

Implant[®] Pro

Procedure Manual

Simplant®

CONTENTS

Introduction

Simplant: A fully integrated dental implant treatment planning tool	4
Simplant guide: Your link between implant planning and surgery	5
Temporary restoration	5

Step by step procedure

Step 1 - Diagnosis and treatment planning	6
Step 2 - Preparing the scan	12
Step 3 - Taking the 3D scan	13
Step 4 - Importing scan files into Simplant	14
Step 5 - Surgery planning with Simplant	15
Step 6 - Getting the surgical guide	16
Step 7 - Performing surgery	18
Step 8 - Offering your patient a temporary restoration	20

Treatment planning in a nutshell

Simplant Pro Workflow	22
-----------------------------	----

To improve readability for our customers, Dentsply Sirona Implants does not use ® or ™ in body copy. However, Dentsply Sirona Implants does not waive any right to the trademark and nothing herein shall be interpreted to the contrary.

Introduction

This manual provides step by step guidance on how to achieve the best possible implant treatment for your patient with 3D planning in Simplant software.

Simplant: A fully integrated dental implant treatment planning tool

Simplant offers you a comprehensive 3D system for accurate and predictable implant treatment – from scanning and planning, to drilling and implant placement.



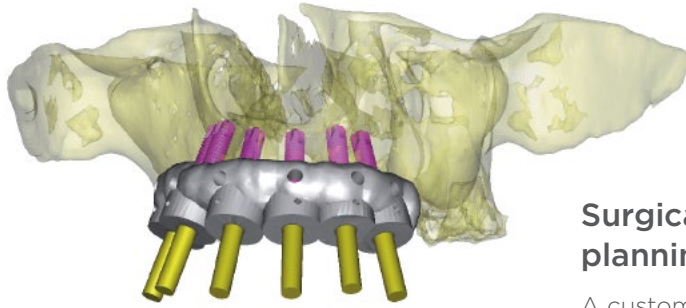
From scan

- Continue working with your preferred implant brands and CBCT and intraoral scanning equipment – Simplant is compatible with them all.
- Use our scan guidelines to optimize the quality of your images.
- When the CBCT is taken with a Dentsply Sirona CBCT unit like Axeos, the image is directly visualized within Sidexis 4. The patient data then opens in Simplant Pro from the Sidexis 4 “output” tab.
- When the intraoral scan is taken with a CEREC Primescan unit, the image can be used in the CEREC software to create the desired prosthetic design. The patient image as well as the prosthetic design are then transferred to Simplant Pro to be merged with the CBCT scan.



To plan

- Assess your patient’s anatomy and see exactly how it relates to your proposed restoration.
- Easily identify vital structures, simulate grafts, place realistic implants and abutments, analyze bone density and so much more.
- Use your data to create multiple treatment plans and present them to colleagues, your lab and even your patients to show them what your plan really entails.



Surgical guide: Your link between planning and surgery

A customized surgical guide provides for highly accurate drilling and implant placement, fits perfectly and ensures safe and predictable implant treatment.

- Minimally invasive techniques reduce post-operative pain, swelling and healing time
- Prosthetic driven surgery results in a naturally looking esthetic outcome
- No more unpleasant surprises during or after surgery, avoiding stress for you and your patient
- Reduce surgery time and unforeseen complications
- Precise planning and implant placement avoids unexpected additional costs



To guide

- Choose a Simplant Guide according to your preferred implant workflow.
- Preview and order your patient's personal Simplant Guide directly in Simplant software. You can also order the Simplant Guide File to 3D print the surgical guide in the lab or clinic.

Surgical guide types of support

The Simplant Guide is placed on the patient's jawbone (**bone-supported guide**), soft-tissue (**mucosa-supported guide**) or teeth (**tooth-supported guide**).

Surgical guide solutions

Your surgical preference or specific clinical case determines your surgical guide solution. You can opt for guided drilling and guided implant placement (**Simplant SAFE Guide**), only guided drilling (**Simplant Universal Guide**) or only guided initial drilling (**Simplant Pilot Guide**).

Temporary restoration

A temporary restoration can be delivered before the surgery together with the Simplant Guide. When adding the Atlantis Abutment or the Simplant Core File to the Simplant Guide order, the laboratory partner can mill a digitally designed temporary restoration before the surgical appointment.

Step by step procedure

Step 1 – Diagnosis and treatment planning

Clinical examination

Your diagnosis and initial treatment plan will influence all steps that lead to successful implant treatment. Based on a clinical examination, you will determine what kind of implant treatment your patient needs:

- What are my patient's needs?
- Is a fixed or removable prosthesis required?
- How many implants does my patient require?
- Does my patient want a temporary restoration?
- Are tooth extractions needed?
- Which type of surgical guide should I use during surgery?
- Do I desire a tooth set-up visualization?
- Is flapless surgery required?

Choosing a tailored surgical guide

Simplant allows you to plan your surgery in advance, taking into account clinical and esthetical considerations, but 3D implant treatment planning equally requires the use of a surgical guide during actual surgery to place implants.

Additionally, the surgical guide types of support and solutions you will use, may influence your treatment planning.

