More than a unique implant surface.

Predictability at its best.

SLActive®

straumann
simply doing more

The initial biological response after implant placement is the first step towards the success of your tooth replacement therapy. **How do you ensure that you maximize your patient's healing capabilities in order to build a better bone foundation for your implant treatments?**

Patient expectations regarding tooth replacement are increasing, and personalized treatment protocols have become more demanding. **How do you reduce the complexity of treatment protocols in order to fulfill expectations and improve your patients' acceptance?**

Patients with various clinical conditions or compromised health are always more difficult to treat. The challenge rises when a condition has not been diagnosed. **How do you address patients' medical backgrounds and optimize your treatment to offer them options with peace of mind?**

SLActive® is an acclaimed dental implant surface technology with clinically proven success, designed to provide:

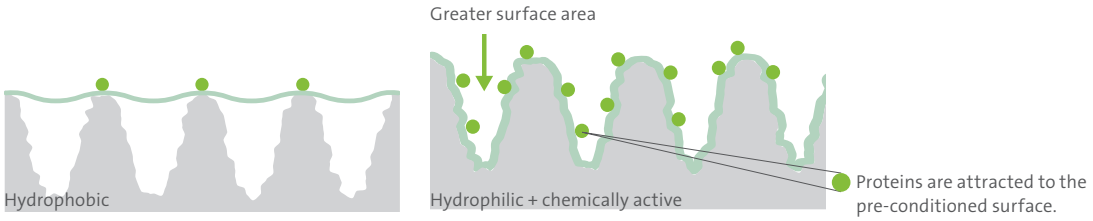
More than a biological response.

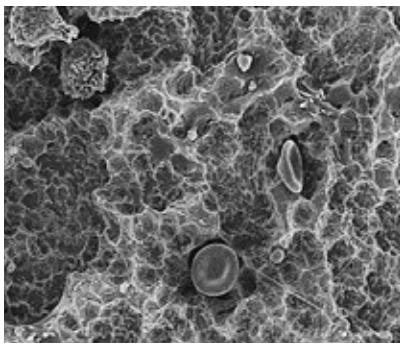
Safer and faster treatment.

Faster healing and better quality of anchorage is the ultimate goal of an implant surface during osseointegration. This increases the safety during the early healing phase and leads to a superior structural and functional connection between vital bone and the implant. The SLActive® surface is designed to provide a safer and faster treatment reducing the healing period from 6–8 weeks down to 3–4 weeks in all indications*.[1–9]

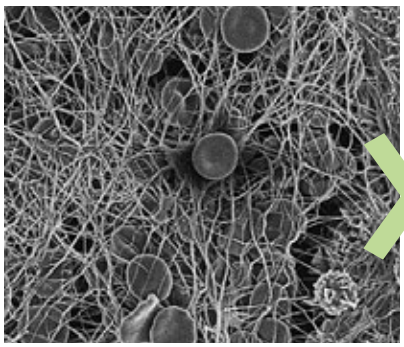
ENHANCE BLOOD CLOT STABILIZATION

The key in initiating the healing process is the blood clot formation on the implant surface. The hydrophilic and chemically active properties of SLActive® provide a larger accessible surface area for increased blood protein adsorption and fibrin network formation. Those are ideal conditions for blood clot formation and for the initiation of the healing process.[1, 2, 3]



