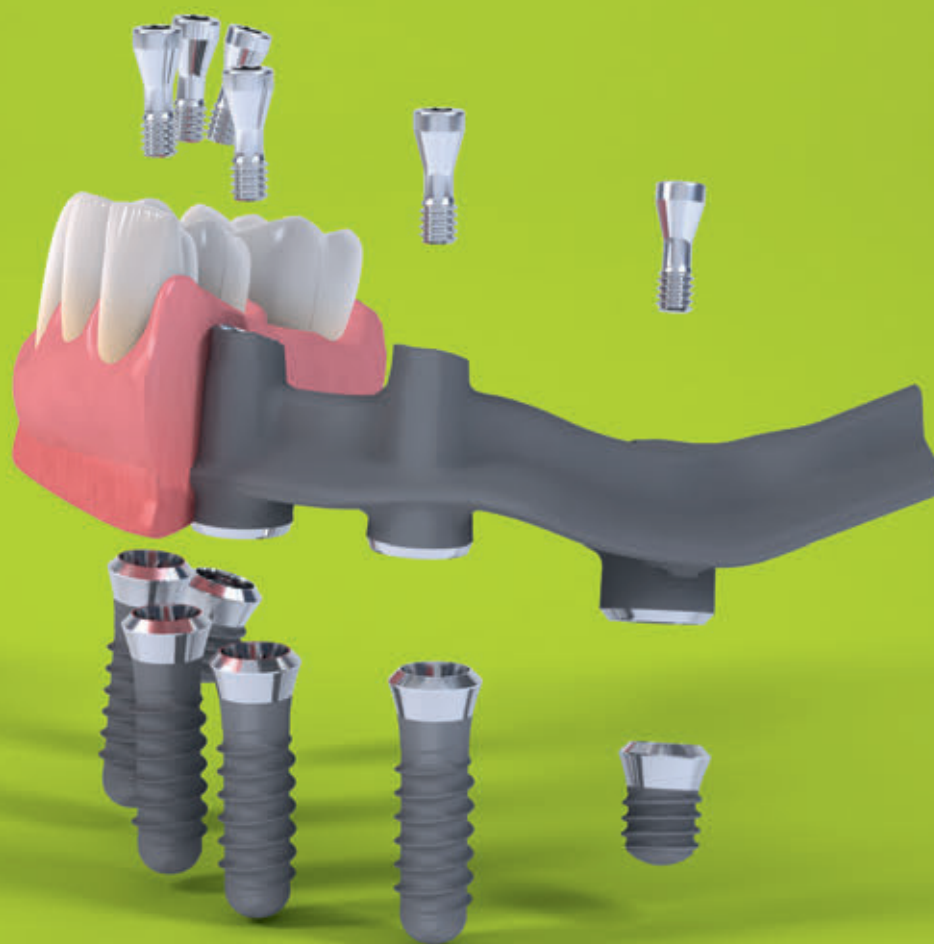




Basic information on the Straumann® Pro Arch TL

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1. Introduction

1.1 Discover more treatment options with the 4 mm Short Implant

Treating patients with resorbed bone often remains a challenge for the clinician. Bone augmentation adds to the treatment time which, in many cases, is not an option for the patient. Nevertheless, avoiding bone augmentation requires experience and confidence with tilted posterior implants and immediate procedures.

Discover the new Straumann option in the edentulous treatment portfolio: Include the Straumann® Standard Plus Short Implant (4 mm/6 mm) into your full-arch treatment.

Straightforward		Advanced		Complex	
Removable		Fixed			
Maxilla					
	LOCATOR® on 4 implants	Fixed screw-retained restoration on 4 implants, posterior tilted avoiding sinus		Fixed screw-retained restoration on 6 implants	
Mandible					
	LOCATOR® on 2 implants	Bar with pre-fabricated/individualized parts > 3 implants	Fixed screw-retained restoration on 4 implants, posterior tilted avoiding mandibular nerve	Fixed screw-retained restoration on 6 implants, 4 mm Short Implants posterior to avoid mandibular nerve.	Fixed screw-retained restoration on > 6 implants

2. Technical information

The Straumann® Standard Plus Short (SPS) Implant, at 4 mm length, is the shortest screw-type implant with internal connection on the market. It is indicated for fixed or removable dental restorations in situations with a severely resorbed jaw bone. The SPS Implant gives you great flexibility to treat patients without complex vertical bone augmentations.