Surgical guide types of support



Tooth-supported guide

- Single tooth and partially edentulous cases
- Intraoral scan required **1**, desired prosthetic design recommended
- Virtual extraction **2** possible



Mucosa-supported guide

- Positioned on the soft-tissue
- Fully edentulous cases when minimally invasive surgery is preferred
- Scan prosthesis **3** required as the CBCT images provide insufficient information about the soft-tissue



Bone-supported guide

- Positioned on the jawbone after raising mucoperiosteal flaps
- Suitable for partially or fully edentulous cases when increased visibility is needed or to allow augmentation and reduction procedures
- Sufficient bone surface support - at least 3cm - is essential for secure, effective guide positioning.
- Scan prosthesis 3 recommended to provide prosthetic information

Special Simplant Guide type

Bone reduction guides

To be entirely sure that you don't take too much or too little bone away, your ridge reduction can be guided. A tailored bone reduction guide takes into account implant position and surrounding bone mass. It eliminates mistakes when removing sharp bone edges and ensures you remove only as much bone as required.



1 Intraoral scan

Teeth, tooth fillings and brackets are deformed in CBCT images. A precisely fitting tooth-supported guide thus cannot be built based on these images alone. Take an intraoral scan and merge it with the CBCT scan in the Simplant software.

2 Virtual extraction

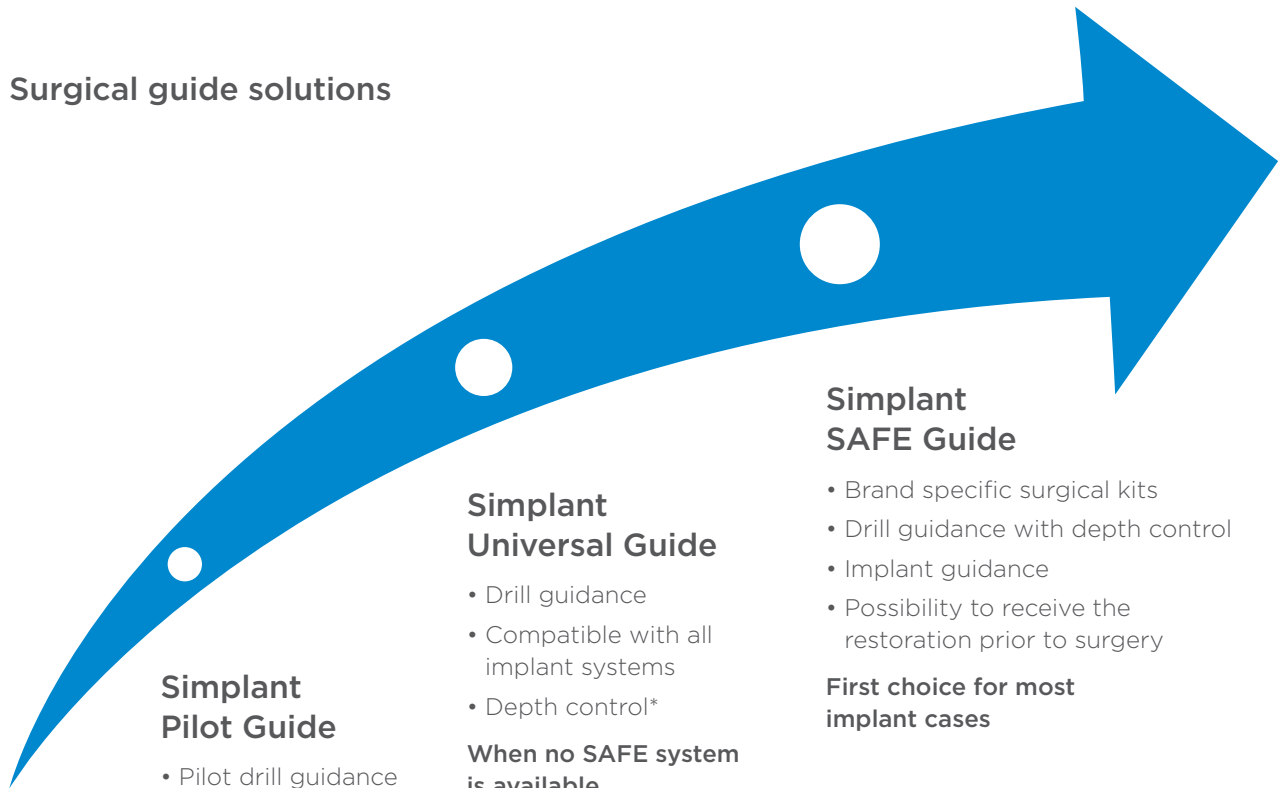
Simplant makes it possible to design and produce a Simplant Guide prior to tooth extraction. This allows you to immediately and accurately place an implant into an extraction socket. Make sure you remove any teeth that will be extracted during surgery from the digital scan or from the stone model.



3 Scan prosthesis

A scan prosthesis visualizes the desired tooth set-up in the CT and cone beam 3D images. These images help you determine how to place your patient's implants from a clinical as well as an esthetical point of view. For a mucosa-supported Simplant Guide, it's the scan prosthesis that makes it possible to fabricate the Simplant Guide. A scan prosthesis is simply made from a relined or new prosthesis with fiducial markers, i.e. Dual Scan Markers, added to it.