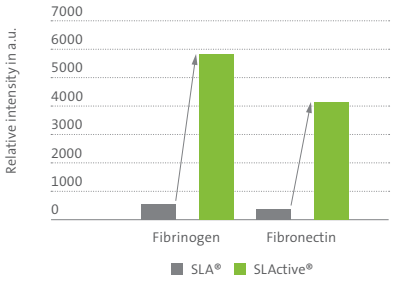


SLA®



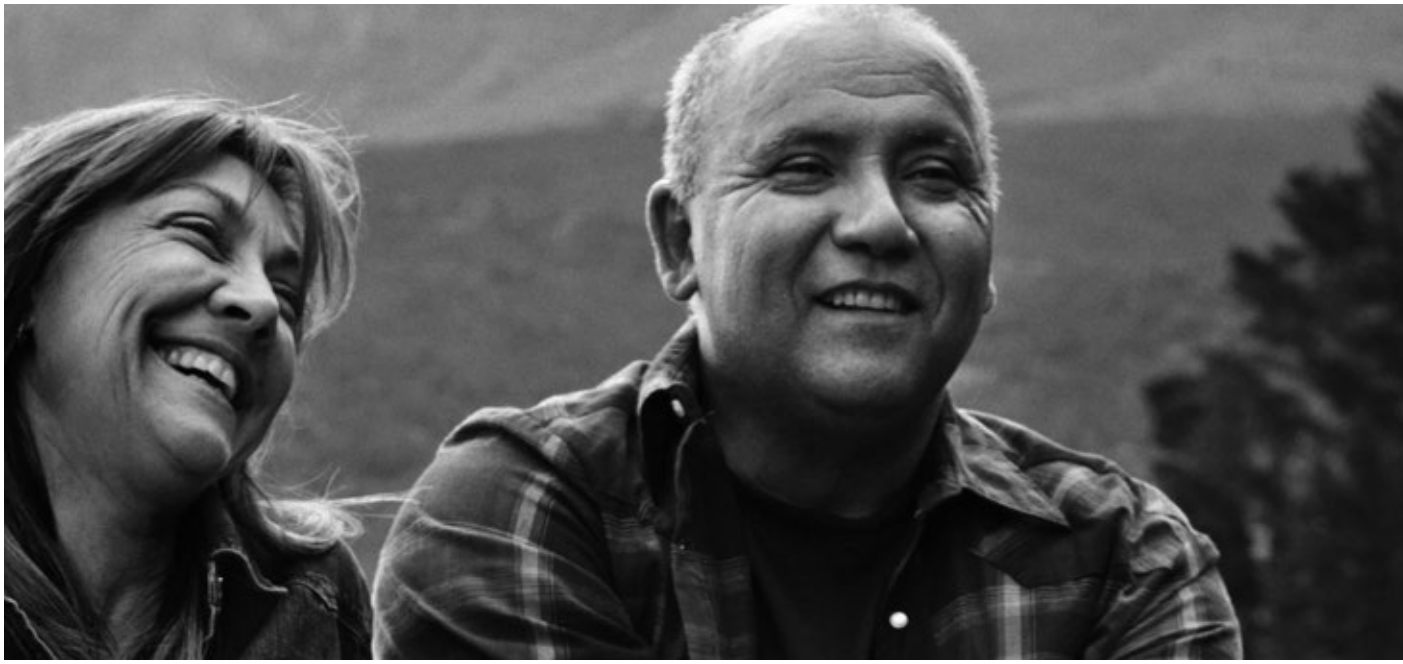
SLActive®

Fibrin network formation is more prominent on SLActive® surfaces (scanning electron microscope at 10 min)[3]



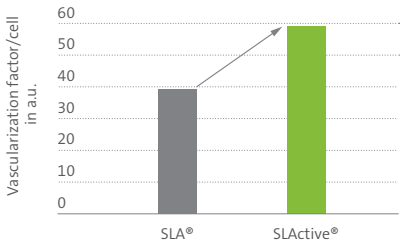
Protein adsorption and blood coagulation at 10 min[3]

