



# Digital Implant Treatment Planning

Utilizing SimPlant™

Fully Edentulous Cases

## Introduction

Through three-dimensional imaging and virtual software, you have a tremendous amount of information to plan your implant cases including the patient's anatomy and the ideal prosthetic positions of the teeth to be replaced. Our digital implant treatment planning service allows you to easily integrate this technology into your practice.

This brief instruction for use is intended to walk you through the Digital Treatment Planning and Guided Surgery process utilizing SimPlant. This system has an open architecture. Most implant systems available on the market can plan be planned with the SimPlant software. SurgiGuides can be Tissue or Bone-Supported. SurgiGuide options include:

- The Classic SurgiGuide consists of a guide for each drill diameter.
- The Universal SurgiGuide includes one guide (Figure 1). Keys for each diameter drill slide into the sleeve(s) in the Universal SurgiGuide. A Universal SurgiGuide Kit, from Materialise is required.
- Safe SurgiGuides are available that are compatible with Astra Facilitate, Biomet 3i, Straumann Guided, and NobelGuide Surgical Kits.

**Important:** The drill lengths for guided surgery are longer than for conventional implant surgery since you are going through a SurgiGuide. The drill depth for each implant will be listed on a Surgical Guideline that comes with your SurgiGuide (Figure 2). The depth is determined by three numbers- the length of the planned implant + the height of the SurgiGuide sleeve (5mm) + the prolongation area (the distance from the bottom of the sleeve to the top of the implant). **The patient's vertical opening should be evaluated to ensure they are a candidate for guided surgery.**

A critical step in the SimPlant process is the accurate fabrication of the Scan Appliance (Figure 3a and 3b). A scan appliance is required for a Tissue-Supported SurgiGuide as well as for all dual scans. This appliance, worn by the patient during their CT scan, sets the ideal position of the teeth to be replaced.

- The appliance dual scans is clear acrylic with gutta percha markers.
- The scan appliance for a Tissue-Supported SurgiGuide is 20% barium sulphate mix for the teeth and 10% for the base. The Bone-Supported SurgiGuide scan appliance is processed in a 20% barium sulphate mix with a clear base, or it can be 20% for teeth and 10% for the base.

## Submitting a Digital Rx

Our secure online portal allows you to easily submit your Rx and CT scan files. You can also access all information related to your case, including a viewer version of your digital implant plan, through your online account.

- Select "Dentist" under Submit Digital Case on our web site at [www.inclusivedental.com](http://www.inclusivedental.com) (Figure 4).
- Sign into "My Account" (Figure 5, next page).
  - a. To set up your online account please call (800) 854-7256.
- Fill out your Digital Rx (Figure 6) including how you will be sending your CT scan files.
- Print out your Digital Rx and include it with your impressions and bite registration if you are ordering a scan appliance.

Note: You will receive an e-mail notification of your submission



Fig. 1 Universal SurgiGuide with Fixation Screw sleeves and Universal SurgiGuide Kit

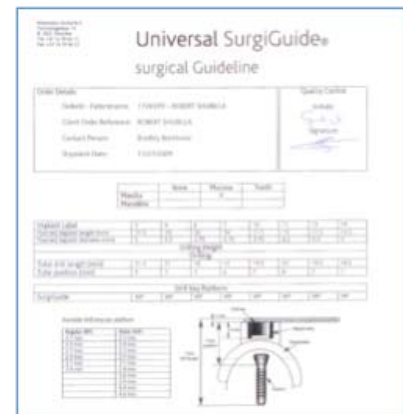


Fig. 2 Surgical Guidelines



Fig. 3a Dual scan appliance



Fig. 3b Single scan appliances



Fig. 4 Click on "Submit Digital Case"



Fig. 5 Sign into "My Account"

