

# STRAUMANN® PRO ARCH

Tailored to fit. Designed to last.



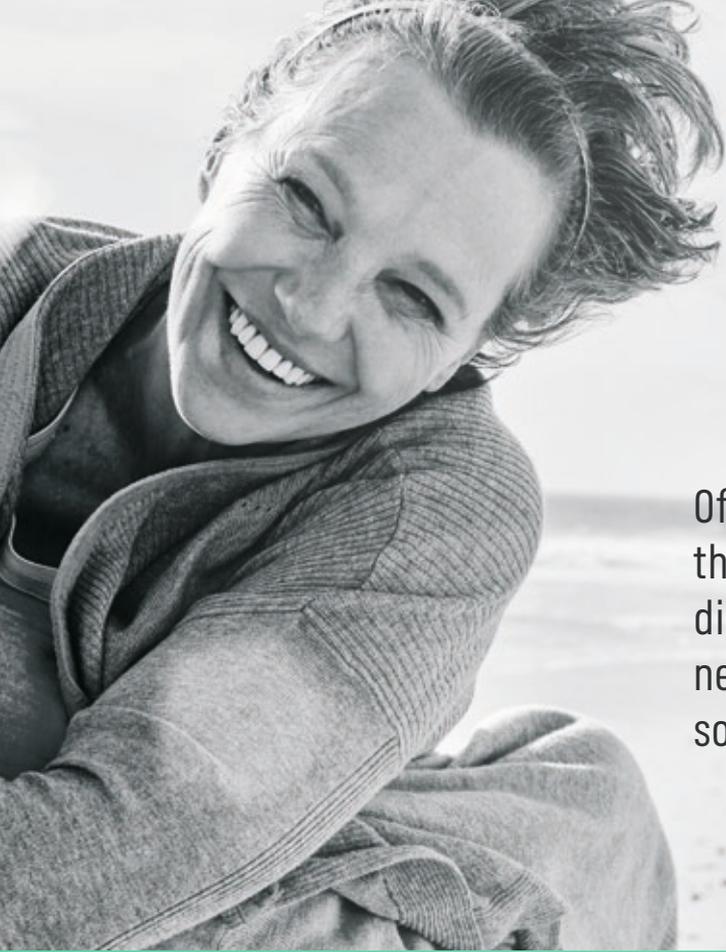


# STRAUMANN® PRO ARCH

Tailored to fit. Designed to last.

Straumann® Pro Arch is designed for dental professionals who want to differentiate themselves and deliver a life-changing treatment to their patients. With an immediate, esthetic, and reliable outcome that gives them back confidence and lasting quality of life.

Because there is no one-size-fits-all solution for restoring fully edentulous patients and reaching the desired outcome, Straumann® Pro Arch gives you surgical and prosthetic flexibility so that you can focus on individual patient needs and offer tailored fixed immediate restoration on four to six implants depending on your patient's unique anatomical and clinical situation.<sup>1-6,8,9</sup>



Of the millions of people facing dental problems, there are no two cases the same. Everyone has different expectations, medical history, and needs. Straumann® Pro Arch is a tailored treatment solution for fixed, immediate, full-arch restorations.



### TREATMENT OPTIONS

A variety of treatment options to address specific indications and different patient needs.<sup>1-11</sup>



### IMMEDIATE LOADING

BLT<sup>1-3</sup>, BLX and TLX Implants designed for reliable primary stability and immediate loading.



### REDUCED INVASIVENESS

Roxidol<sup>®</sup> enables the use of narrow<sup>4,7,12-16</sup> and short implants, designed to preserve bone and avoid severe grafting.



### COMPROMISED PATIENTS

Peace of mind with SLActive<sup>®</sup> even when treating compromised patients with diabetes or irradiated patients.<sup>6-9</sup>



### RESTORATIVE FLEXIBILITY

Prosthetic portfolio addresses patient's esthetic expectations within their financial resources.



### PRACTICE GROWTH

Practice development and patient communication tools support your practice growth.

# FLEXIBLE TREATMENT OPTIONS TO ADDRESS EVEN CHALLENGING CASES.

Straumann® Pro Arch is a winning combination of evidence-based technologies that allows you to differentiate your practice. With Roxolid® for strength<sup>15</sup>, SLActive® for enhanced bone regeneration<sup>11</sup> and Emdogain® for faster healing<sup>18</sup>, you can deliver high predictability and peace of mind even in challenging clinical situations.

## STRAUMANN® PRO ARCH TREATMENT HIGHLIGHTS

### Broad range of implant options

Choose between the clinically proven Straumann® BLT tapered implant with excellent primary stability<sup>1-3</sup> or the new Straumann® BLX and TLX with Dynamic Bone Management and simplified drill protocol for confidence beyond immediacy. A broad implant range from 6 mm to 18 mm for most indications.