*from single-tooth to edentulous

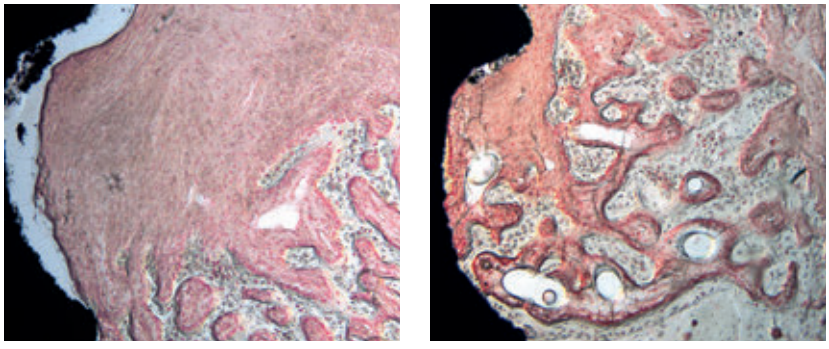


PROMOTION OF BONE VASCULARIZATION

Building a functional vascular system very early is critical for successful osseointegration. Blood vessel formation is an ongoing process in post-surgical healing. The SLActive® surface has shown a much higher stimulation of blood vessel growth compared to a hydrophobic surface.[4, 5]



Vascularization factor at 1 week[5]

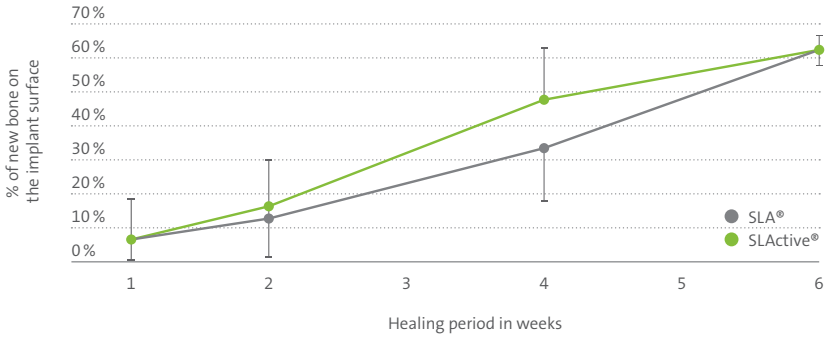


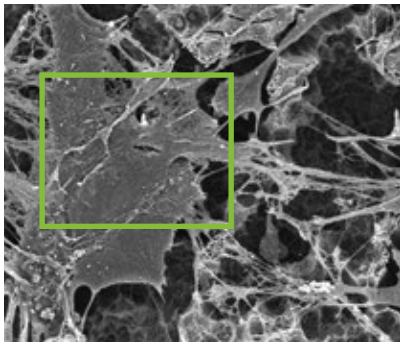
SLA® SLActive®

More newly formed blood vessels after 2 weeks with the SLActive® surface (histological views, original magnification x 200)[4]

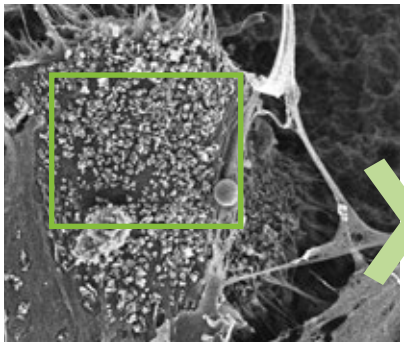
GREATER AND FASTER BONE FORMATION

Building a greater bone foundation for implant treatment is crucial. The SLActive® surface supports faster bone maturation[6]. A higher degree of bone cell mineralization has been described in a preclinical study[6] and confirmed by an in vitro study[3]. Moreover, in human histology the SLActive® healing process has been confirmed to be faster, as demonstrated by the greater bone-to-implant contact (BIC) after 2 weeks and the significantly greater BIC after 4 weeks.[7]