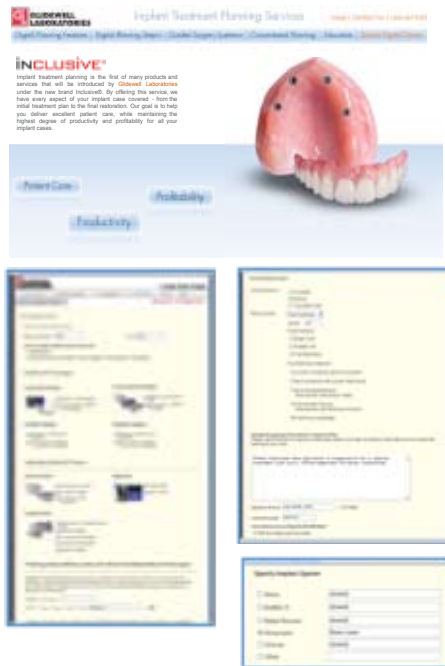


Fig. 6 Fill out Digital Rx

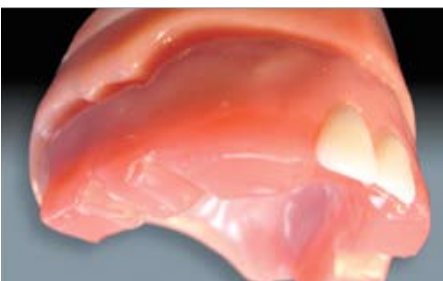


Fig. 7 Take preliminary impressions



Fig. 8 Trial Denture

## ■ First Appointment

- Preliminary Impressions
- Take a full-arch impression including the palate and vestibules.
- Take an impression of the opposing dentition (or denture) as well as the denture to be replaced
- Print out a copy of your Digital Rx and include it with your case.

## ■ Second Appointment

### – Jaw Relation Records

- Seat the bite block (Figure 7).
- With the patient sitting up**, use conventional denture technique to achieve accurate jaw relation records.
  - a. For maxillary cases, shape the rim for lip contour – place a small amount of vaseline on the labial aspect of the wax rim and confirm.
  - b. With the patient facing towards you, mark the midline, high lip line and corners of the mouth in the wax rim. Move the central incisors as necessary. From a profile view, evaluate the mid-face support.
  - c. Determine centric relation and the vertical dimension of occlusion.
 

*Note: the patient's existing denture should be evaluated and can be utilized as a benchmark in determining the new VDO.*

    - i. Place a dot with an indelible marker on the tip of the patient's nose and chin.
    - ii. Have the patient lick their lips, swallow, then relax their jaw. Measure the distance between the two dots. Repeat this procedure 3-4 times until you obtain a consistent vertical dimension of rest measurement.
    - iv. Have the patient bite together gently. The measurement should be approximately 3mm less than the vertical measurement at rest.
    - v. Adjust the rims, if necessary so they meet evenly.
    - vi. There should be a 2-4mm speaking space between the rims when the patient pronounces "s" sounds (e.g., Mississippi, sixty, sixty-one, etc.). The incisal edges of the central incisors should lightly touch the lower lip during "f" sounds (e.g., forty, forty-one, etc.).
  - d. Once the VDO and a verifiable, repeatable CR are established, inject bite registration material onto the top of the wax rim and into the notches on the bite block. Have the patient bite together gently, but completely.
  - e. Select the shade and mould of the denture teeth. A study model of the patient's existing denture can be used as a reference regarding the size and shape of the new teeth.

## ■ Third Appointment

### – Trial Denture Try-in

- Seat the trial denture (Figure 8).
- Evaluate CR, VDO, occlusion, esthetics/shade, tooth arrangement and phonetics including "f" and "s" sounds as well as the midline. Change the set-up if necessary or note the requested changes on the lab Rx. If CR is incorrect, a new bite registration should be taken.

## ■ Fourth Appointment

### – Try-in Scan Appliance and Scan Index

- Seat Scan Appliance and verify fit. Instruct the patient to close into the Scan Index.