### SLActive® for peace of mind when treating compromised patients

SLActive® enhances bone regeneration, reduces healing time and provides high success rates even in compromised patients with diabetes or irradiated patients, giving clinicians peace of mind when treating challenging indications.<sup>6-9</sup>

### Reduced invasiveness with Roxolid®

Roxolid® allows the use of smaller-diameter implants, Ø 3.3 mm with the same reliable clinical performance as regular-diameter titanium implants.<sup>4,7,12-17</sup> Less invasive procedures preserve bone and avoid severe grafting for increased patient acceptance.<sup>13</sup>

### Roxolid®



### SLActive®



## A WINNING COMBINATION THAT DIFFERENTIATES YOUR PRACTICE



Bone situation	Sufficient bone availability	Insufficient posterior bone height availability	Insufficient posterior bone availability
Treatment options	Six straight implants	Short implants in posterior region	Tilted posterior implants
Straumann® portfolio highlights	The BLX and TLX Ø 3.75 mm implant for all indications Narrow implants: BLT Ø 3.3 mm or BLX Ø 3.5 mm Short BLX and TLX 6 mm implants Long 18 mm implants		



### ITI GENERAL GUIDANCE AND 6<sup>TH</sup> CONSENSUS PAPER

- Four is the minimum number of implants required to reliably support and retain the fixed full arch prosthesis
- Using more or less than five implants does not influence the final implant and prosthetic outcomes in both maxilla and mandible
- When conditions allow, implants should be positioned axially, and anterior and posterior distribution of implants should be maximized
- If anatomic limitations or prosthetic indications exist, the posterior implant can be tilted or use of narrow diameter implants can be considered to avoid augmentation





# EXCELLENCE IN IMMEDIACY.

## BACKED BY CLINICAL EVIDENCE SUPPORTING IMMEDIACY

Straumann® BLT, BLX and TLX implant systems are designed to provide reliable primary stability for immediate loading and optional implant tilting to avoid extensive bone grafting.

### Straumann® Pro Arch Retrospective Study results

1,903

Straumann®  
BLT implants

1,903 Straumann® BLT implants (1,144 in the maxilla and 759 in the mandible) have successfully been placed.

99.7 %

Loaded on the day  
of surgery

Straumann® Pro Arch BLT is proven and predictable in daily practice: 99.7% of 440 arches were loaded on the day of surgery.

98.1 %

Loaded on the day  
of surgery

The overall implant survival rate was 98.1% after a median follow-up time of 18 months.

# EFFICIENT WORKFLOW SAVES TIME AND REDUCES COSTS.

The immediate loading workflow enables an efficient protocol that leads to fewer surgical interventions and shorter treatment cycles for the patient compared to the conventional treatment protocol. If the patient meets the requirements, clinicians can place the new prosthesis on the day of the surgery. For the clinician, this means increased efficiency and profitability by reducing

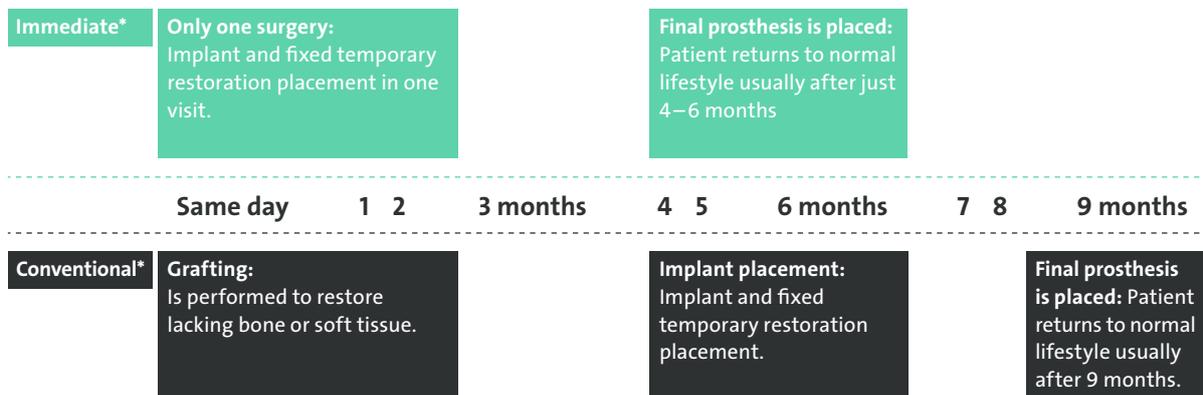
chair time and enhancing patient satisfaction compared to the conventional treatment protocol.

As only four to six implants are required for the fixation of the one-piece prosthesis and costly bone grafting procedures can be avoided, the treatment costs to the patient can be significantly reduced in comparison to conventional treatment.

*“Immediate loading is a challenging treatment, but desired by many patients.”*

**Dr. Frosecchi, Italy**

## IMMEDIATE PROTOCOL FOR FULL-ARCH REHABILITATION IN COMPARISON TO CONVENTIONAL



The patient can return to a normal lifestyle after just 4–6 months instead of 9 months.  
 \* Example of the treatment workflow.

*“Immediate, early, or conventional loading with one-piece, fixed interim prostheses have demonstrated high implant and prosthesis survival rates and can be recommended for the mandible and maxilla.”*

**Gallucci, German O. (2014).**  
**Consensus Statements and Clinical Recommendations for Implant Loading Protocols.**

# STRAUMANN® PRO ARCH TLX

Iconic Tissue Level meets Immediacy.