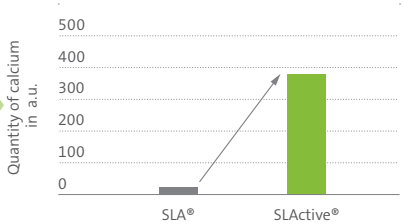


SLA®



SLActive®

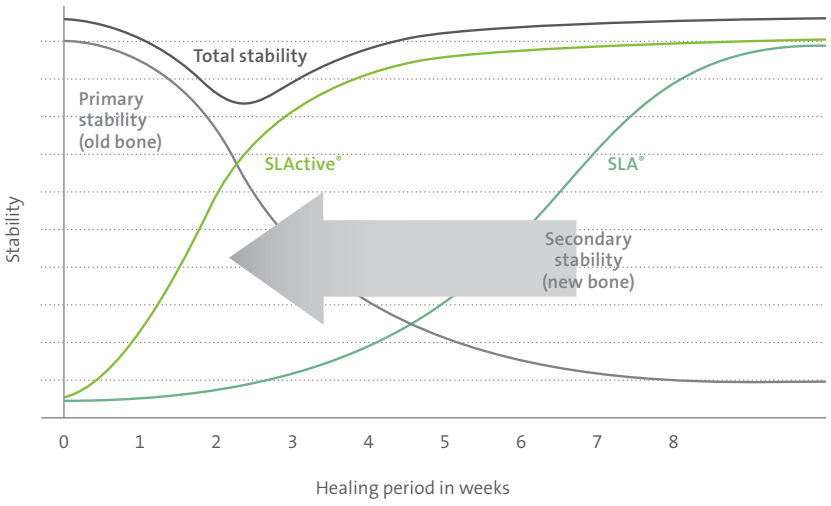
Higher degree of mineralization of bone cells with the SLActive® surface (scanning electron microscope at 21 days)[3]



Mineralization at 21 days[3]

REDUCE HEALING TIME FROM 6–8 WEEKS TO 3–4 WEEKS

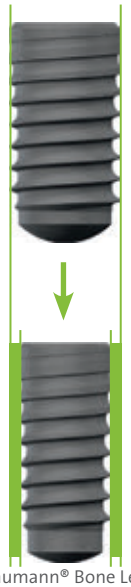
Most implant failures occur in the critical early healing phase between 2–4 weeks after implant placement[8]. SLActive® is designed to deliver better osseointegration properties by achieving secondary stability sooner than hydrophobic surfaces, thereby reduces the risks during the early healing time and eliminates the stability dip.[9]



More than clinical success.
Higher predictability.

Patients' expectations of esthetic outcomes and shortened treatment duration represent a significant challenge for practitioners. SLActive® is designed to provide higher treatment predictability even in challenging protocols helping to reduce the overall treatment complexity and improve patient acceptance.[10–15]

Straumann® Bone Level
Titanium Ø 4.1 mm



Straumann® Bone Level
Roxolid® Ø 3.3 mm

IMPROVE LESS INVASIVE PROCEDURES

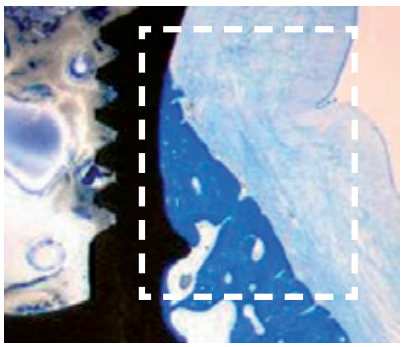
The Roxolid® material is designed to reduce the invasiveness of procedures with smaller implant diameters thanks to improved mechanical and biological properties. Predictability can be further improved by enhancing the bone formation and stability around the implant. SLActive® supports less invasive procedures with narrower implants in the anterior and premolar regions by enhancing the bone stability and the success rate as shown in a randomized controlled clinical study.[10]

PROMOTION OF BONE REGENERATION IN BONE DEFECTS

Bone defects such as bone dehiscences, fenestrations or coronal circumferential defects can compromise the predictability of osseointegration. SLActive® promotes the production of significantly greater and more mature bone than hydrophobic surfaces, and it increases new bone height, bone fill and BIC.[4, 11, 12]

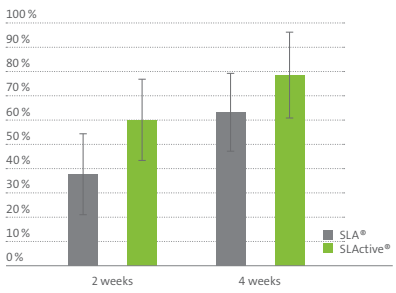
Higher BIC with SLActive® in dehiscence type defects[11]