Surgical guide solutions



Simplant Pilot Guide

- Pilot drill guidance
- Depth control*

When full guidance is not required

Simplant Universal Guide

- Drill guidance
- Compatible with all implant systems
- Depth control*

When no SAFE system is available

Simplant SAFE Guide

- Brand specific surgical kits
- Drill guidance with depth control
- Implant guidance
- Possibility to receive the restoration prior to surgery

First choice for most implant cases

* Only in combination with Longstop Drill System

Consider during planning in the software that the drill tip can go deeper than the planned implant. The exact drill tip offset depends on the manufacturer. Please make sure you know this value when planning your surgery. The drill tip for DS PrimeTaper Implant System can go up to 1.3 mm deeper than the planned implant.



+1.3 mm

Simplant SAFE Guide

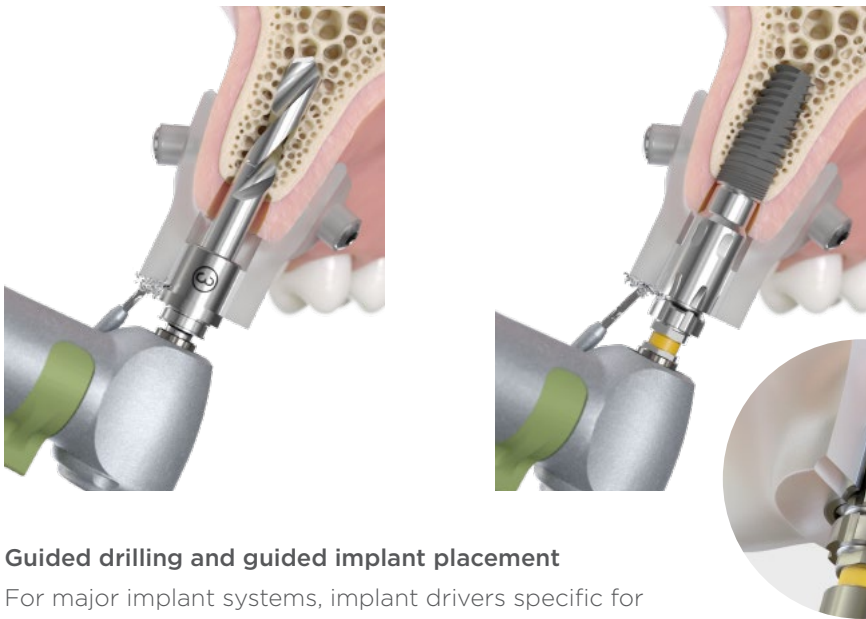
3D guidance

Guide Sleeves within the Simplant SAFE Guide ensure control over position and angulation of the drills and implants, as defined in your Simplant plan. Depth control makes your surgery even safer and more accurate.

Compatible with a brand specific surgery kit

The Simplant SAFE Guide is designed to be compatible with the brand specific guided surgery kit of your choice.

Partnerships with all leading implant manufacturers allow for automatic integration in Simplant software.



Guided drilling and guided implant placement

For major implant systems, implant drivers specific for guided surgery can be used to place the implants through the guide, increasing accuracy and predictability of the implant position.

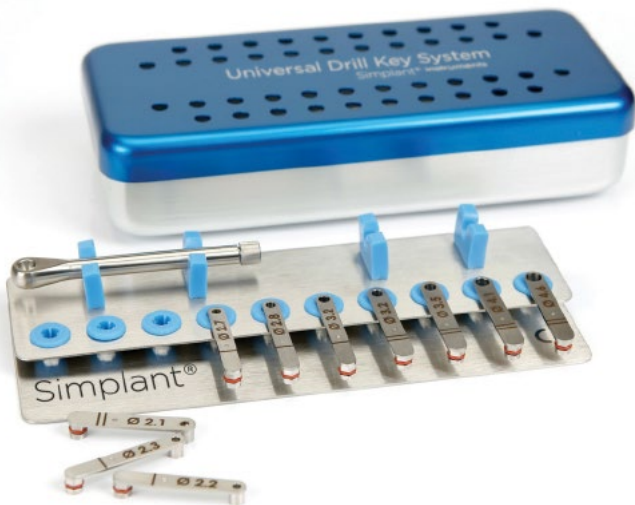
Simplant SAFE Guide for DS Implants - with lateral access

The optional lateral access provides greater ease of handling even for cases with limited inter-occlusal space. This allows for treatment of an expanded range of indications and increased patient comfort and satisfaction.

Consider during your planning of an open guide sleeve versus a closed guide sleeve that it is slightly more difficult to insert the drill sleeve fully into the guide sleeve for cases with limited inter-occlusal space. You always need to have the drill sleeve inserted fully into the guide sleeve before starting drill rotation.



Simplant Universal Guide



Universal Drill Key System

Any standard implant surgery kit can be used. You only need to compose a set of Universal Drill keys, based upon your personal preferred drill sequence. The Drill Key Handle allows you to reach any angle and position in the patient's mouth. Alternatively, if physical drill depth control is required, the LongStop Drill System **1** can be used.

Fixed implant position and angulation

Sleeves within the Simplant Guide ensure control over position and angulation of the drills, as defined by your Simplant plan. Drill depth information is delivered together with your Simplant Guide, allowing for visual depth control. Simplant Universal Guide is available with closed or lateral open sleeves **2**.



Guided drilling

During surgery, only the drills are guided. When the drilling sequence is completed, remove the Simplant Guide and place the implants.

Implant Pilot Guide



Fixed implant position and angulation

Implant Pilot Guide is used when there is a need for an accurate entry point and inclination with the surgical guide. The guide provides drill guidance for the first drilling step.

