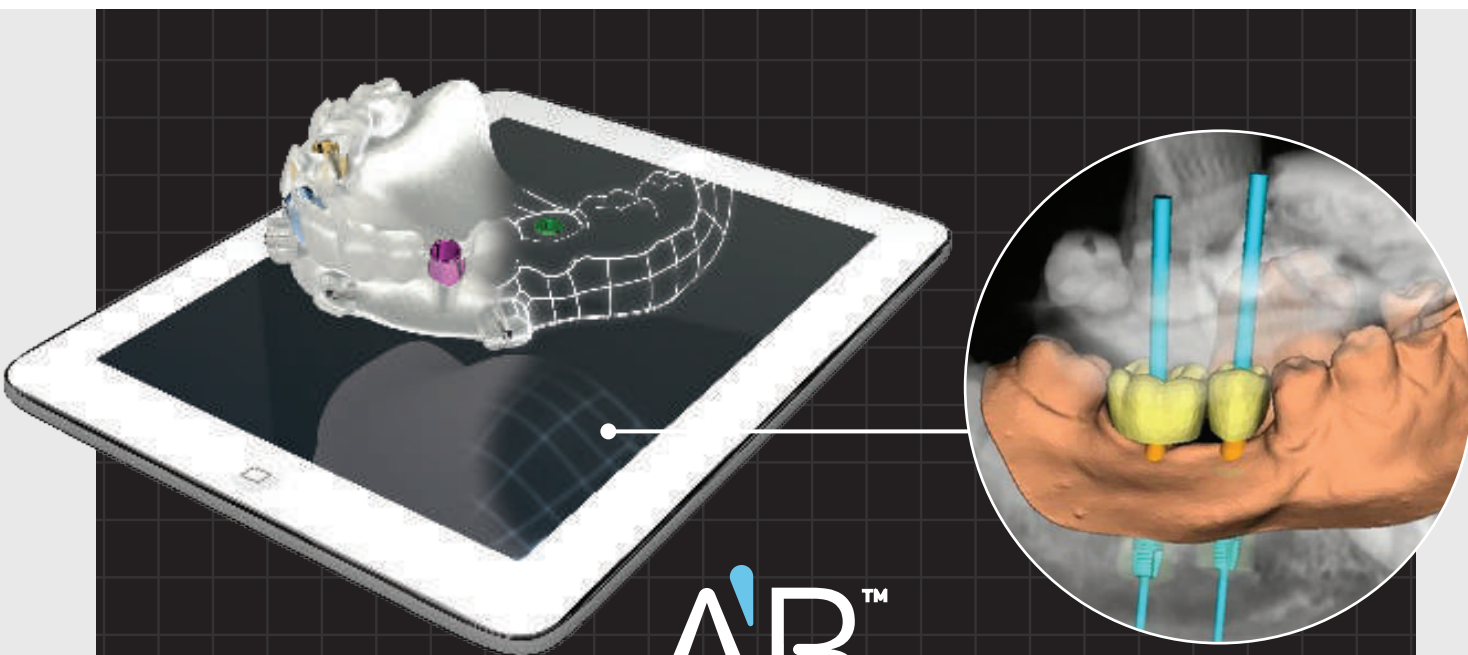


# AB GUIDEDSERVICE

## SMART SERVICE SIMPLE SOLUTION



AB™

*Superior Implant Technology*

# TECHNOLOGY IS HERE

An exclusive service that assists the dentist, to plan a precise implantation procedure easily, using the latest technology. The 3D imaging and planning is prepared at AB Dental's World Center.

A surgical guide is printed digitally from the 3D plan, to bring the planning to the mouth. The ABGuide comes with the implants, prosthetic parts, surgical kit and even temporary bridge, for each case.

The guide can be tooth, soft tissue or bone supported, and can be for any case, from 1 implant to a full jaw.



*Superior Implant Technology*

# GENERAL INFORMATION

ABGuided Service will prepare a treatment plan according to your instructions, and present to you 2D and 3D images in AB Denpax web-based technology.

You can view the plan, consult with colleagues or dental laboratory (as the location of the restorations can be seen in the virtual plan) and either request changes or approve the plan.

After the treatment plan is approved, a surgical guide is manufactured digitally, directly from the planning software.

AB Guided Service is designed for users of AB Implants. The process is so easy, that you can use surgical guides for even 1 implant.

There is no need to install software and to learn how to use it.

## USEFUL TIP!

If you are not sure how to start a specific case, contact AB World Center before sending the patient for CT.