SLA®
5 % BIC after 12 weeks



SLActive®
80 % BIC after 12 weeks

Higher BIC with SLActive® in coronal circumferential defects[13]

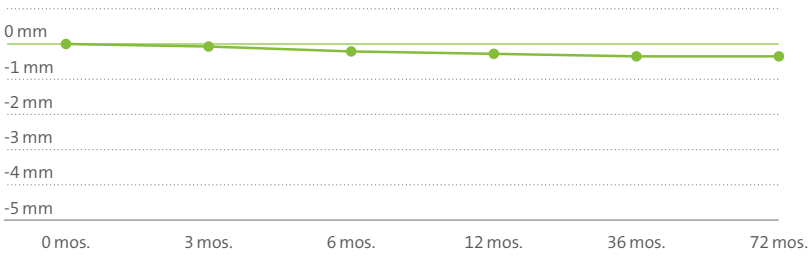


Mean BIC values (%)

1. Timing of implant placement

HIGH STABILITY IN EARLY IMPLANT PLACEMENT POST-EXTRACTION

The timing of implant placement post-extraction in the esthetic zone is considered to be an important success factor. Ridge changes after tooth extraction occur from bone resorption and often result in a crater-like bone defect on the facial aspect of the extraction site. SLActive® demonstrates long-term stability of peri-implant hard and soft tissues after 6 years with highly esthetic outcomes in early implant placement.[13,14]



Crestal bone change displayed by the mean DIB
(Distance from implant shoulder to first BIC)

2. Loading protocols

HIGH SUCCESS RATE IN IMMEDIATE AND EARLY LOADING

During the healing phase, a prosthetic restoration can be placed. However, uncontrolled loading on a healing implant increases the risk of early failures. SLActive® has shown more predictability in early loading protocols. Immediate and early loading with the SLActive® surface yield excellent long-term results with survival and success rates of 96.8 % after 5 years, even in poor bone quality.[15]

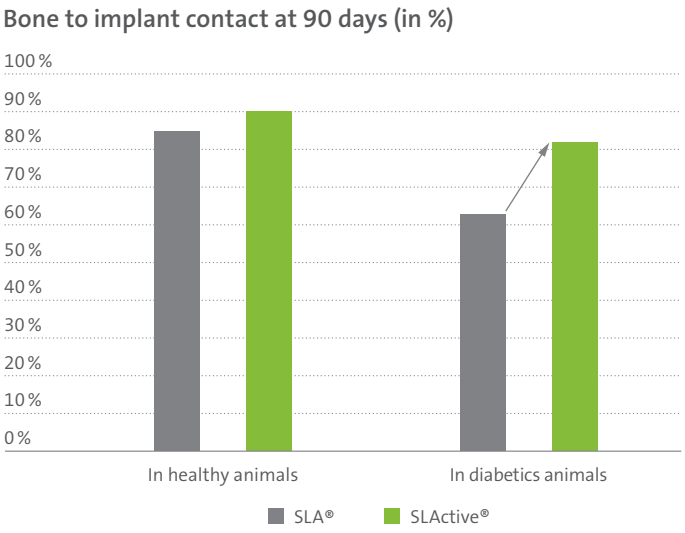
Success and survival rates in immediate and early loading protocols

More than treating healthy patients.
Broadening treatment potentials.

General health factors influence the success of implant treatment. Medical history, compromised health, periodontal situation and oral hygiene have to be considered for a successful treatment. SLActive® is broadening treatment potentials for all your patients.[16–23]