Sleeves within the Simplant Guide ensure control over position and angulation of the pilot drill, as defined by your Simplant plan. A surgical protocol including drill depth information is delivered together with your Simplant Guide, allowing for visual depth control. Simplant Pilot Guide is compatible with the LongStop Drill System **1**.

No kit needed

Any standard surgery kit can be used.

Guided pilot drilling

During surgery, only the first drill is guided. A broad range of pilot drill diameters is available. Remove the Simplant Guide, complete the drilling sequence and place the implants.



1 LongStop Drill System

The multiple-use LongStop Drill System covers drill lengths for any clinical situation. In combination with Simplant Universal Guide or Simplant Pilot Guide (for LongStop drills), the LongStop Drill System provides physical drill depth control for any implant. LongStop drills allow for easy surgery: one osteotomy, one color. Finalize the osteotomy with your implant specific drill.



2 Lateral open sleeves

(with opening towards the buccal or lingual side)
When inter-occlusal space is limited, lateral open sleeves can be used in combination with your Simplant Universal Guide. Insert the drill in the Simplant Universal Guide Drill Key, and move it sideways into the guiding sleeve.

Step 2 – Preparing the scan

A bite index **1** is recommended at all times, even when your patient is being scanned without a scan prosthesis. In the latter case however, a spacer (eg. cotton rolls, tissues, wax) may be sufficient.

Partially edentulous cases

For partially edentulous cases, an intraoral scan provides reliable data about the dentition and soft tissue and serves as a basis for the prosthetic proposal.

Alternatively, if you don't have an intraoral scanner at the practice, take a conventional impression and provide it to the dental laboratory. The dental laboratory can prepare stone model **2** and wax-up (optional but recommended).

Totally edentulous cases

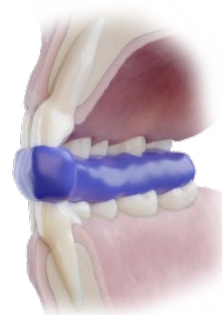
For totally edentulous cases, fabricate a scan prosthesis **3** for the Dual Scan procedure. The scan prosthesis is used to visualize the prosthetic set-up and to **design** your Simplant Guide. The Simplant Guide fit depends on the **quality of the prosthesis** used during the scan.

Scan Prosthesis Dual Scan
Recommended for CBCT radiolucent
prosthesis with Dual Scan Markers



Dual Scan

- Two scans
 - One scan of the patient wearing the prosthesis and the bite index
 - One scan of the prosthesis
- Ideally suited for cone-beam 3D scanners from a practical point of view, but can of course also be applied when using CT scanning equipment



1 Bite index

A radiolucent silicone bite index separates the upper from the lower jaw. Applying this procedure will make it easier for you to create a 3D image later on in Simplant. A bite index also ensures that the prosthesis remains well-positioned and the jaws stabilized at the time of scanning.



2 Stone model

The quality of the impression and stone model will influence the fit of the tooth-supported Simplant Guide. Make sure to use an accurate and **stable impression material (eg. poly-ether, silicone)**. Use only an up-to-date stone model, as the teeth position can change over time. Remove any planned tooth extractions from the stone model and add a wax-up.

3 Scan prosthesis preparation for Dual Scan

- An existing conventional prosthesis can be used as a scan prosthesis – you merely have to insert 8 equally distributed Dual Scan Markers available from Simplant
- Make sure the prosthesis does not contain any metal parts
- When using an existing prosthesis, make sure it has a stable fit – if not, reline it or make a new one

Step 3 – Taking the 3D scan

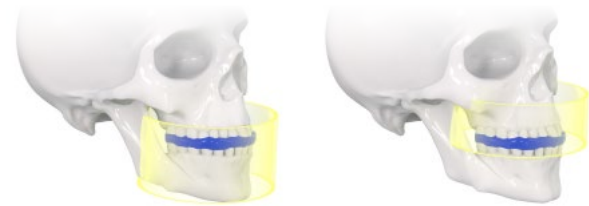
If you have a 3D scanner and intraoral scanner in your clinic, you can use a 3D scan and digital impressions for each case. The 3D cone beam scan provides information about the bone, teeth and other anatomical structures. The intraoral scan of the arches provides information about the remaining teeth and soft tissue, and is used to design a patient-specific guide and restoration.

Intraoral scanning

For partially edentulous cases, take the following full-arch intraoral scans:

- Treatment arch
- Opposing arch
- Buccal bite with patient in normal occlusion

Make sure the scans are aligned. Export the scans to STL format and save on your computer.



The complete upper or lower arch, including the bite index and the opposing arch, should be in the field of view.

For Totally edentulous cases, two 3D scan are required (Dual Scan procedure):

- One scan of the patient wearing the scan prosthesis and the bite index
- One scan of the scan prosthesis alone

3D extraoral scanning

For partially edentulous cases, only one 3D scan is required. Use the bite index to stabilize and separate the arches by approximately 3 mm when scanning the patient. Scans showing movement cannot be used for designing a surgical guide.



Check-list before referring the patient to the dental imaging center

Fill out the scan prescription form and send the patient with this document to a nearby imaging center.