The design of the Straumann® TLX Implant takes into account key biological principles of hard and soft tissue healing. It is designed to significantly reduce the risk of inflammation and bone resorption as the implant-abutment interface is moved away from the bone.

Straumann® TLX offers the simplicity of the direct to implant workflow and a broad choice of implants for challenging full-arch situation.

## PERI-IMPLANT HEALTH PRESERVATION

No gap at bone level. Designed for outstanding long-term results. The right choice for the patients, also with periodontal conditions history.

### 1 SIMPLICITY AND EFFICIENCY

- Built-in emergence profile and simple soft-tissue management.
- Transgingival healing. No second stage surgery.
- Clear view and accessibility of the connection, even in the posterior region.

### 2 DESIGNED FOR IMMEDIATE PROTOCOLS

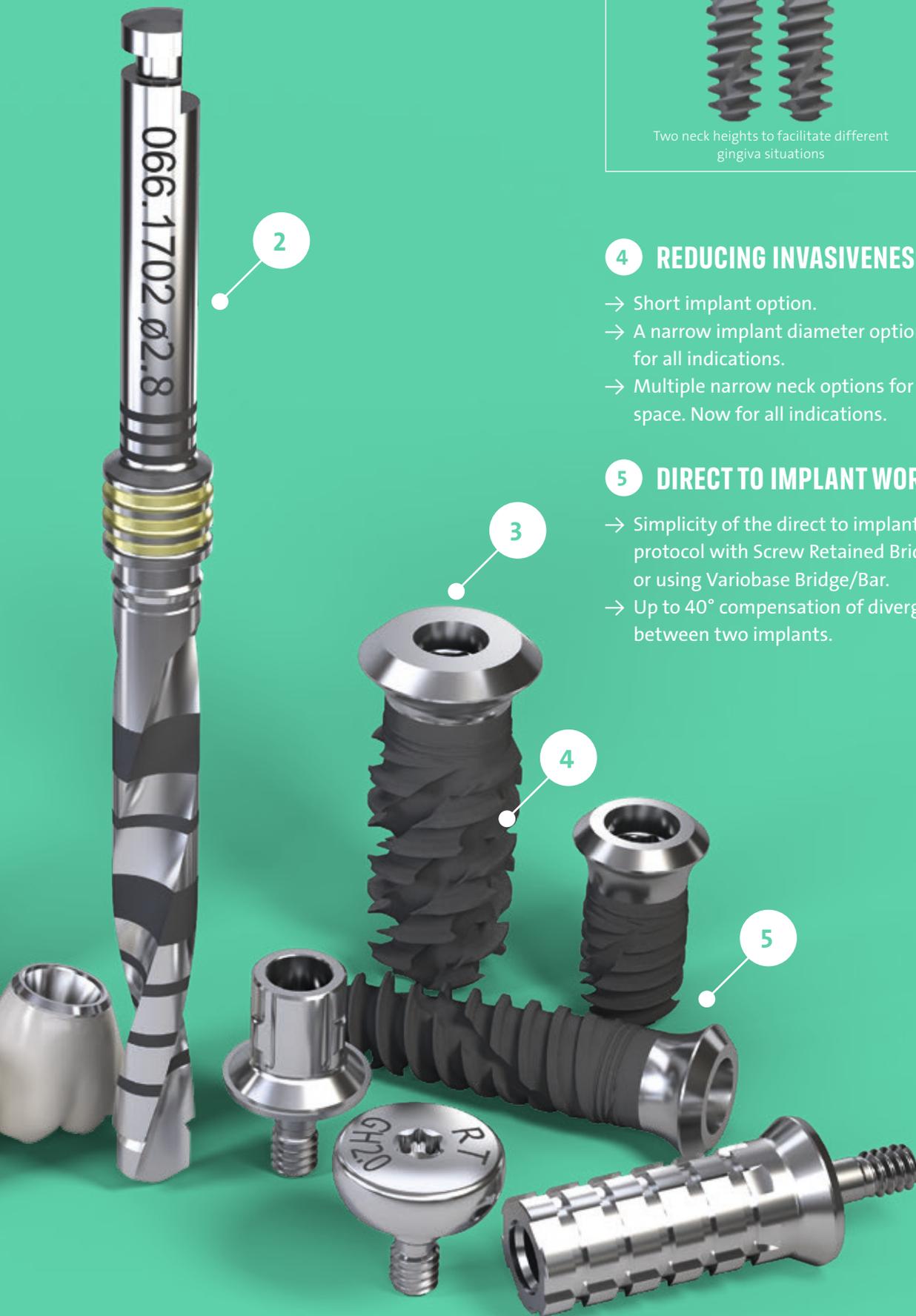
Developed for optimal primary stability and immediate protocols in all bone types.

### 3 EASY HYGIENE MAINTENANCE

To make patients life easier.

TLX and BLX share the same endosteal design and surgical protocol





#### 4 REDUCING INVASIVENESS

- Short implant option.
- A narrow implant diameter option,  $\varnothing$  3.75 mm for all indications.
- Multiple narrow neck options for limited space. Now for all indications.