Furthermore, Straumann offers a broad prosthetic portfolio for temporary and final restorations:

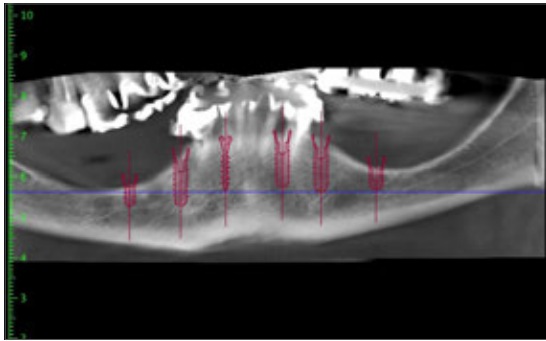
- reliable TL stock components
- various CAD/CAM designs and materials with CARES®



3. Step-by-step procedure

3.1 Workflow overview





3.2 Treatment planning considerations and case preparation

For optimal and long-lasting results, a prosthetic-driven planning phase is essential, and it should be executed in close collaboration with all partners involved.

The intended loading protocol should be selected considering implant-prosthetic parameters as well as functional, psychosocial, and financial aspects and patient preference.¹⁻⁶

If an immediate loading protocol is planned, consider a min. insertion torque of 30 Ncm for the implants.⁷

Please note: Immediate loading is not recommended for SPS Implants (4 mm/6 mm).^{8,9}

During the planning phase, consider the following aspects:

- Patient's expectations
- Patient's medical history / history of edentulism / oral health
- Clinical evaluation of internal, external and prosthetic factors
- Evaluate bone availability
- Define the type of restoration and treatment process, incl. AP spread, cantilevers and bone ridge reduction
- Highlight importance of patient compliance



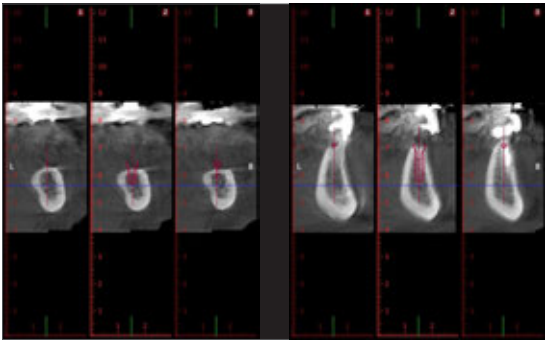
CARES® Synergy offers the possibility to plan the individual implant case “live” with all respective stakeholders: surgeon, prosthodontist and dental lab.

During the planning phase, always consider the mechanical stability of the temporary and final restoration.

This document serves as an orientation for a full-arch treatment option including the 4 mm SPS Implant. Depending on your expertise and your equipment individual treatment steps may vary.

For more information please refer to:

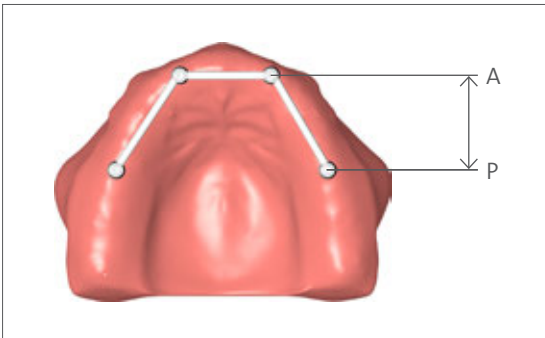
- Basic information on the surgical procedures, 152.754/en.
- Dental Wings coDiagnostiX®: Please contact your local Dental Wings distributor.



3.3 Surgical procedure – Prerequisites

The site must be free of acute infections.