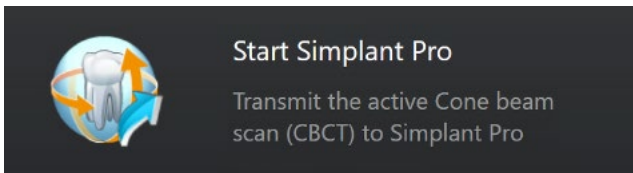
- Show the patient how to use the bite index and, for edentulous cases, the scan prosthesis.
- Make sure the patient brings bite index and scan prescription form on the day of scanning.

Have your imaging center follow the Single Scan or Dual Scan guidelines in order to obtain optimal CT images - every implant treatment planning starts with a 3D scan that has been taken with the correct parameters!

Scan images must be provided in DICOM format.

Step 4 – Open scan files in Simplant® Pro

When using a Dentsply Sirona extraoral X-ray device, such as Orthophos S/SL or Axecos, you can do your first diagnosis in Sidexis 4 software. From Sidexis 4 “Output” tab, the patient data opens with one step in Simplant Pro if you have the Sidexis 4 to Simplant Pro Transmitter installed.



You can find this Transmitter on www.orderdigitalsolutions.com, Help pages for Simplant Pro 18.5. Make sure to install the Transmitter on the same computer as Sidexis and Simplant Pro.

1. Simplant Start

Simplant Pro will automatically be started with the patient images open. It is recommended to adjust the brightness and contrast in Simplant with the “View” menu, “Adjust Grey Scale...”

Choose values as shown below for optimal Axecos image quality:



2. Segment

- With the instant 3D image you can immediately view your patient's anatomy in 3D.
- For partially edentulous cases, the instant 3D image is not sufficient. Always use the “Segmentation wizard” or the more advanced “Create Mask” tool to calculate superior 3D representations of your patient's anatomy and individual anatomical structures.

The 3D representation of the treatment jaw is needed for precise matching of the intraoral scan with the Optical Scan wizard in the next step.

3. Prepare for Planning

- For totally edentulous cases, use the Dual Scan wizard to merge the 3D scan of the scan prosthesis with the 3D scan of your patient.
- For partially edentulous cases, use the Optical Scan wizard to match the intraoral scans and prosthetic design onto the 3D scan of your patient.
- Convert the axial images into cross-sectional and panoramic images with the “Panoramic Curve” tool.
- For mandible jaws, you can trace the “Nerve”.

Step 5 – Surgery planning with Simplant®

4. Plan Implants

Your patient's images have been converted into a Simplant file. Open your patient's images in Simplant and you'll see

- Axial images
- Cross-sectional images
- Panoramic views
- 3D representation of your patient's anatomy
- For partially edentulous cases: The patient's dentition, soft-tissue and ideal tooth setup (wax-up).
- For totally edentulous cases: the virtual soft-tissue and the ideal tooth setup (scan prosthesis).

Everything is now set for you to plan your case and communicate in a clear way with your team and patient. Maybe you are new to Simplant and need basic training to get you started, or maybe you have been using Simplant for some time? Either way, and depending on your specific needs, you may find it useful to:

Read the Simplant Instructions for Use

Detailed software screenshots and tutorials in the Simplant Instructions for Use give you step by step information on how to plan and place implants with Simplant. You can access the manual and its tutorials at www.orderdigitalsolutions.com, Help pages.



Browse the help files

Use the detailed Simplant help files that are incorporated into the Simplant software. Select "General Help" from the "Help" menu in Simplant.

Contact our Technical Support team

Your local Technical Support representative will be happy to answer any queries you may have related to Simplant or Simplant Guide, on the phone or by e-mail or you can use the support button in Simplant.

Details for local support teams can be found on www.orderdigitalsolutions.com, Help, Contact us pages.



Step 6 – Getting the surgical guide

5. Prepare for Surgery

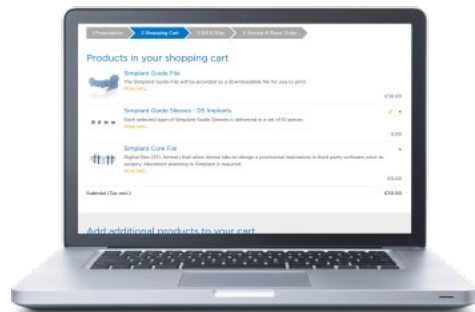
When you want to use a surgical guide to offer your patient a predictable implant treatment, use the “Request Simplant Guide” wizard to proceed to the steps to

- Either order a centrally manufactured Simplant Guide
- Order a Simplant Guide File and print the surgical guide locally

Ordering the Simplant Guide

After completing the “Request Simplant Guide” Wizard in Simplant, you will be directed to the www.orderdigitalsolutions.com order pages. Here you can add additional components to your shopping cart before payment. When your order has been registered successfully, you will receive an order confirmation. The shipment of the Simplant Guide is expected 4 days later.

In case you have ordered a tooth-supported Simplant Guide and the intraoral scan was not yet included in your Simplant planning file, don't forget to submit the intraoral scan files and prosthetic design with your order.



Speed up your order process with FastTrack

A Simplant file that includes the intraoral scan files is FastTrack certified. Get the Simplant Guide you want and reduce Simplant Guide production time.

The Dentsply Sirona turn-around time will be as fast as 48 hours.

Printing from the Simplant Guide File

After completing the “Request Simplant Guide” wizard in Simplant, you will be directed to the www.orderdigitalsolutions.com order pages. Here you can select “Simplant Guide File” as the manufacturing choice and add Simplant Guide Sleeves and other components to your shopping cart.