#### 5 DIRECT TO IMPLANT WORKFLOW

- Simplicity of the direct to implant protocol with Screw Retained Bridges and Bars or using Variobase Bridge/Bar.
- Up to 40° compensation of divergence between two implants.

Roxolid®



SLActive®



# STRAUMANN® PRO ARCH BLX

Confidence beyond Immediacy.

One system even for challenging cases and a broad range of implants from 6 mm to 18 mm. Straumann® BLX implant is designed for primary stability and offers you treatment flexibility so that you can offer edentulous patients a broad portfolio you can trust with clinically proven materials and technologies.

## BROAD RANGE OF IMPLANT OPTIONS

Choose between 42 implant models: from 6 mm to 18 mm implant length and from  $\varnothing$  3.5 mm to  $\varnothing$  6.5 mm implant diameter.



## 1 OPTIMIZED THREAD DESIGN

Optimized shallow threads of the narrow  $\varnothing$  3.5 mm and  $\varnothing$  3.75 mm implants. Designed for soft bone, and hard bone applications.

## 2 ROUNDED ANGULATED ABUTMENT

Designed to maximize space for soft tissue. Choice of gingival heights: from 3.5 mm–5.5 mm. 35 Ncm torque.

## 3 SIMPLIFIED DRILL PROTOCOL

Less steps and flexible sequence with a new drill design for minimized heat generation.\*

## 4 $\varnothing$ 3.75 MM FOR ALL INDICATIONS

Slim core and fully tapered implant design enabling bone-preserving protocols with a  $\varnothing$  3.75 mm implant applicable for all indications.

## 5 ONE CONNECTION

TorcFit™ hybrid internal conical connection, one connection from  $\varnothing$  3.5 to  $\varnothing$  6.5 mm, with strength for simplicity and efficiency.

## 6 DYNAMIC BONE MANAGEMENT

Straumann® BLX Implant features unique properties that enable enhanced control over insertion torque to achieve optimal primary stability and ensure confidence in immediate protocols.



Roxid®



SActive®



# STRAUMANN® PRO ARCH BLT

Versatility and predictability.

The Straumann® Bone Level Tapered (BLT) Implant delivers proven reliable primary stability.<sup>1-3</sup> BLT is a powerful combination of Roxolid®, SLA® and SLActive®, Bone Control Design™, CrossFit® connection, prosthetic diversity, and an apically tapered design.

The tapered form compresses the underprepared osteotomy and is designed to let you effectively master the challenges of full-arch rehabilitation.

## 1 PRIMARY STABILITY

Apically tapered design of the Straumann® Bone Level Tapered Implant provides excellent primary stability.<sup>1-3</sup>

## 2 SCREW-RETAINED ABUTMENTS

- Abutment angulations of 17° and 30° allow overcoming implant angulations
- Rounded for emergence profile
- Gingival heights from 1.5 mm to 3.5 for straight abutments and 2.5 mm (17°)/3.5 mm (30°) to 5.5 mm for angulated abutments





### 3 BONE CONTROL DESIGN™

- Optimized crestal bone preservation
- Respects the biological distance/width and microgap control
- Optimal position of smooth and rough surface interface
- Biomechanical implant design and implant surface osteoconductivity

### 4 CROSSFIT® CONNECTION

- Self-guiding internal prosthetic connection
- Easier handling and confidence in component positioning
- Ensured precision against rotation and long-term mechanical stability
- Restorative flexibility

### 5 3.3 MM NARROW IMPLANT

Treatment options with narrow implants with Roxolid® high-performance material enable clinicians to preserve the bone and avoid bone grafting in clinical situations with low bone volume.<sup>4,7,12-16</sup>

Roxolid®



SLActive®



# STRAUMANN® PRO ARCH BLT WITH GUIDED SURGERY

Precise prosthetic planning and implant placement: treatment of a complex full-arch case using guided surgery and immediate loading with Straumann® Pro Arch BLT.



Dr Sergio Piano,  
DDS, Genoa, Italy

A clinical case report by Dr Sergio Piano, Italy

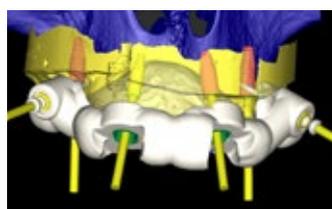
Main components used:



Initial situation.



Digital smile design.



Planning implant position in planning software coDiagnostiX®.



Placement of the Ø 3.3 mm BLT Roxolid® SLActive® implant.



Screw-retained Abutments in place.



3-month follow-up visit.



Full-contour zirconia bridge was milled and bonded on Variobase® copings.



Final restoration in place.

# STRAUMANN® PRO ARCH BLX WITH SMILE IN A BOX™

Double arch rehabilitation using guided surgery and immediate loading with Straumann® Pro Arch BLX and Smile in a Box™ service.