Define the bone volume (ensure sufficient volume apically and buccally).

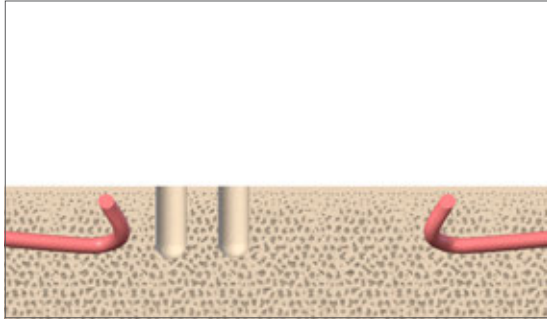


With the help of the AP-spread define the implant position to ensure mechanical stability of the restoration.



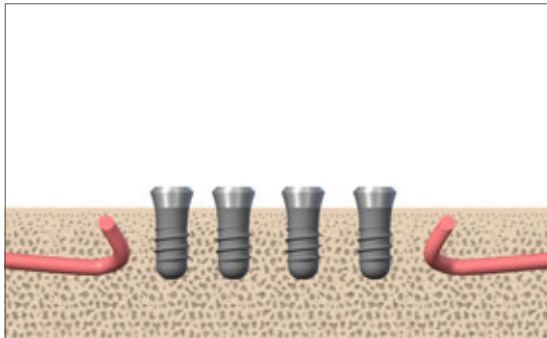
Temporary restoration and surgical drill template have been prepared by the dental lab.

Duplicate the temporary restoration for use as a surgical drill template during the surgery and for prosthetic pick-up.

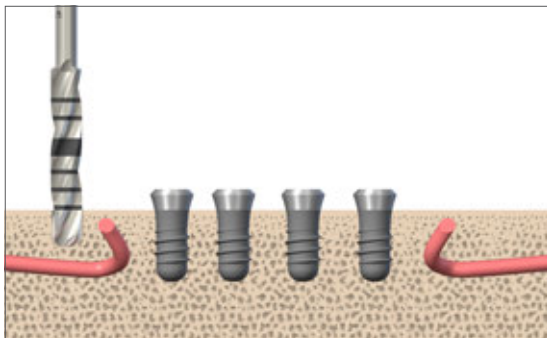


3.4 Surgical procedure

Open the flap for implant placement and prepare sites accordingly.

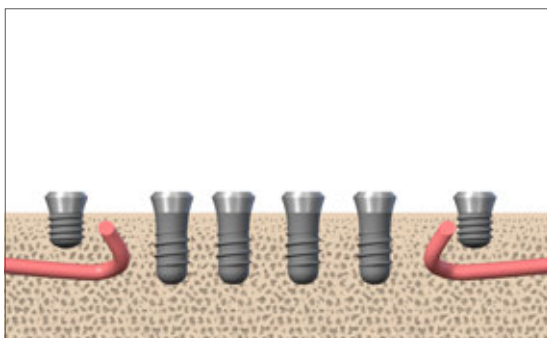


Place the TL Implants (> 8 mm) interforaminally following the Straumann drill protocol.



Place the 4 mm SPS Implants following the Straumann drill protocol.

Carefully ensure precise implant placement of the 4 mm SPS Implants.



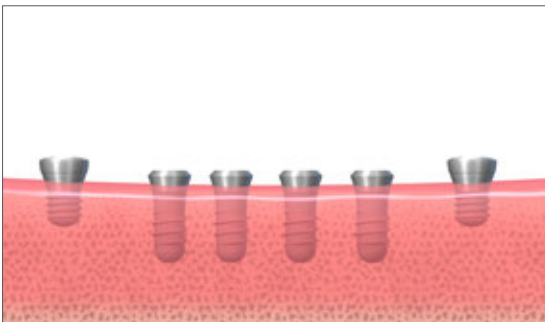
For sufficient primary stability place the 4 mm SPS Implants in native bone or healed bone.

In cases with residual dentition, remove the teeth and allow sites to heal.