A notification will be sent when the Simplant Guide File and its treatment protocol is available for download.



Open the Simplant Guide File in the print preparation software.



Send the prepared Simplant Guide File to the printer.



Glue the Simplant Guide Sleeves into the printed guide, post-cure and finalize the guide.

Simplant Guide delivery

Your Simplant Guide is delivered in a box together with the drilling and implant installation protocol. The unique number on the Simplant Guide corresponds with the order ID number provided in the confirmation email following your order. Before performing your surgery, check the content of the delivery and compare with the enclosed drilling and installation protocol:

- Simplant SAFE Guide – Verify that the components of your brand specific surgical kit correspond with the drilling and implant installation protocol.
- Simplant Universal Guide – Verify that your Universal Drill keys correspond with the correct Drill Key Platform (Regular or Wide) as outlined in the drilling protocol.
- Evaluate the fit and stability of the Simplant Guide and its correspondence with your pre-operative planning.
 - ▶ Tooth-supported Simplant Guide: Check its positioning on the stone model and on the patient’s teeth. If the Simplant Guide fits on the stone model but not on the patient’s teeth, it is possible that the impression has been deformed. Using proper impression material will minimize deformations. Use only an up-to-date stone model as the position of the teeth may change over time. Use your proper judgement whether to use the guide or not.
 - ▶ Mucosa-supported Simplant Guide: Check its positioning on the patient’s soft-tissue; the guide must have a unique position.
 - ▶ Bone-supported Simplant Guide: Check its positioning on the digital bone model that is delivered with the guide. Verify the distance between the Simplant Guide and any remaining teeth, as well as its distance to other important anatomical landmarks such as the mental foramen.

Step 7 – Performing surgery

1. Surgical index

For a mucosa-supported Siplant Guide, it is recommended to make a surgical index to stabilize the Siplant Guide during fixation.



The index can be made directly in the patient's mouth using standard index material. Make sure that the Siplant Guide is well-positioned and has a unique fit on the mucosa during gentle closure in centric relation.

If sufficient teeth of the scan prosthesis remain in the design of the Siplant Guide, the bite index made for the scan procedure, can be used instead.

In some situations there is not sufficient support from the existing teeth, then it is also recommended to make an index in order to stabilize a tooth-supported Siplant Guide.

2. Sterilization

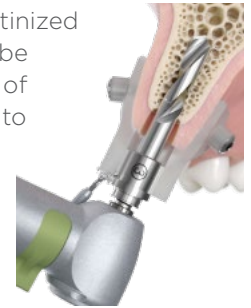
Refer to the IFU for the cleaning and sterilization method of the Siplant Guide.

- Place the Siplant Guide in a standard steam sterilization pouch.
- Place the Siplant Guide in a dynamic air removal sterilizer for steam.
- Apply sterilization at 134°C for 4 minutes with a dry time of 16 minutes. Make sure no mechanical forces are applied to the Siplant Guide during sterilization.
- Let the Siplant Guide cool down to room temperature in the pouch before using the Siplant Guide. Make sure no mechanical forces are applied to the Siplant Guide during cooling down.

3. Surgery preparation

Tooth-supported Siplant Guide

Depending on the amount of keratinized tissue, a flapless procedure could be preferable. Punching and removal of the soft-tissue may be done prior to or after positioning and fixation of the surgical guide in the patient's mouth – depending on the dimensions of the instrument used.



Mucosa- and bone-supported Siplant Guide (and only occasionally: tooth-supported Siplant Guide)

Securing the Siplant Guide with fixation screws, according to the Siplant Guide fixation guidelines, minimizes the risk of Siplant Guide dislocation during site preparation. In case of a mucosa-supported Siplant Guide, you can use a surgical index to stabilize the Siplant Guide during fixation.

4. Site preparation

Preparation of the implant sites is carried out with a sequence of drills as described in the drilling and installation protocol of the surgical manual for the planned implants. For the Simplant Guide, also refer to the case-specific installation protocol delivered with your Simplant Guide. Start drill rotation only after having inserted the drill sleeves or drill keys to full depth into the guide sleeves.

- **Simplant SAFE Guide** – a physical stop allows for depth control.
- **Simplant Universal Guide** – fixed implant position and angulation. Drill depth information is delivered together with your Simplant Guide, allowing for visual depth control*.
- A **Simplant Pilot Guide** offers optimal guidance during the initial drilling. Drill depth information is delivered together with your Simplant Guide, allowing for visual depth control*. Remove the Simplant Guide and complete the drilling sequence according to the manufacturer's specifications.

* In case LongStop drills are used, physical drill depth control is obtained.

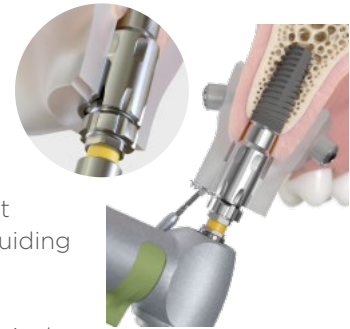
5. Implant installation

If required, perform any additional implant site preparation according to the implant manufacturer's specifications.

Simplant SAFE Guide

Attach the correct implant holders onto the corresponding implants, in accordance with your planning. Perform implant placement through the guiding sleeves until the physical stop touches the sleeve.

