

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 an immediate restoration?
- Which type of SurgiGuide should I use during surgery?
- Do I desire a tooth set-up visualization?
- Do I need a scan prosthesis?
- Is flapless surgery required?

Choosing a tailored SurgiGuide®

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 SurgiGuide during actual surgery – how else would you place your patient's implants in exactly the same way as you had planned them in 3D?

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

1 Plaster cast

Teeth, tooth fillings and brackets are deformed in CT and cone beam 3D images. A stable tooth-supported SurgiGuide thus cannot be built based on these images alone. Materialise Dental, a SimPlant Master Dental Imaging Center or possibly your lab will produce a high resolution optical scan of a recent plaster cast, to be merged with your SimPlant file.



SurgiGuide® types of support



Tooth-supported SurgiGuide®

- Single tooth and partially edentulous cases
- **Plaster cast**¹ required
- **Virtual extraction**² possible
- **Scan prosthesis**³ recommended when >3 teeth missing

2 Virtual extraction

Materialise Dental makes it possible to design and produce a SurgiGuide 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 plaster cast before sending it in.



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 SurgiGuide, the scan prosthesis makes it possible to fabricate the SurgiGuide.



Mucosa-supported SurgiGuide®

- Positioned on the soft tissue
- Fully edentulous cases when minimally invasive surgery is preferred
- **Scan prosthesis³** required as the CT or cone beam 3D images provide insufficient information about the soft tissue



Bone-supported SurgiGuide®

- 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 prosthesis³** recommended

Special SurgiGuide® types

Guides for zygomatic implants

Zygomatic implants require good positioning and small angle deviation. If you need more control when placing zygomatic implants, opt for custom-designed bone or mucosa-supported SurgiGuide drill guides.

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.

SurgiGuide® solutions

Pilot

- Pilot drill guidance

When full guidance is not required

Universal

- Drill guidance (full sequence)
- Compatible with all implant systems

When no SAFE system is available

SAFE

- Drill and implant guidance with depth control
- Brand specific surgical kits
- Immediate Smile®

First choice for most implant cases. Recommended for esthetic cases or if anatomical restrictions are present

SAFE SurgiGuide®**3D guidance**

Tubes within the SurgiGuide ensure control over position and angulation of the drills and implants, as defined in your SimPlant plan. The SAFE SurgiGuide solution also provides for a physical stop, ensuring you will never drill too deep. Depth control makes your surgery even safer and more accurate.

A brand specific guided surgery kit needed

A SAFE SurgiGuide is uniquely designed to be compatible with the brand specific guided surgery kit of your choice.

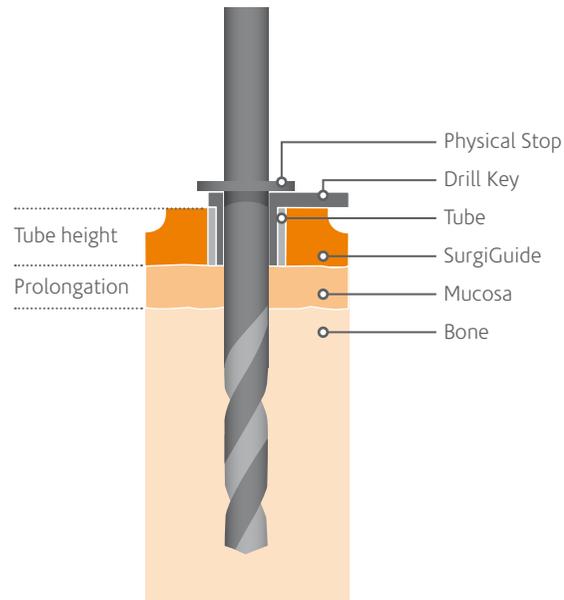
Partnerships with all leading implant manufacturers allow for automatic integration in SimPlant.



from scan

to plan

to guide



One guide

The implant sites are gradually widened to reduce the risk of bone necrosis due to excessive heat caused by drilling. Insert different brand specific drill keys to achieve optimal accuracy when drilling. This enables you to use only one guide.

Guided drilling and guided implant placement

Implant holders are attached to the implants allowing the implants to be placed through the guide, increasing accuracy and predictability of the implant position.

Immediate Smile® possible

Because of 3D guidance and the possibility to order a digital cast, your lab can fabricate a temporary restoration prior to surgery. Order the digital cast of your 3D planning together with your SurgiGuide.

from scan

to plan

to guide



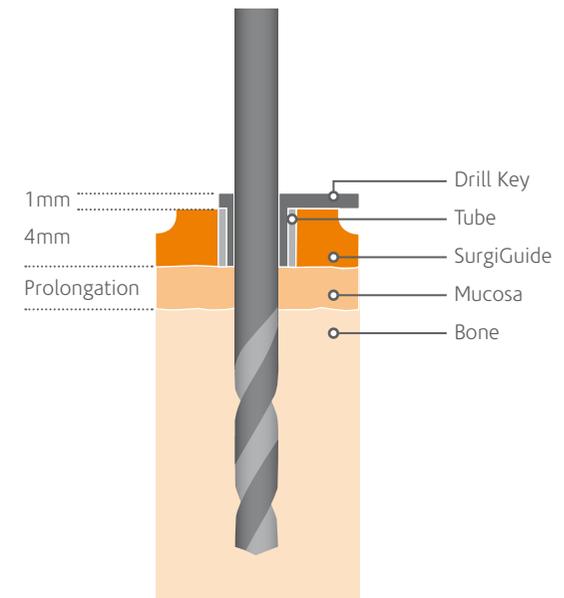
Universal SurgiGuide®

Fixed implant position and angulation

Tubes within the SurgiGuide ensure control over position and angulation of the drills, as defined by your SimPlant plan. There is no physical stop. Drill depth information is delivered together with your SurgiGuide, allowing for visual depth control.

Universal Drill Key system

Any standard implant surgery kit can be used. You only need to compose a Universal SurgiGuide Drill Key set, based upon your personal preferred drill sequence. The Universal SurgiGuide Handle allows you to reach any angle and any position in the patient's mouth.



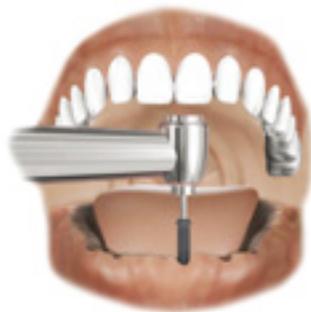


One guide

The implant sites are gradually widened to reduce the risk of bone necrosis due to excessive heat caused by drilling. Insert different Universal SurgiGuide Drill Keys to allow for a flexible drill sequence. This enables you to use only one guide.

Guided drilling

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



Pilot SurgiGuide®

Fixed implant position and angulation

Tubes within the SurgiGuide ensure control over position and angulation of the pilot drill, as defined by your SimPlant plan. There is no physical stop. A surgical protocol including drill depth information is delivered together with your SurgiGuide, allowing for visual depth control.

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 SurgiGuide, complete the drilling sequence and place the implants.

