini Implant. Maximum trust.

Smiling, laughing and eating naturally is a quality of life every edentulous patient would love to maintain.

Now you can provide edentulous patients presenting reduced horizontal bone availability with a less invasive*, immediate removable fixation of their overdenture.

You and your patients can rely on a trusted brand, premium quality and long-term scientific evidence.

*If GBR can be avoided





SLA® – LONG-TERM SCIENTIFIC EVIDENCE

- High and consistent survival rates between 95.1% and 98.8% documented by different studies after 5 and 10 year follow-up.¹⁶⁻²²
- Very low prevalence of peri-implantitis (1.8%) over the 10-year follow-up period.¹⁷
- Average bone loss of 0.5–1mm after 10 years (baseline defined as implant loading time).¹⁷

¹⁸



ROXOLID® – PROVEN QUALITY

- Higher mechanical strength compared to titanium.¹⁴
- The successful use of Roxolid® has been documented in numerous clinical trials with up to 5-year follow-ups.¹⁵



OPTILOC® – DURABILITY AND EFFICIENCY

- Reduced maintenance, excellent resistance to wear, space-saving design.

Straumann® Pro Arch Fixed Solutions

Tailored to fit.

Designed to last.

Straumann® Pro Arch Fixed Solutions enable personalized treatment protocols for implant-borne fixed full-arch restorations. Help your patients regain lasting quality of life with the Straumann® Dental Implant Systems combined with the Prosthetics portfolio.



PATIENT-CENTRIC

The versatility of the Straumann Dental Implant System enables personalized treatment protocols for fully edentulous patients based on their clinical and anatomical situation.^{23, 24}

REDUCED INVASIVENESS WITH ROXOLID®

Preserves bone, reduces complexity, and allows more treatment options with smaller implants.^{25, 26}

HIGH PREDICTABILITY WITH IMMEDIATE LOADING WITH SLACTIVE®

Implant survival rate with immediate loading after 10 years: 98.2%.²⁷



PATIENT COMFORT

Less pain, less swelling, and less risk of complications with Emdogain® for wound healing.²⁸⁻³⁰

SOLID EVIDENCE

Clinically proven and scientifically backed materials and components.



Discover more: www.straumann.com/pro-arch



Straumann® Novaloc®
A reliable connection
that endures.



SURFACE
Carbon-based coating
offering diamond-like
properties



PERFORMANCE
Excellent material,
delivering high wear
resistance



FLEXIBILITY
Flexibility to
compensate implant
divergence



When durability and endurance count.



USABILITY

Convenient component handling



PATIENT COMFORT

Less hassle, more comfort for your patient



ORIGINAL

Rely on the original Straumann® connection

There are moments in life when you want a connection to be extremely reliable. Until now, hybrid denture attachment systems may have been facing their limits in challenging implant situations. Now there's Novaloc®.

The Novaloc® Retentive System for hybrid dentures offers an innovative carbon-based abutment coating ADLC (amorphous diamond-like carbon) with excellent wear resistance, overcoming up to 60° implant divergence. Both a straight and a 15° angled abutment, available in various gingival heights, cover a broad range of clinical implant situations. Together with its durable PEEK matrices, the Novaloc® Retentive System provides a reliable connection that endures. This results in low maintenance and high patient comfort. Let your patients enjoy the benefits of the endurance of a reliable treatment solution.



Discover more: www.straumann.com/novaloc

The Straumann Group. Together we are strong.

A powerful combination of brands and partners driving innovation in dentistry. United to build trust, engage, collaborate, create opportunities with a customer-focused mindset to serve patients around the world. Our goal has always been to create more than just smiles, but also lasting confidence for dentists, labs, patients, employees, partners, dental networks and the global community.