Take into account mechanical considerations when deciding which implants to place first.



Simplant Universal Guide

During surgery, only the drills are guided. When the drilling sequence is completed, remove the surgical guide and place the implants according to the manufacturer's specifications.

Simplant Pilot Guide

Place the implants according to the manufacturer's specifications. If a crestal incision was made to allow for better visibility or augmentation procedures, the mucoperiosteal flap has to be repositioned and sutured.



6. Patient instructions

Provide your patient with proper post-operative instructions, related to the specific implant surgery.

Step 8 – Offering your patient a temporary restoration in 1 surgical visit

Single tooth replacement with Atlantis

The temporary crown solution consisting of a Simplant Guide, an Atlantis Abutment and a temporary crown prepared by the dental lab provides an optimal healing environment for single tooth restorations. All components for guided implant placement and immediate, individualized temporization are available at one single surgical visit. The patient enjoys fewer treatment sessions due to the possibility of implant treatment directly following the surgery.



1 Instruments needed for the case

For Astra Tech Implant System and DS PrimeTaper Implant System, the case-specific guided surgery instruments can be selected and ordered with the Simplant SAFE guide, allowing for a cost-effective management of your guided surgery needs

2 Simplant Guide or Simplant Guide File

3 4 Atlantis Abutment* with Atlantis Core File

Use the Atlantis Core File delivered with the initial abutment to create the final crown. The core file can be used with chairside or laboratory CAD/CAM workflows. The crown is cemented to the Atlantis Abutment intraorally as a cement-retained solution or extraorally as a screw-retained solution.

5 Atlantis Healing Abutment*

In case of low primary implant stability, the Atlantis Healing Abutment can be used as an alternative. The healing abutment in titanium is designed based on the planned final Atlantis Abutment and crown, using the same emergence profile to simplify the esthetic outcome during the soft tissue healing phase.

*Pre-surgically manufactured Atlantis abutments will seat in six available positions.



Multiple teeth replacement with Simplant Core File

With the Simplant Core File, the dental lab has all digital data (stl format) to start the design and production of temporary bridges prior to surgery with CAD/CAM technology.

The digital export files contain:

- Soft-tissue
- Realistic restorative components as planned
- Tooth set-up (if available in the Simplant plan)
- Antagonist (if available in the Simplant plan)
- Atlantis IO-FLO S scan flags for creation of models

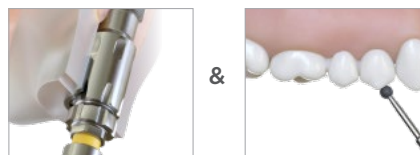
The Simplant Core File is exclusively available for Dentsply Sirona implant brands. Both screw and cement retained bridges can be prepared by the dental lab.



Plan implants and restorative components in Simplant. Order Simplant Guide and Simplant Core File. Open the Core File in CAD software (e.g. InLab)



The Simplant Core File STL can easily be imported into inLab CAD software. After drawing the margin lines the software automatically calculates an initial prosthetic proposal based on the powerful biogeneric algorithm. The proposal can be adjusted using all available tools. Place the screw channels individually to the appropriate position, and the temporary restoration is ready to export for manufacturing.



The temporary restoration (produced by the dental lab) is used together with a Simplant SAFE Guide in one single appointment. The clinician follows an intuitive procedure without requiring special components to place the restoration. Patients can leave the surgery with new teeth and a nice smile.

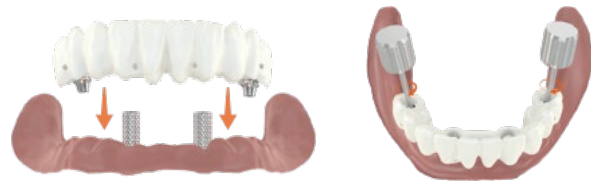
Guidelines for relining temporary restorations

The dental technician uses the Simplant Core File to design the temporary restoration in his preferred lab software. The Simplant Core File contains the temporary components planned in the Simplant software. The dentist will receive a bridge with oversized holes that need to be relined.

1. The parallel temporary cylinders are placed in the patient's mouth and tightened. The non-parallel cylinders are placed loosely inside the restoration.



2. The bridge, including the loose non-parallel cylinders, is positioned over the parallel cylinders. The screws of the non-parallel cylinders are tightened. At this moment the bridge has a loose fit around the cylinders.



3. The occlusion is checked, if necessary primary contacts are removed. It can be necessary to shorten or reshape the temporary cylinders. The tolerance between the bridge and the cylinders facilitates a correct alignment of the occlusion.



4. A composite cement (e.g. SmartCem2, Dentsply Sirona) is injected to secure the temporary cylinders onto the bridge one by one. Make sure the injection holes are clean and dry before injecting the cement.



Unscrew the cylinders and remove the bridge from the patient's mouth. Finish by applying additional cement around the cylinders both at the occlusal and cervical side. Reshape the bridge at the cervical area to facilitate proper oral hygiene.

Place the bridge in the mouth and verify the occlusion.

Simplant[®] Pro workflow

Partially edentulous

1 Clinician: Examination



Take an intraoral scan



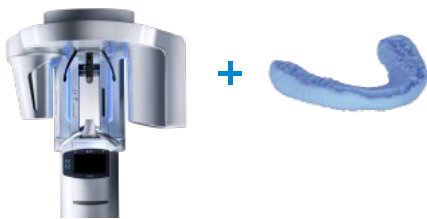
Make bite index or spacer

2 Clinician or Dental Lab: Preparations



Import intraoral scan into CAD software and create the desired prosthetic design. Export as STL file set.