AB Guided and AB Denpax provide this service for you, with all the images you need to view your plan. The case can also be sent with interactive software for dentists who wish to plan or make changes by themselves.

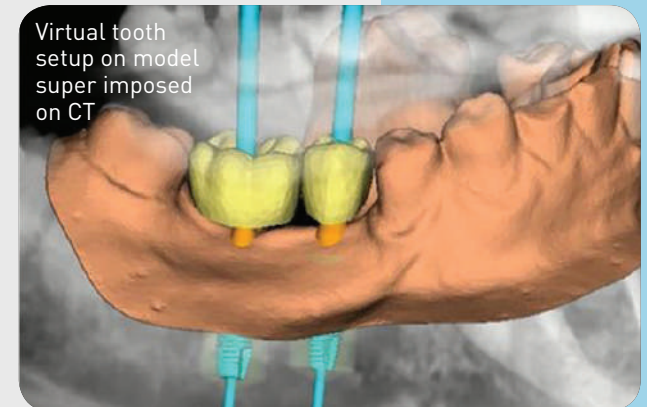
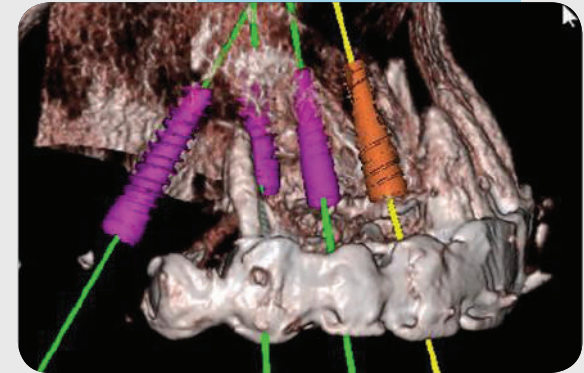
The AB Guided Drill Kit provides all the tools you need to use with a surgical guide. The color-coded drills have stoppers which correspond to the planned drill depths, and no measurements and calculations are needed at the time of surgery.

The surgery takes less time, and both you and your patient are more relaxed.

This technology will allow you to use your knowledge of implantology in a more efficient and safer way.

# 9 REASONS WHY

- Maximum accuracy
- Relating to prosthetics
- All calculations and measurements before surgery
- Flapless in many cases
- Minimally invasive
- Can save bone augmentation and sinus lift
- Angled implants
- Surgery takes less time
- Abutments and healing caps planned



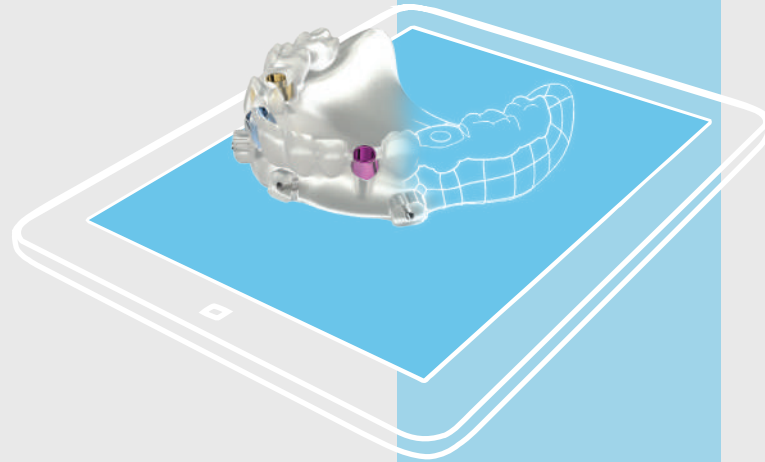
Virtual tooth setup on model super imposed on CT

# ALL CASES

- Single Tooth
- Multiple Implants
- Angled Implants
- Edentulous
- Pterygoid
- Zygoma
- All cases with or without Flap

## AB Guides can be:

- Tooth supported
- Tooth and Soft tissue supported [ free end ]
- Soft tissue supported [ edentulous ]
- Bone supported
- Tooth and Bone supported



# STEP BY STEP

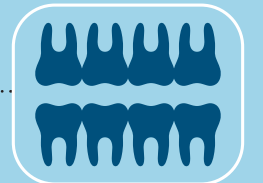
## 1.