Please note: For improved soft tissue wound healing use Straumann® Emdogain®.

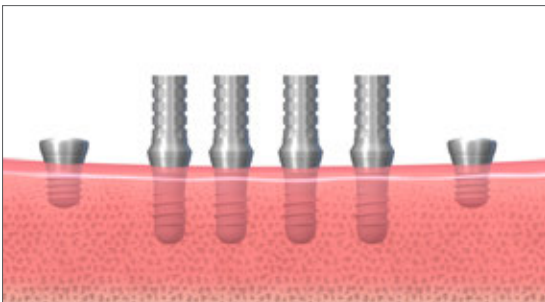
3.5 Prosthetic treatment – Temporary restoration: Prerequisites

- The implants have been placed and sufficient primary stability ensured.
- The implant sites have been closed.
- The temporary restoration is available.

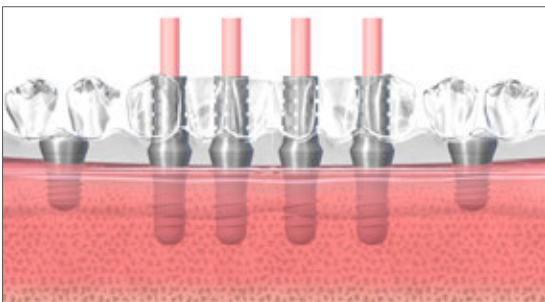


3.6 Prosthetic treatment – Temporary restoration

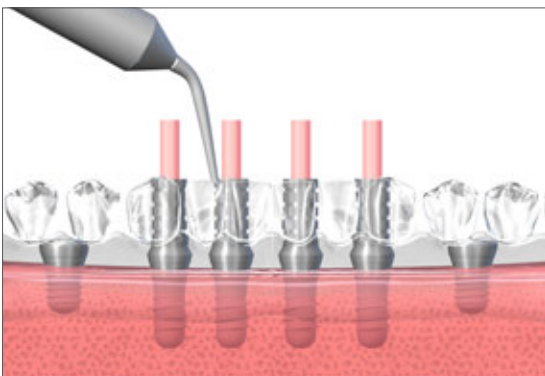
During the provisional phase, the 4 mm SPS Implants will not be loaded.



Prepare the prosthetic pick-up by placing the TL Titanium Copings onto the anterior TL Implants.

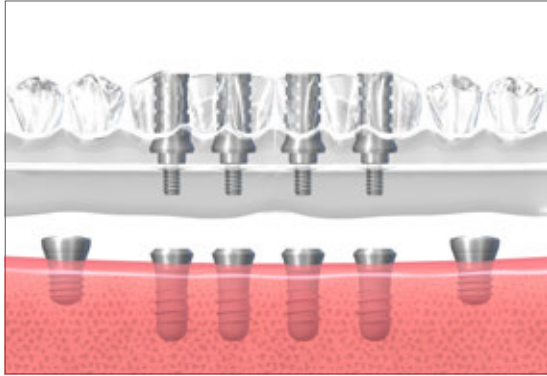


Use the surgical drill template for prosthetic pick-up.



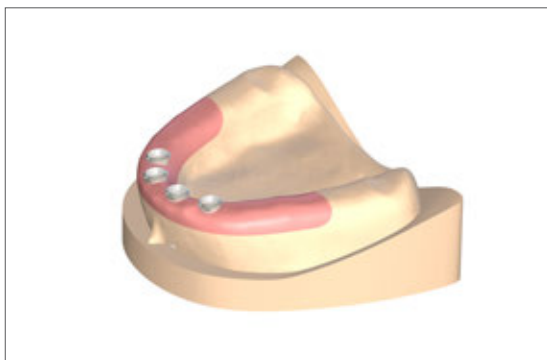
With resin material / impression material fix the Titanium Copings to the surgical drill template.

Fix the occlusal situation (correlation of the jaws to each other).



Remove the surgical drill template with the Titanium Copings and forward it to the dental lab for processing.