3 Clinician or Scan Center: (CB) CT



Single Scan: Scan patient with bite index

4 Clinician or Dental Lab: Create Simplant file



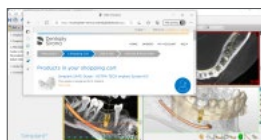
Open Simplant, import (CB)CT data, create bone model and nerve

Import digital scan(s) to obtain soft tissue and tooth set-up

5 Clinician or Dental Lab: Planning in Simplant



Plan implants & abutments. Get an approval from the dentist for the plan



Order Simplant Guide or Simplant Guide File

Totally edentulous

1 Clinician: Examination

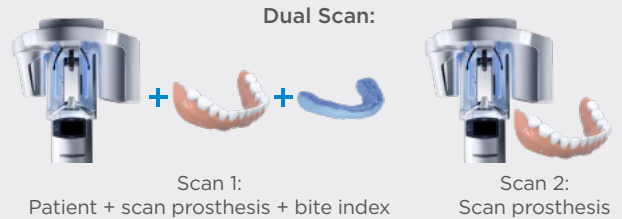


Create a new or reline recent prosthesis. Add dual scan markers



Make bite index

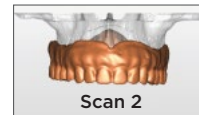
2 Clinician or Scan Center: (CB) CT



3 Clinician or Dental Lab: Create Simplant file



Open Simplant, import (CB)CT data, create bone model and nerve

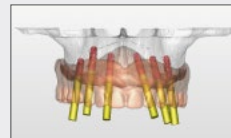


Import (CB)CT data of scan prosthesis to obtain tooth set-up*



Simplant calculates soft tissue information

4 Clinician or Dental Lab: Planning in Simplant



Plan implants & abutments. Get an approval from the dentist for the plan



Order Simplant Guide or Simplant Guide File

The workflows described on this page are optional but recommended.

Simplant® Pro workflow: Guidelines

Partially + totally edentulous: Bite index preparation guidelines

Inject the radiolucent bite registration material (e.g. Aquasil Bite) onto the patient's occlusal surface.

Guide the patient to close the mouth into the desired position. Patient should not completely close mouth.

Remove the bite index and trim excess material with a sharp instrument.

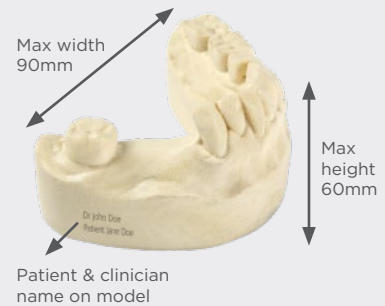
Thickness of bite index: 3-5 mm



Partially edentulous: Provide an impression to your dental lab if you do not have access to an intraoral scan

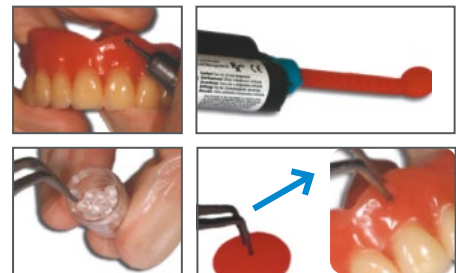
- Use accurate impression material (poly-ether, silicone).
- Use an up-to-date and intact plaster model.
- A maxillary model should contain the complete palatum and tuberositas.
- Grind away teeth that will be extracted during implant surgery from the plaster model.
- Prepare a wax-up of the ideal tooth set-up.
- Mark the patient's name and the name of the dentist or ordering person on the model.
- Digitally scan the plaster model with and without waxup and export as STL format.

Note: Full extraction: 1 model with original dentition, 1 model with teeth ground away.



Totally edentulous: Prosthesis preparation guidelines for dual scan procedure

- Create 8 small, superficial cavities.
- Dispense a drop of radiolucent resin (e.g. Triad®, Dualine®) and submerge a Dual Scan marker. Place the resin with the marker in a cavity.
- If necessary, light cure to reduce curing time.
- Repeat these steps for all Dual Scan markers.
- Scan prosthesis should be radiolucent, free of metal



(CB)CT scan guidelines

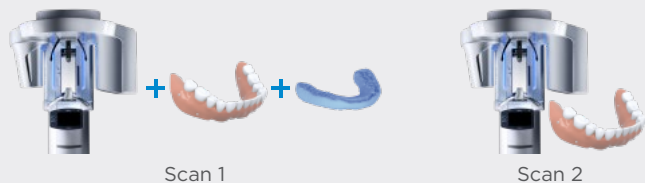
Partially edentulous: single scan

- Scan the patient wearing the bite index or spacer
- For large (few teeth left) or critical (e.g. Kennedy Class I) cases, use cotton wool to separate cheeks from the arch or apply Dual Scan procedure.



Totally edentulous: dual scan

- Scan 1: Scan patient wearing the bite index and radiolucent prosthesis with Dual Scan markers
- Scan 2: Scan prosthesis alone, in the same left / right, top / bottom position as during Scan 1



THE DENTAL
SOLUTIONS
COMPANY™