STRAUMANN GROUP FACTS

5,000

Employees
worldwide

#1

Implant
manufacturer
worldwide

10,000

Customer
contacts
every day

200,000

Customers

100+

Countries
(through 41
subsidiaries)

>1 million

Doctors trained
since our
foundation

1 second

Someone, some-
where is being
treated with
a Straumann
Group product

Headquartered in Basel, Switzerland, the Straumann Group employs approximately 5,000 people worldwide. Our products, solutions and services are available in more than 100 countries through a broad network of distribution subsidiaries and partners, featuring the global brands Straumann®, Neodent®, Medentika®, and other fully or partly-owned partner companies like ClearCorrect™.



Why we want to be your employer of choice.

The Medical Technology business is dynamic and complex; this demands employees who are willing to face challenges and are passionate about their profession. Excellent technical skills are only the starting point for a successful career. We provide an inspiring working environment where you can grow, build a professional network and form friendships with like-minded colleagues around the world.

Things are changing. Always and everywhere. Our goal is to become the global number one in esthetic dentistry. To achieve this, we invest time and effort to develop our people. One of our key initiatives is what we call our “cultural journey”, and each Straumann Group employee is part of this journey. The common objective shared by all is to grow—both personally and as a company.



Focus on customers

Build genuine relationships. Find solutions they need. Think commercially.



Build trust

Be honest, be reliable, win confidence.



Collaborate

Build and maintain effective working relationships.



Engage

Encourage others to do their best and recognize their achievements.



Take ownership

Deliver what you promise, tackle challenges, go for it—with passion!



Communicate effectively

Share information and knowledge, engage in challenging, crucial conversations with a sense of urgency.



Create opportunities

Create new and better ways to be successful. Be innovative and think big!



Be agile

Embrace change, adapt proactively, have a ‘can-do’ attitude.