Dr Abid Faqir,  
BDS, Glasgow, UK

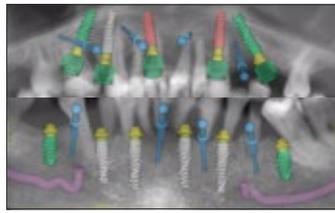
A clinical case report by Dr Abid Faqir, UK

Main components used:





Initial patient situation.



Planning implant position in planning software coDiagnostiX® by Smile in a Box™ service.



Prefabricated guides and temporary restorations provided by the Smile in a Box™ service.



Bone augmentation after Straumann® BLX implants were placed. Try in of the fully-guided provisional dentures and placement of the Temporary copings.



Provisional restoration in place.



Anthogyr Sameda® Zirconia bridge and hybrid bridge titanium.



Final restorations in place.



Final restorations in place.

# STRAUMANN® PRO ARCH TLX

Immediate rehabilitation of the edentulous mandible with Straumann® Pro Arch TLX.

A clinical case report by Dr Leonello Biscaro, IT



Dr Leonello Biscaro, DDS, Adria, Italy

## Main components used:



Initial situation.



Acrylic multifunctional guide in place.



Placement of the Straumann® TLX implants Ø 3.75 mm 8 mm, 12 mm, 10 mm, 14 mm length Roxolid® SLActive®.



Initial TLX implants in place.



Temporary copings for temporary prosthesis.



Temporary prosthesis ready for the immediate loading on the day of surgery.



X-ray of the final restoration in place.



Final restoration in place.



# ULTIMATE RESTORATIVE **FLEXIBILITY** FOR ESTHETIC AND EFFICIENT RESTORATION.

With original systems, unequalled precision and consistent high quality, the Straumann® prosthetic portfolio addresses patient's high esthetic expectations with the flexibility to fit their budget.

## STRAUMANN® VARIOBASE® ABUTMENTS

- Enables a good solution for full-zirconia bridge/bar restorations
- Cylindrical upper shape supports reliable bonding of the framework
- Cementation Aid included with the coping facilitates easier and faster cementation procedure





ZrO<sub>2</sub>/PEEK/PMMA Bridge

The combination of Straumann® CARES® and Createch\* gives clinicians access to a complete prosthetic portfolio from one trusted partner. They can stay on top of competition and are able to offer customized restorations of quality taking into account their patient's financial capabilities.

## STRAUMANN® CARES® SCREW-RETAINED BARS AND BRIDGES

- Custom-milled frameworks for final restoration
- Multiple bar and bridge designs available
- Bars and bridges for abutment level
- Straight and angulated screw channel

### Screw-retained bars and bridges for fixed prosthesis

					
Basic fixed bar	Advanced fixed bar	Basic hybrid	Premium hybrid	Abutment hybrid	Bridge

\* Only available in Europe

# A WINNING COMBINATION OF EVIDENCE-BASED TECHNOLOGIES MAKES PRO ARCH **UNIQUE.**

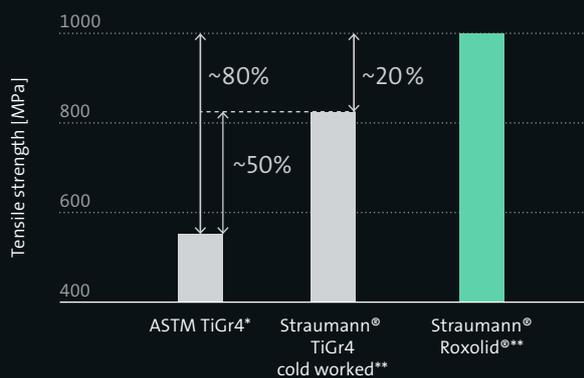
## REDUCED INVASIVENESS WITH ROXOLID®

Invasiveness is reduced with Roxolid® enabling treatment options with narrower and shorter implants to preserve bone and avoid grafting in clinical situations with low bone volume. Excellent survival and success rates in daily practice use after 2 years. Reduced need for augmentation thanks to using narrow-diameter implants (3.3 mm).<sup>4,7,12-16</sup>

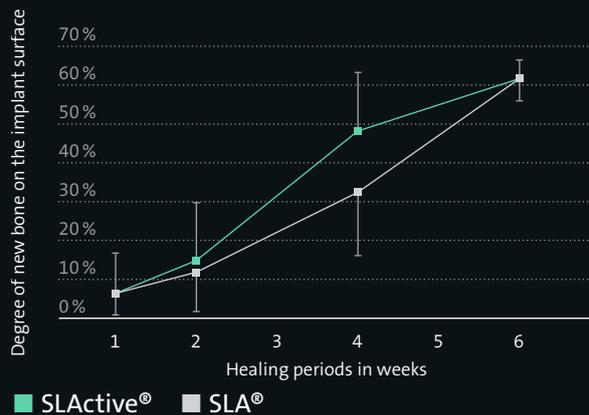
## SLACTIVE® FOR COMPROMISED PATIENTS

SLActive® enhances bone regeneration, reduces healing time and provides high success rates even in compromised patients with diabetes or irradiated patients, gives you peace of mind when treating challenging cases.<sup>5,6,7-11,26</sup> Implants with SLActive® surface are safe and predictable when used in immediate and early non-occlusal loading procedures.<sup>27</sup>

### Roxolid® 20% higher tensile strength<sup>15</sup>



Roxolid® shows a 20% higher tensile strength than Straumann® cold worked titanium and a 80% higher strength than standard titanium Grade 4.