*Note: The Scan Index is a bite registration of the Scan Appliance to the opposing dentition. It is designed to keep the Scan Appliance completely seated during the patient's CT scan.*

- Send the patient for their CT scan (Figure 9). Include a copy of the SimPlant scanning protocol with your radiographic Rx. A copy of the scan protocol is available on the SimPlant section of our web site.

**Important-** Ensure the Scan Appliance is completely seated during the patient scan.

### ■ Submitting DICOM Folders

- Click on the link that was included on the e-mail notification you received after submitting your digital Rx. Upload the folder containing the patient's DICOM files (Figure 10).
- Click on "Browse" and locate the DICOM folder.
- Click "Attach."
- Click "Send."

### ■ Web-Based Teleconference

Once the draft of your plan is prepared you will be contacted by the Digital Treatment Planning Administrator to arrange a conference to review and finalize your digital plan. If you are part of a surgical-restorative team we encourage all members to take part in the web-based teleconference (Figure 11).

### ■ Reviewing and Accepting Digital Plan

All information regarding your case can be accessed through "My Account."

- Sign into "My Account" by clicking on "Dentist" under Submit Digital Case on our web site (www.inclusivedental.com)
- Click on "Open Cases" under "Case Status and Shipping" on the Tool Bar
- Select "Details" for the selected case. Here you can access:
  - Your original Digital Rx
  - Pathology Report (if one was ordered)
  - Plan Viewer - You can download a Viewer version of your plan.
  - Print Plan - A pdf of your plan can be printed.
- To accept the plan (Figure 12)
  - Click on Plan Viewer/Approval
  - Check the Accept Box. Fill in your electronic signature and license number.
  - Click submit

*Note: The SurgiGuide your case will not be ordered until you submit your acceptance.*

**Important-** You as the treating clinician are responsible for the plan. Carefully review your plan before you accept it.

### ■ Fifth Appointment

- Try-in SurgiGuide to verify fit.
- If horizontal Fixation Screws are planned, take a bite registration with the SurgiGuide in place.

*Note: The Surgical Index is a bite registration that will be used to keep the SurgiGuide completely seated until the horizontal Fixation Screw are threaded into place.*

### ■ Sixth Appointment

- Perform Guided Surgery procedure per SimPlant protocol (Figure 13). Deliver provisional if indicated.

### ■ Follow-up Appointments

Schedule follow-up and recall appointments following standard implant protocol. Continue to final restoration when appropriate.

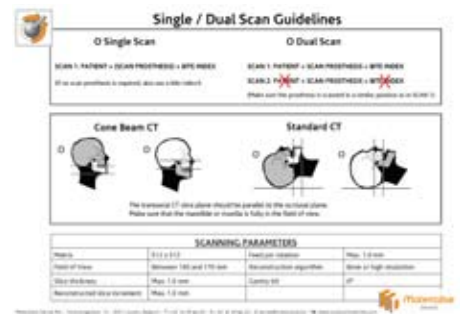


Fig. 9 CT Scan protocol



Fig. 10 Upload and send DICOM folders

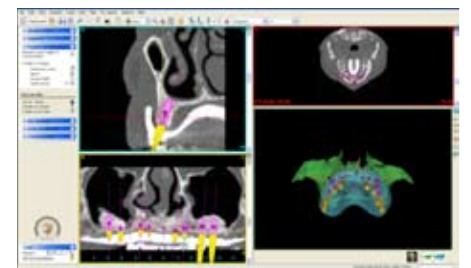


Fig. 11 Web-based tele-conference



Fig. 12 Accepting the plan

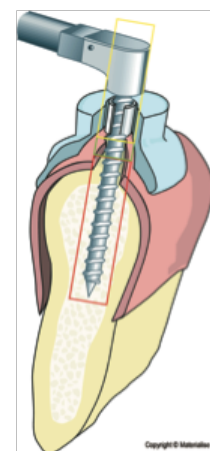


Fig. 13 Guided Surgery



# Lab Fees

## Digital Treatment Planning provides total control for implant restoration

### ■ SIMPLANT# PACKAGES

A SurgiGuide consists of up to three guides per case.