www.straumann.com/careers

REFERENCES

1 Straumann SLActive implants compared to Straumann SLA implants. Lang NP, Salvi GE, Huynh-Ba G, Ivanovski S, Donos N, Bosshardt DD. Early osseointegration to hydrophilic and hydrophobic implant surfaces in humans. *Clin Oral Implants Res.* 2011 Apr;22(4):349-56. doi: 10.1111/j.1600-0501.2011.02172.x; Rupp F, Scheideler L, Olshanska N, de Wild M, Wieland M, Geis-Gerstorfer J. Enhancing surface free energy and hydrophilicity through chemical modification of microstructured titanium implant surfaces. *Journal of Biomedical Materials Research A*, 76(2):323-334, 2006. ; De Wild M. Superhydrophilic SLActive® implants. Straumann document 151.52, 2005 ; Katharina Maniura. Laboratory for Materials – Biology Interactions Empa, St. Gallen, Switzerland Protein and blood adsorption on Ti and TiZr implants as a model for osseointegration. EAO 22nd Annual Scientific Meeting, October 17 – 19 2013, Dublin ; Schwarz, F, et al., Bone regeneration in dehiscence-type defects at non-submerged and submerged chemically modified (SLActive®) and conventional SLA® titanium implants: an immunohistochemical study in dogs. *J Clin. Periodontol.* 35.1 (2008): 64–75. ; Rausch-fan X, Qu Z, Wieland M, Matejka M, Schedle A. Differentiation and cytokine synthesis of human alveolar osteoblasts compared to osteoblast-like cells (MG63) in response to titanium surfaces. *Dental Materials* 2008 Jan;24(1):102-10. Epub 2007 Apr 27; Schwarz F, Herten M, Sager M, Wieland M, Dard M, Becker J. Histological and immunohistochemical analysis of initial and early osseous integration at chemically modified and conventional SLA® titanium implants: Preliminary results of a pilot study in dogs. *Clinical Oral Implants Research*, 11(4): 481-488, 2007. Raghavendra S, Wood MC, Taylor TD. *Int. J. Oral Maxillofac. Implants.* 2005 May-Jun;20(3):425–31. 9 Oates TW, Valderrama P, Bischof M, Nedir R, Jones A, Simpson J, Toutenburg H, Cochran DL. Enhanced implant stability with a chemically modified SLA® surface: a randomized pilot study. *Int. J. Oral Maxillofac. Implants.* 2007;22(5):755–760. 2 Nicolau P, Guerra F, Reis R, Krafft T, Benz K, Jackowski J 10-year results from a randomized controlled multicenter study with immediately and early loaded SLActive implants in posterior jaws. Accepted for oral presentation at 25th Annual Scientific Meeting of the European Association of Osseointegration – 29 Sep – 1 Oct 2016, Paris. 3 Nelson, K., Stricker, A., Raguse, J.-D. and Nahles, S. (2016). Rehabilitation of irradiated patients with chemically modified and conventional SLA implants: a clinical clarification. *J Oral Rehabil.*, 43: 871–872. doi:10.1111/joor.12434 4 Kopf BS, Ruch S, Berner S, Spencer ND, Maniura-Weber K. 2015. The role of nanostructures and hydrophilicity in osseointegration: In-vitro protein adsorption and blood-interaction studies. *J Biomed Mater Res Part A*2015;103A:2661–2672. 5 Wennerberg A, Jimbo R, Stübingen S, Obrecht M, Dard M, Berner S. Nanostructures and hydrophilicity influence osseointegration – A biomechanical study in the rabbit tibia. *Clin. Oral Impl. Res.* 25, 2014, 1041–1050doi: 10.1111/clr.12213 6 Straumann (2017) Developed area ratio by nanostructures on Rxd modMA surface. Report SR0748. Unpublished data 7 Müller E, Rottmar M, Guimond S, Tobler U, Stephan M, Berner S, Maniura K The interplay of surface chemistry and (nano-)topography defines the osseointegrative potential of Roxolid® dental implant surfaces, eCM Meeting Abstracts 2017, Collection 3; SSB+RM (page 31). 8 EMPA (2017) Report additional experiments: Impact of RXD SLA, RXD SLAnano, RXD SLActive, and RXD pmod SLA surfaces on protein adsorption, blood coagulation, and osteogenic differentiation of HBCs. Final report: Impact of RXD SLA, RXD SLAnano, RXD SLActive, and RXD pmod SLA surfaces on protein adsorption, blood coagulation, and osteogenic differentiation of HBCs. EMPA, Swiss Federal Laboratories for Materials Science and Technology (data on file). 9 Maxillary sinus floor augmentation using deproteinized bovine bone-derived bone graft material (OCB-B®). Clinical and histologic findings in human. The Journal of the Korean Dental Association. 2007;45(8): 490-499 10 A radiographic study on the changes in height of grafting materials after sinus lift: a comparison between two types of xenogenic materials. *J Periodontal Implant Sci* 2010;40:25-32 11 Histological results after maxillary sinus augmentation with Straumann® BoneCeramic, Bio-Oss®, Puros®, and autologous bone. *Clin Oral Implants Res.