The SLActive® surface shows a faster integration into new bone after 4 weeks (50%) compared to SLA® surface (30%).<sup>11</sup>

*“Trying to regenerate a patient’s periodontium without Straumann® Emdogain® in sites where inflammation is not resolved is like trying to plant new trees in a burning forest. First, you need to put out the fire and then you can worry about planting new trees.”*

**Prof. Dr. Véronique Benhamou**  
McGill University, Canada



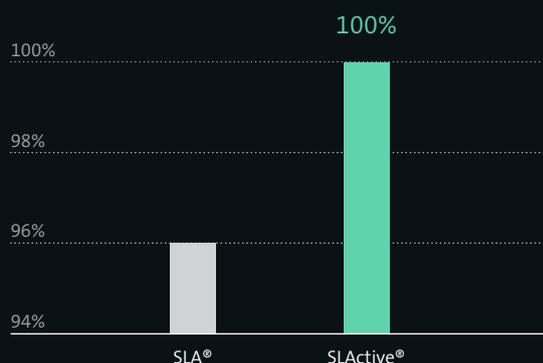
## EMDOGAIN® SIGNIFICANTLY ACCELERATES PERIODONTAL REGENERATION AND SOFT TISSUE HEALING.

### Performance in diabetic patient group



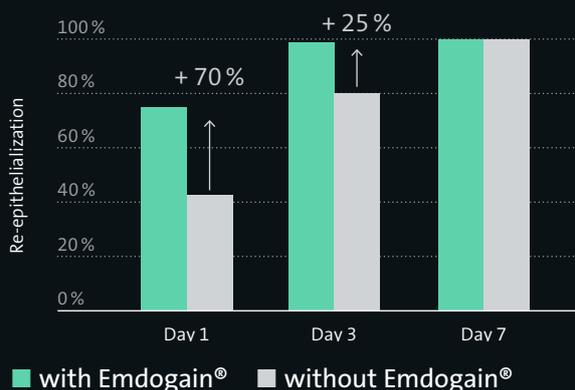
Prospective, case-control clinical study:  
 → 15 diabetic patients  
 → 14 healthy patients

Emdogain® accelerates the early wound-healing process compared to the same procedure without Emdogain®. Emdogain® reduces pain and swelling compared to the treatment with membrane. Recent studies have demonstrated the effective anti-inflammatory potential of Emdogain®.<sup>18-25</sup>



Randomized clinical trial:  
 → 102 implants, 20 patients  
 → 20 patients, post radio-chemotherapy

### Emdogain® improves the rate of re-epithelialization and wound closure rate is more than doubled<sup>18,\*,\*\*</sup>



The amount of re-epithelialization is 70% higher at day 1 and 25% higher at day 3 after surgery.

\*Adjusted, excluding the patients deceased due to cancer. Excludes four additional patients who died due to cancer. Therefore, the graph is based on 15 patients with 79 implants.

\* Norm ASTM F67 (states min. tensile strength of annealed titanium)  
 \*\* Data on file for Straumann cold-worked titanium and Roxolid® Implants



# STRAUMANN® PRO ARCH WITH CARES® DIGITAL SOLUTIONS.



Data Acquisition



Planning



Design



Production



Processing



Surgery



Temporary  
Restoration

## INTEGRATED WORKFLOWS. SEAMLESS CONNECTIVITY.

Combine premium materials with carefully selected, efficient dental equipment and the latest digital technology to provide a seamless, open and fully validated digital workflow for dental professionals. Fully digitally integrated workflows and seamless connectivity. Tailored to fit. Additional tools and services for the immediate full-arch restoration.

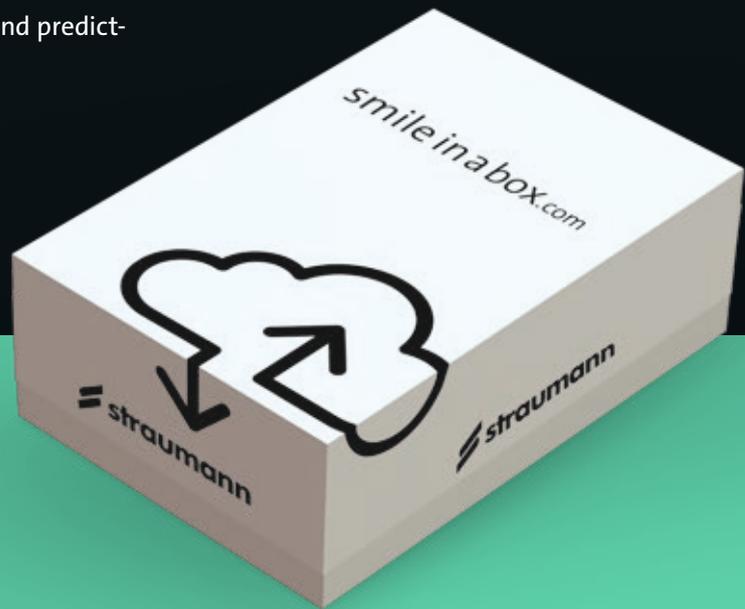
## TREATMENT PLANNING WITH CODIAGNOSTIX®

coDiagnostiX® – a digital implant placement planning tool, enables you to plan fully edentulous cases precisely and easily. The tool offers numerous measurement and planning functions, including automatic nerve canal detection, various distance monitoring functions as well as designing surgical and bone resection guides.