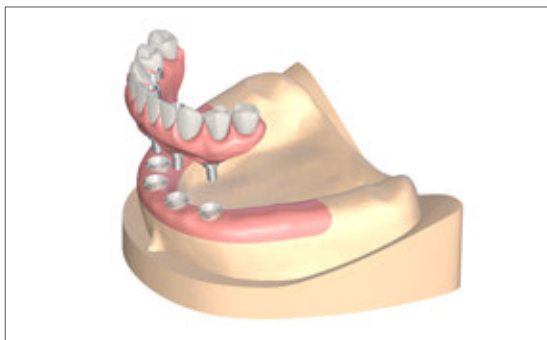
Additionally, forward all essential information to the dental lab (vertical dimension etc.)



3.7 In the dental lab

The prosthetic pick-up provides the dental lab with information about the implant positions.

Based on prosthetic pick-up prepare the master cast.



Finalize the temporary restoration on 4 TL Implants, include cantilevers if appropriate.



If preferred include reinforcement into temporary restoration.

Insert the temporary restoration into the patient's mouth.

Please note: For long-lasting results and proper healing ensure a frequent individual recall system with the patient.

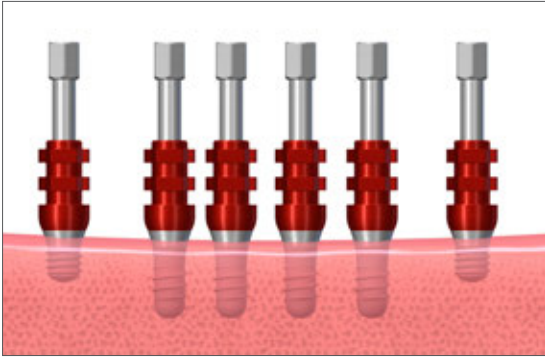
3.8 Prosthetic treatment – Final restoration: Prerequisites

The implant sites are healed and the implants are osseointegrated.

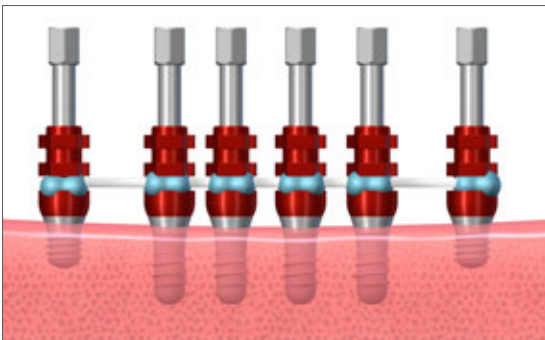
3.9 Prosthetic treatment – Final restoration

For open-tray impression-taking remove the temporary restoration.

Place the open-tray Impression Posts on all implants and ensure proper seating.



Splint the Impression Posts.



Bite registration – Option 1

Use the existing temporary restoration for bite registration. Forward information of smile line and incisal point to the dental lab.

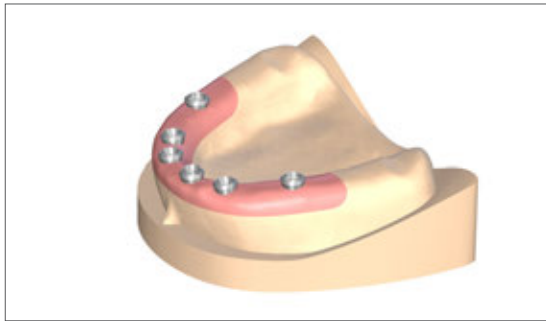
Bite registration – Option 2

The dental lab prepares bite registration upfront using initial planning models.

If possible provide information of the temporary restoration with a silicon key.



Forward all the information to the dental lab.