- SIMDTXSG** (Digital Plan, SurgiGuide) ..... **\$750**/pkg.  
 Digital Plan..... \$295 ea.  
 SurgiGuide..... \$540 ea.
- SIMPKG** (Scan Prosthesis, Plan, SurgiGuide) ..... **\$875**/pkg.  
 Scan Prosthesis (Partially/Fully Edentulous)..... \$150/\$225 ea.  
 Digital Plan..... \$295 ea.  
 SurgiGuide..... \$540 ea.

Safe SurgiGuide consists of one guide per case. Safe Surgical Kit is required.

- SSGDTX** (Digital Plan, SAFE SurgiGuide)..... **\$765**/pkg.  
 Digital Plan..... \$295 ea.  
 SAFE SurgiGuide..... \$555 ea.
- SSGPKG** (Scan Prosthesis, Digital Plan, SAFE SurgiGuide) .. **\$890**/pkg.  
 Scan Prosthesis (Partially/Fully Edentulous) .... \$150/\$225 ea.  
 Digital Plan..... \$295 ea.  
 SAFE SurgiGuide..... \$555 ea.

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### ■ ASTRA FACILITATE# PACKAGES

Facilitate consists of one guide per case. Facilitate Surgical Kit is required.

- FAC1** (Digital Plan, Astra Facilitate SurgiGuide) ..... **\$765**/pkg.  
 Digital Plan..... \$295 ea.  
 Astra Facilitate SurgiGuide..... \$555 ea.
- FAC2** (Scan Prosthesis, Digital Plan, SurgiGuide) ..... **\$890**/pkg.  
 Scan Prosthesis (Partially/Fully Edentulous)..... \$150/\$225 ea.  
 Digital Plan..... \$295 ea.  
 Astra Facilitate SurgiGuide..... \$555 ea.

### ■ BIOMET 3i# NAVIGATOR# PACKAGES

Navigator consists of one guide per case. Navigator Surgical Kit is required.

- NAV1** (Digital Plan, 3i Navigator SurgiGuide) ..... **\$765**/pkg.  
 Digital Plan..... \$295 ea.  
 3i Navigator SurgiGuide ..... \$555 ea.
- NAV2** (Scan Prosthesis, Digital Plan, Navigator SurgiGuide) .. **\$890**/pkg.  
 Scan Prosthesis (Partially/Fully Edentulous) .... \$150/\$225 ea.  
 Digital Plan..... \$295 ea.  
 3i Navigator SurgiGuide ..... \$555 ea.

## Quick Reference

	Doctor	Glidewell
<b>1st Appointment</b>	Preliminary Impressions Fill in and submit Digital Rx	Pour models, fabricate bite block 2 days
<b>2nd Appointment</b>	Jaw relation records and select tooth shade/mold	Articulate models, set denture teeth in wax 5 days
<b>3rd Appointment</b>	Trial denture try-in	Fabricate Scan Appliance and Scan Index 4 days
<b>4th Appointment</b>	Try-in Scan Appliance and Scan Index Send patient for CT scan Upload CT (DICOM) folder	Convert DICOM files in SimPlant software Draft implant plan based on Digital Rx 2 days
<b>Web-based Conference</b>	Review and finalize plan	Post viewer version of plan
<b>Accept Plan</b>	Accept plan through "My Account"	Order SurgiGuide 5 to 10 days Fabricate master cast and provisional restoration (if prescribed)
<b>5th Appointment</b>	Try-in SurgiGuide Fabricate Surgical Index	
<b>6th Appointment</b>	Perform Guided Surgery procedure per SimPlant protocol. Deliver immediate provisional if indicated.	
<b>Follow-up &amp; Recall Appointments</b>	Schedule per standard implant protocol Continue to final restoration when indicated	



**866-497-3692**  
[www.glidewelldental.com](http://www.glidewelldental.com)