* 2013 May;24(5):576-85 12 Aimetti M, Ferrarotti F, Mariani GM, Romano F. A novel flapless approach versus minimally invasive surgery in periodontal regeneration with enamel matrix derivative proteins: a 24-month randomized controlled clinical trial. *Clin Oral Investig.* 2017 Jan;21(1):327-337. 13 Mellong JT, Valderrama P, Gregory HJ, Cochran DL. Clinical and histologic evaluation of non-surgical periodontal therapy with enamel matrix derivative: a report of four cases. *J Periodontol.* 2009 Sep;80(9):1534-40. doi: 10.1902/jop.2009.090160. 14 Bernhard N et al., (2009). *Forum Implantologicum* 5(30). 15 <http://www.straumann.com/science-roxolid.html> 16 Fischer K, Stenberg T. Prospective 10-year cohort study based on a randomized controlled trial (RCT) on implant-supported full-arch maxillary prostheses. Part 1: sandblasted and acid-etched implants and mucosal tissue. *Clin Implant Dent Relat Res.* 2012 Dec;14(6):808-15. 17 van Velzen FJ, Ofec R, Schulten EA, Ten Bruggenkate CM,.10-year survival rate and the incidence of peri-implant disease of 374 titanium dental implants with a SLA surface: a prospective cohort study in 177 fully and partially edentulous patients. *Clin Oral Implants Res.* 2015 Oct;26(10):1121-8 18 Cochran DL, Jackson JM, Bernard JP, ten Bruggenkate CM, Buser D, Taylor TD, Weingart D, Schoolfield JD, Jones AA, Oates TW Jr. A 5-year prospective multicenter study of early loaded titanium implants with a sandblasted and acid-etched surface. *Int J Oral Maxillofac Implants.* 2011 Nov-Dec;26(6):1324-32. 19 Cochran D, Oates T, Morton D, Jones A, Buser D, Peters F. Clinical field trial examining an implant with a sand-blasted, acid-etched surface. *J Periodontol.* 2007 Jun;78(6):974-82. 20 Bornstein MM, Schmid B, Belser UC, Lussi A, Buser D. Early loading of non-submerged titanium implants with a sandblasted and acid-etched surface. 5-year results of a prospective study in partially edentulous patients. *Clin Oral Implants Res.* 2005 Dec;16(6):631-8. 21 Rocuzzo M1, Aglietta M, Bunino M, Bonino L. Early loading of sandblasted and acid-etched implants: a randomized-controlled double-blind split-mouth study. Five-year results. *Clin Oral Implants Res.* 2008 Feb;19(2):148-52. 22 Derkx J, Schaller D, Häkansson J, Wennström JL, Tomasi C, Berglundh T. Effectiveness of Implant Therapy Analyzed in a Swedish Population: Prevalence of Peri-implantitis. *J Dent Res.* 2016 Jan;95(1):43-9. doi: 23 Calvo-Guirado JL, Lopez Torres JA, Dard M, Javed F, Perez-Albacete Martinez C, Mate Sanchez de Val JE. 'Evaluation of extrashort 4-mm implants in mandibular edentulous patients with reduced bone height in comparison with standard implants: a 12 month results'. *Clin Oral Impl Res* 27, 2016, 867-874. 24 Piano S, Romeo E, Sbricoli L, Pisoni G, Cea N, Lops D. 'Simplified procedure for the immediate loading of a complete fixed prosthesis supported by four implants in the maxillary jaw: a 2-year prospective study'. *Clin. Oral Impl. Res.* 00, 2015, 1-7. 25 Müller F et al. Small-diameter titanium grade IV and titanium-zirconium implants in edentulous mandibles: five-year results from a double-blind, randomized controlled trial. (2015). *BMC Oral Health.* 2015 Oct 12;15(1):123. 26 Al-Nawas B, Domagala P, Fragola G, Freiberger P, ^Ortiz-Vigón A, Rousseau P, Tondela J. 'A prospective non-interventional study to evaluate survival and success of reduced diameter implants made from titanium-zirconium alloy'. *J Oral Impl.* submitted. PMID: 24666383. 27 Nicolau P, Guerra F, Reis R, Krafft T, Benz K , Jackowski J 10-year results from a randomized controlled multicenter study with immediately and early loaded SLActive implants in posterior jaws. Presented at 25th Annual Scientific Meeting of the European Association of Osseointegration – 29 Sep – 1 Oct 2016, Paris. 28 Tonetti MS, Fourmousis I, Suvan J, Cortellini P, Brägger U, Lang NP 'Healing, post-operative morbidity and patient perception of outcomes following regenerative therapy of deep intrabony defects'. European Research Group on Periodontology (ERGOPE-RIO). *J Clin Periodontol.* 2004 Dec;31(12):1092-8. 29 Arweiler NB, Auschill TM, Donos N, Sculean A. 'Antibacterial effect of an enamel matrix protein derivative on *in vivo* dental biofilm vitality'. *Clin Oral Investig.* 2002 Dec;6(4):205-9. Epub 2002 Nov 14 30 Wennström JL, Lindhe J. 'Some effects of enamel matrix proteins on wound healing in the dento-gingival region'. *J Clin Periodontol.* 2002 Jan;29(1):9-14.

International Headquarters

Institut Straumann AG
Peter Merian-Weg 12
CH-4002 Basel, Switzerland
Phone +41 (0)61 965 11 11
Fax +41 (0)61 965 11 01
www.straumann.com

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