## SMILE IN A BOX. CREATE YOUR OWN MIX.

Straumann® Smile in a Box is a digital, modular, integrated implant treatment planning and manufacturing service. You select the services you need, and Straumann® delivers everything you need for the treatment in one box. Straumann® Smile in a Box makes treatment planning simple and predictable with regard to time, costs and outcome.



### SMILE IN A BOX SERVICE OPTIONS

Use the complete workflow for all your treatment steps

Full Service	
<input checked="" type="checkbox"/>	Surgical guides planned by coDiagnostiX®
<input checked="" type="checkbox"/>	Surgical guides designed by coDiagnostiX®
<input checked="" type="checkbox"/>	Temporary restoration designed by CARES® Visual
<input checked="" type="checkbox"/>	Treatment call executed by Straumann® service
<input checked="" type="checkbox"/>	Surgical guides produced by Straumann®
<input checked="" type="checkbox"/>	Temporary restoration produced by Straumann®
<input checked="" type="checkbox"/>	Implants, abutments and auxiliaries ordered by Straumann® service

Everything will be delivered in one box ready-to-use on the day of surgery

Select the desired workflow steps needed for your individual set-up

Modular Service	
<input type="checkbox"/>	Surgical guides planned by coDiagnostiX®
<input type="checkbox"/>	Surgical guides designed by coDiagnostiX®
<input type="checkbox"/>	Temporary restoration designed by CARES® Visual
<input type="checkbox"/>	Treatment call executed by Straumann® service
<input type="checkbox"/>	Surgical guides produced by Straumann®
<input type="checkbox"/>	Temporary restoration produced by Straumann®
<input type="checkbox"/>	Implants, abutments and auxiliaries ordered by Straumann® service

It is "Smile in a Box" when 2 or more products are delivered from Straumann® centralized production

# GROW YOUR PRACTICE.

Our immediate loading solutions in combination with patient communication and practice development tools can support you to enhance treatment acceptance and grow your practice.

Grow your practice by expanding treatment options, reducing chair-time and optimizing patient communication, to attract new referrals and extend treatment options to existing patients. Patient communication is a worthwhile investment especially for edentulous patients and patients with terminal dentition.

## DEDICATED PATIENT COMMUNICATION TOOLS FROM STRAUMANN®

- Advertisement kit for web and social media
- Waiting room video
- Web page content
- Educational patient brochures and flyers
- 1:1 Pro Arch Fixed dental model
- Edentulous treatment animations
- Treatment guide for patients
- Implant passport



Contact your sales representative for more information about the available Pro Arch courses from Straumann®.



# ENHANCE YOUR CONFIDENCE LEVEL.

To ensure a predictable outcome for each patient Straumann® Pro Arch is supported by a strong custom-made education program.

## A TAILORED EDUCATION PROGRAM FOR YOU AND YOUR TEAM

The courses are designed for clinicians and their team members with varied specializations, preferences, and experience levels:

- **Straumann® Pro Arch Interaction Meetings**  
For clinicians with substantial experience in fixed full-arch restorations.
- **Straumann® Pro Arch Clinical Experiences**  
For clinicians who would like to develop or deepen their knowledge in fixed full-arch restorations. Available as a two-day course or as a Mini Clinical Residency.
- **Straumann® Pro Arch for Dental Labs**  
Designed to address particular needs of dental lab technicians who work on fixed full-arch restorations.

# STRAUMANN® PRO ARCH

Tailored to fit. Designed to last.