3.10 Final fixed bridge provided with CARES®

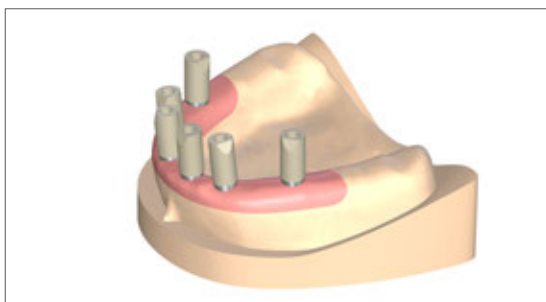
Based on the dental impression prepare the master cast with the help of Implant Analogs.



Articulate the master cast according to the bite registration information.



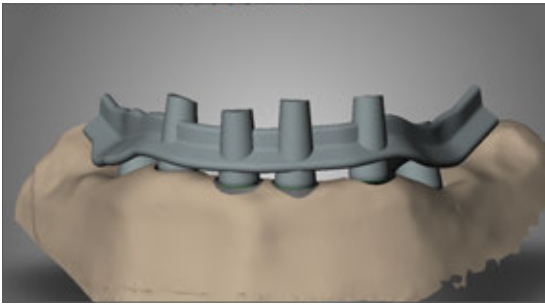
Prepare a mock-up of the final restoration using the silicon key.



Place the TL Mono Scanbodies onto the Implant Analogs and scan the master cast.



Follow the instructions in the software: remove the TL Mono Scanbodies and rescan the mock-up with the help of an etkon/Dental Wings Scanner.



Design the required framework or bridge in the CARES® Visual software.

Send the production data to your preferred milling center.



After receiving the final framework/bridge, finalize in the dental lab.

Finally, place the restoration into the patient's mouth.



3.11 CARES® options for fixed frameworks

For more information, please refer to Straumann® CARES® Options for Straumann® Pro Arch (490.112/en)

Option 1

To use the Straumann® Scan & Shape service, prepare the master cast and send in the model as well as all required information incl. order sheet to your local Scan & Shape supplier.

Please note: Scan & Shape services may not be available in all countries.

Option 2

If the conventional workflow is preferred the final restoration can be produced with the help of gold abutments and cast-on copings.

3.12 Care and maintenance

For long-term success and proper fit of the fixed bridge, thorough patient instruction and periodic check-ups (at least once a year) are recommended¹⁰.

Careful maintenance of the fixed restoration provided, it is not necessary to exchange the Occlusal Screws at each check-up visit.

During these visits the following aspects should be checked:

- **Condition of peri-implant tissues with regard to diseases:**
Plaque and calculus, bleeding, recession, bone loss, radiographs
- **Superstructure:**
Occlusal fit and articulation, proper fit of the fixed bridge, wear of occlusal surface, retention, attachment loosening, abutment status
- **Function of prosthesis**

For proper care at home, instruct the patient to clean the space between gingiva and fixed bridges, especially around the implants on a regular basis. Dental floss, bushy dental floss or interdental brushes are recommended.

