More than an award-winning implant surface.
Maximizing treatment success and predictability.
We have seen that patient expectations regarding tooth replacement are increasing and becoming more demanding. A major concern that patients have is the complexity of treatment protocols and duration of the tooth replacement procedure. How do you reduce the complexity of treatment protocols in order to increase patient acceptance from both a surgical and restorative perspective?

**Straumann’s award-winning SLActive® dental implant surface technology with clinically proven success is designed to provide:**

- Faster osseointegration to enhance confidence in all treatments
- Reduced healing time from 6 – 8 weeks to 3 – 4 weeks
- Increased predictability in stability critical treatment protocols
More than surface technology.  
**An increased level of confidence.**

Faster healing and better implant stability is the ultimate goal of an implant surface during osseointegration. This increases the predictability during the early healing phase and leads to a structural and functional connection between vital bone and the implant. The SLActive® surface is designed to provide faster osseointegration, reducing the healing period from 6 – 8 weeks to 3 – 4* weeks in all indications.**

**ENHANCE BLOOD CLOT STABILIZATION**

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

* Compared to SLA  
** 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 shows a much higher stimulation of blood vessel growth compared to the SLA® surface in preclinical studies.3,4

Vascularization factor after 1 week of cell culture (p<0.0035)4

More newly formed blood vessels after 2 weeks with the SLActive surface (histological views, original magnification x 200)
FASTER BONE FORMATION

Building a strong bone foundation for implant treatment is crucial. The SLActive® surface supports faster bone maturation. A higher degree of bone cell mineralization has been described in a preclinical study and confirmed by an in vitro study.

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 then significantly greater BIC after 4 weeks (p=0.033).
REDUCE HEALING TIME FROM 6–8 WEEKS TO 3–4 WEEKS

There is a high risk of early implant loss during the critical early healing phase between 2–4 weeks after implant placement. SLActive® is designed to deliver better osseointegration properties by achieving secondary stability sooner than hydrophobic surfaces, thereby increasing predictability during the early healing time and reducing the stability dip.

Data on file
More than clinical success.
Higher predictability.

Patients’ expectations of esthetic outcomes and shortened treatment times represent a significant challenge for practitioners. SLActive® is designed to provide higher treatment predictability even in challenging protocols to help reduce the overall treatment complexity.

PRESERVING BONE AND ENJOYING LESS INVASIVE PROCEDURES

With outstanding mechanical and hydrophilic properties, Roxolid® Implants may allow you to use smaller-diameter implants with the same clinical performance as regular-diameter titanium implants. Smaller implants have the potential to preserve peri-implant structures and avoid invasive bone grafting procedures.

USE OF SMALLER IMPLANTS ALLOWS POTENTIAL PRESERVATION OF VITAL STRUCTURES

A randomized controlled clinical study has demonstrated that Roxolid Ø 3.3 mm Implants perform similar to Titanium Ø 4.1 mm Implants when used for anterior and premolar single crowns.
PROMOTION OF BONE REGENERATION IN BONE DEFECTS

Bone defects such as bone dehiscences, fenestrations or coronal circumferential defects may compromise the predictability of osseointegration. SLActive® promotes the production of significantly greater and more mature bone than hydrophobic surfaces, and it has been shown to increase new bone height, bone fill and BIC in preclinical studies.3,10,12

Higher BIC with SLActive in coronal circumferential defects13

Mean BIC values (%) *(p<0.05 at 2 and 4 weeks)
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 may occur because of bone resorption and may 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 predictability in early loading protocols. Immediate and early loading with the SLActive surface yields excellent long-term results with survival and success rates of 96.8 % after 5 years, even in poor bone quality.15
The Roxolid material and the SLActive surface technology each received the Frost & Sullivan Medical Device Technology of the Year Award. This award, which recognizes excellence in technological innovation, is one of the Best Practices Awards bestowed by Frost & Sullivan, the global growth consulting company. In 2005, the SLActive surface technology was noted as a ‘next generation dental implant surface technology’ and in 2009, the Roxolid material was noted as an ‘innovative high performance material for dental implants’.

### A combination of award-winning technologies with simplified handling

The Frost & Sullivan **MEDICAL DEVICE TECHNOLOGY OF THE YEAR AWARD** recognizes excellence in technological innovation.
REFERENCES


10 Compared to SLA.


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<th>International Headquarters</th>
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