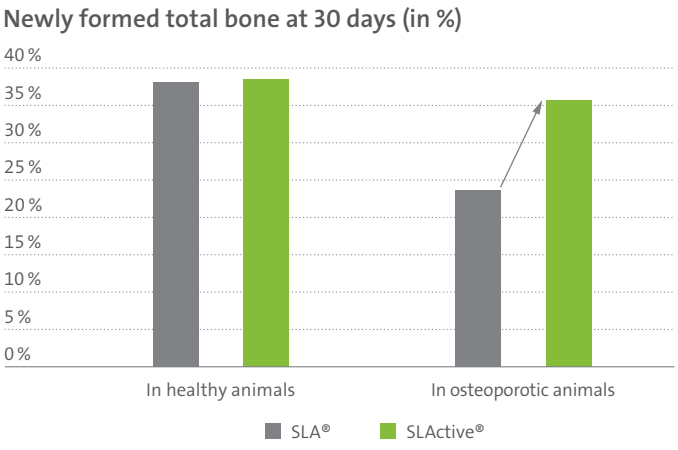
BETTER PROGNOSIS FOR DIABETIC CONDITIONS

There are nearly 400 million people with diabetes worldwide, about half are undiagnosed[16]. A preclinical study showed that untreated diabetes mellitus has negative effects on the early osseointegration of dental implants. SLActive® accelerated the osseointegration of dental implants suggesting that a better prognosis for implant treatment in diabetic conditions is possible. SLActive® Implants showed a significantly higher BIC and higher peri-implant bone density compared to hydrophobic implants.[17]



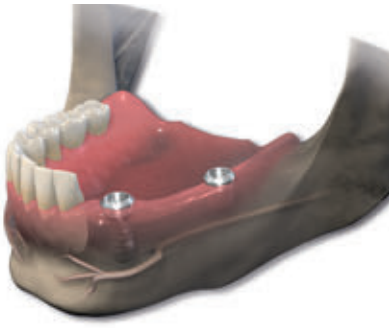
ENHANCE BONE HEALING IN OSTEOPOROTIC SITUATIONS

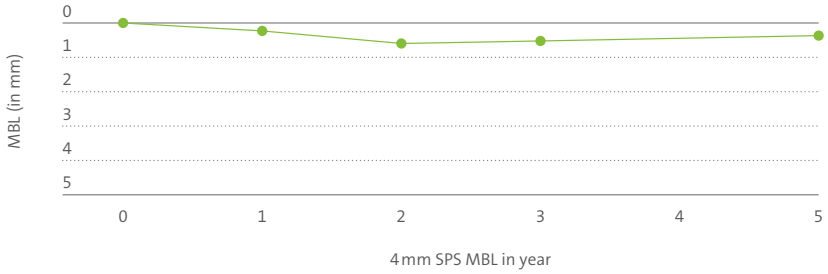
It is estimated that over 200 million people worldwide are suffering from osteoporosis.[18] Osteoporosis can compromise the bone formation. Using the SLActive® surface may promote bone healing and osseointegration in an osteoporotic situation according to a preclinical study.[19]



VERTICAL BONE AVAILABILITY IS NO LONGER A LIMITATION

The average age of the world population is rapidly increasing. Until 2050, the population over 60 will double (from 11% in 2000 to 22%, WHO)[20]. The population over 65 with severely resorbed mandibles will increase to 17% in Europe by 2030, and to 25% in the US by 2050[21,22]. The 5-year data of a multicenter study with the 4 mm Straumann® Standard Plus Short Implants and SLActive® restored with Fixed Dental Prostheses (FDPs) in severely resorbed posterior mandibles showed a high survival rate of 94% and minimal marginal bone loss (MBL). This result supports that SP Short Implants with the SLActive® surface can be used in FDPs in severely atrophic mandibles without the need for bone augmentation.[23]





4 mm SPS MBL in year

SLActive® PORTFOLIO

SPS Straumann® Standard Plus Short Implant

S Straumann® Standard Implant

SP Straumann® Standard Plus Implant

NNC Straumann® Standard Plus Narrow Neck CrossFit® Implant

TE Straumann® Tapered Effect Implant

BL Straumann® Bone Level Implant

BLT Straumann® Bone Level Tapered Implant

Precaution: Special attention should be given to patients who have local or systemic factors that could interfere with the healing process. For further information please read straumann instruction for use in www.ifu.straumann.com

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