## REFERENCES

- 1 Eckert SE, Hueler G, Sandler N, Elkattah R, McNeil DC. Immediately Loaded Fixed Full-Arch Implant-Retained Prosthesis: Clinical Analysis When Using a Moderate Insertion Torque. Int J Oral Maxillofac Implants. 2019 Jan 31. 2 Eskan M. A., Yilmaz S., Uzel G. 2019 A Fixed Reconstruction of Complete Edentulous Patient with Immediate Function Using A New Implant Design: A Retrospective Clinical Study. Data presented during 34th Annual Meeting of the Academy of Osseointegration's, March 13 – 16 in Washington, USA 3 Dard M, Kuehne S, Obrecht M, Grandin M, Helfenstein J, Pippenger BE Integrative Performance Analysis of a Novel Bone Level Tapered Implant. Adv Dent Res. 2016 Mar;28(1):28-33. 4 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. 5 Nicolau P, Guerra F, Reis R, Krafft T, Benz K, Jackowski J. 10-year outcomes with immediate and early loaded implants with a chemically modified SLA surface. Quintessence Int. 2018 Dec 18:2-12 6 Heberer S, Kilic S, Hossamo J, Raguse J-D, Nelson K. Rehabilitation of irradiated patients with modified and conventional sandblasted, acid-etched implants: preliminary results of a split-mouth study. Clin. Oral Impl. Res. 22, 2011; 546–551. 7 Chen Y, Man Y Clinical evaluation of SLActive Titanium zirconium narrow diameter implants for anterior and posterior crowns in smokers and nonsmokers group. Presented at the ITI World Symposium, Basel, May4-6, 2017 Abstracts: Clinical Research 045, p18 8 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. 9 Cabrera-Domínguez J, Castellanos-Cosano L, Torres-Lagares D, Machuca-Portillo G. A Prospective Case-Control Clinical Study of Titanium-Zirconium Alloy Implants with a Hydrophilic Surface in Patients with Type 2 Diabetes Mellitus. Int J Oral Maxillofac Implants. 2017 Sep/Oct;32(5):1135-1144. 10 Buser D et al 2017 Development of Implant Stability Quotient values of implants placed with simultaneous sinus floor elevation - results of a prospective study with 109 implants. Clin Oral Implants Res. 2017 Jan;28(1):109-115. 11 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. 12 Medvedev AE, Molotnikov A, Lapovok R, Zeller R, Berner S, Habersetzer P, Dalla Torre F. Microstructure and mechanical properties of Ti-15Zr alloy used as dental implant material. J Mech Behav Biomed Mater. 2016 Sep;62:384-398. 13 Al-Nawas B, Domagala P, Fragola G, Freiburger P, Ortiz-Vigón A, Rousseau P, Tondela J A Prospective Noninterventional Study to Evaluate Survival and Success of Reduced Diameter Implants Made From Titanium-Zirconium Alloy. J Oral Implantol. 2015 Aug;41(4):e118-25. 14 Altuna P., Lucas-Taule E., Gargallo-Albiol J., Figueras-Alvarez O., Hernandez-Alfaro F., Nart J. Clinical evidence on titanium-zirconium dental implants: a systematic review and meta-analysis. Oral and Maxillofacial Surgery. Jul 2016. 45: 7, 842–850. 15 Steinemann S.G. 'Titanium – the materials of choice?' Periodontology 2000, Vol. 17, 1998, 7-21 16 Ikarashi Y, Toyoda K, Kobayashi E, Doi H, Yoneyama T, Hamanaka H and Toshie T. Improved Biocompatibility of Titanium-Zirconium (Ti-Zr) Alloy: Tissue Reaction and Sensitization to Ti-Zr Alloy Compared with Pure Ti and Zr in Rat Implantation Study Materials Transactions, Vol. 46, No. 10 (2005) pp. 2260 to 2267 17 Benic GI et al. : Titanium-zirconium narrow-diameter versus titanium regular-diameter implants for anterior and premolar single crowns: 1-year results of a randomized controlled clinical study. Journal of Clinical Periodontology 2013; [Epub ahead of print] 18 Villa O, Wohlfahrt JC, Mdla I, Petzold C, Reseland JE, Snead ML, Lyngstadaas SP. A Proline-Rich Peptide Mimic Effects of EMD in Rat Oral Mucosal Incisional Wound Healing. J Periodontol. 2015 Dec;86(12):1386-95. 19 Guimarães GF, de Araújo VC, Nery JC, Peruzzo DC, Soares AB. Microvessel Density Evaluation of the Effect of Enamel Matrix Derivative on Soft Tissue After Implant Placement: A Preliminary Study. Int J Periodontics Restorative Dent. 2015 Sep-Oct;35(5):733-8. 20 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. 21 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 (ERGOPERIO). J Clin Periodontol. 2004 Dec;31(12):1092-8. 22 Al-Hezaimi K, Al-Fahad H, O'Neill R, Shuman L, Griffin T. The effect of enamel matrix protein on gingival tissue thickness in vivo. Odontology. 2012 Jan;100(1):61-6. 23 Ozcelik O, Haytac MC, Seydaoglu G. Immediate post-operative effects of different periodontal treatment modalities on oral health-related quality of life: a randomized clinical trial. J Clin Periodontol. 2007 Sep;34(9):788-96. 24 Jepsen S, Heinz B, Jepsen K, Arjomand M, Hoffmann T, Richter S, Reich E, Sculean A, Gonzales JR, Bödeker RH, Meyle J. A randomized clinical trial comparing enamel matrix derivative and membrane treatment of buccal Class II furcation involvement in mandibular molars. Part I: Study design and results for primary outcomes. J Periodontol. 2004 Aug;75(8):1150-60. 25 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. 26 C. NACK, J.-D. RAGUSE, A. STRICKER, K. NELSON & S. NAHLES. Rehabilitation of irradiated patients with chemically modified and conventional SLA implants: five-year follow-up. Journal of Oral Rehabilitation 2015 42; 57–64. 27 Nicolau et al. Clin Implant Dent Relat Res. 2013 Aug;15(4):600-12.

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