4. Clinical case

4 mm SPS Implant included in full-arch restoration with immediate temporary

Images courtesy of Dr. Paolo Casentini, Milano, Italy

Initial situation: male patient with severe bone resorption in mandible



Severe bone resorption in mandible



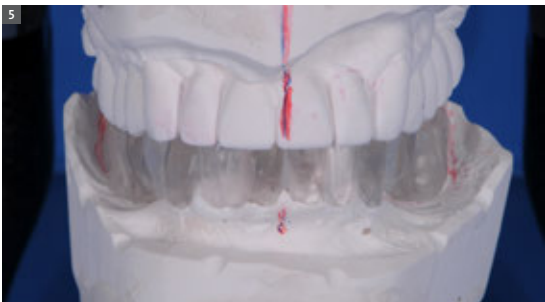
Residual dentition



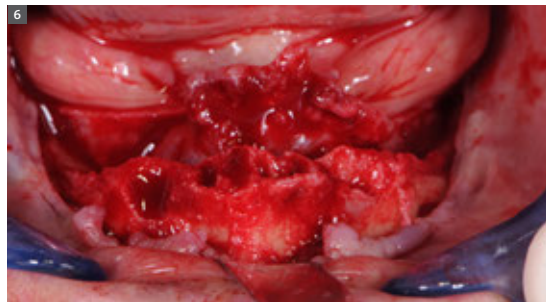
Orthopantomograph information



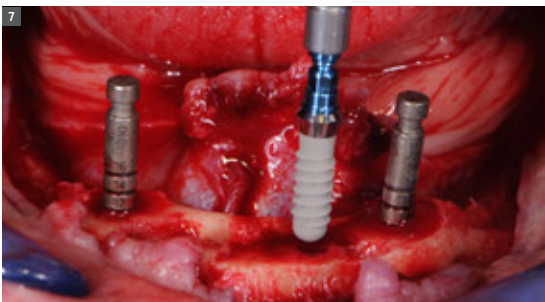
Planning implant position in planning software



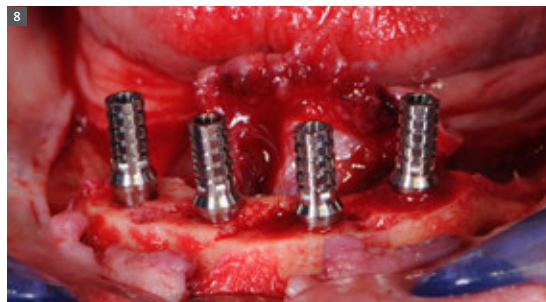
Surgical drill template prepared upfront by dental lab



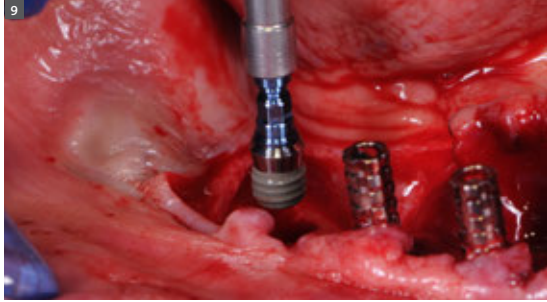
Opening the flap



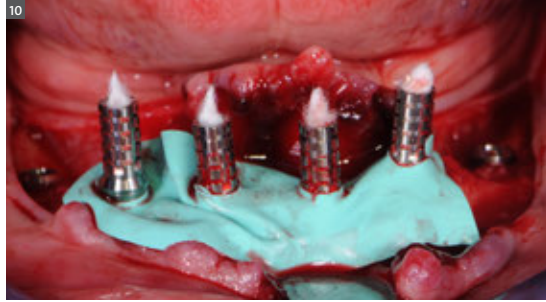
Placement of 4 TL Implants interforaminally



TL Titanium Copings on TL Implants for prosthetic pick-up



Placement of two 4 mm SPS Implants in posterior region



Preparing for prosthetic pick-up



Prosthetic pick-up to transfer information to the dental lab



In this case, the temporary restoration was reinforced with metal wire



Temporary restoration on 4 implants



Impression taking for final restoration



Finalized framework ready for insertion



Orthopantomograph information of final restoration

REFERENCES

1 Proceedings of the fifth ITI Consensus Conference. 2 Consensus Statements and Clinical Recommendations for Implant Loading Protocols. 3 German O. Gallucci, DMD, Dr Med Dent, PhD1/Goran I. Benic, Dr Med Dent2. 4 Steven E. Eckert, DDS, MS3/Panos Papaspyridakos, DDS, MS4. 5 Martin Schimmel, PD, Dr Med Dent, MAS Oral Biol5. 6 Alexander Schrott, DMD, Dr Med Dent, mmSc6/Hans-Peter Weber, DMD, Dr Med Dent7*. 7 Proceedings of the fifth ITI Consensus Conference, Implant Loading Protocols for Edentulous Patients with Fixed Prostheses: A Systematic Review and Meta-Analysis. 8 Panos Papaspyridakos, Chun-Jung Chen, Sung-Kiang Chuang, Hans-Peter Weber. 9 IFU Straumann 10 Wismeijer D et al. : ITI Treatment Guide: Loading protocols in Implant Dentistry – Edentulous Patients, Volume 4, 2010, page 223 Patient Consideration

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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