The doctor orders an ABGuide using free and easy to use ABDenpax software



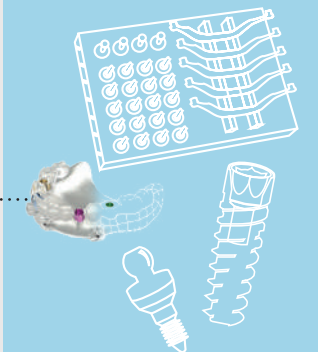
## 2.

CT scan and 3D planning by AB Guided Service. Most cases without CT Guide. ABGuide is produced digitally from the approved plan.



## 3.

Implant surgery with ABGuide, AB implants and prosthetic parts and ABGuided drill kit. The implants and parts are provided for each case.



# WORK FLOW

1.

ABGuide order

2.

Models sent or scanned and integrated with the CT scan

3.

3D treatment planning approved or changes requested

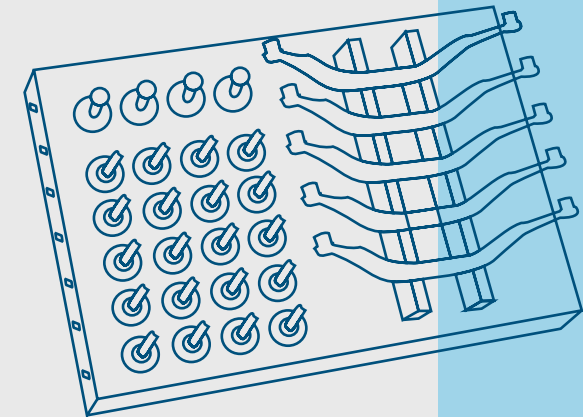
4.

Surgical guide sent with AB implants, prosthetic parts, tools and even temporary bridge

# ABGUIDED KIT

## The TKD-Guided Kit contains:

- Tissue Punch
- 20 color coded drills with depth stops
- 5 drilling tools in different diameters
- 3 fixation screws
- 4 color coded implant mounts to insert the implants through the guide







# FLOW CHART

- The doctor takes impressions and prepares upper and lower stone models. [An intra-oral scan can also be used]
- A full denture can be used instead of taking impressions, if it fits well, has no metal, and the teeth are where the final restoration is planned. 6 gutta percha round markers are placed in the denture according to AB Guided protocol. The denture is CT scanned in the mouth and by itself.
- The doctor orders an ABGuide using the ABDenpax software.
- The doctor requests a provisional treatment plan in ABDenpax, including which teeth are to be extracted, where implants are to be placed, if the surgery is flapless, and if the restoration will be removable, screw retained or cemented.

- Models with occlusal registration are sent to the ABGuidedService center, or the model can be scanned in a dental laboratory, and the digital file sent to ABGuidedService. In cases where most teeth have full metal restorations, ABGuidedService center prepares a CTGuide with radiographic markers, to be placed in the mouth for the CT. This allows accurate integration of the model with a CT with metal artifacts.
- CT scanning center uploads the scans as Dicom data to ABGuidedService using ABDenpax.
- ABGuidedService center prepares a treatment plan using 3D planning software and sends the plan as 2D and 3D images to the doctor in AB Denpax. The case can also be sent with interactive software for dentists who wish to plan or make changes by themselves.

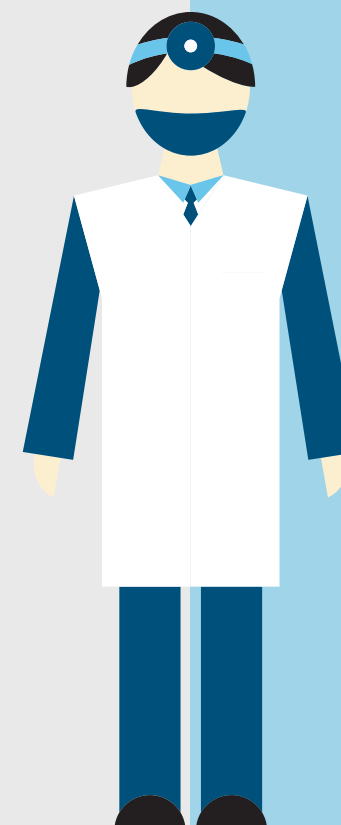
- The doctor views the plan, and either approves the plan, or requests changes.
- ABGuidedService center digitally produces an ABGuide using 3D printing technology, directly from the approved plan, and sends it to the doctor, with the ABGuided Drill Kit, and the implants and prosthetic parts for this case. The accompanying Report gives implant sizes and drill depths.
- The doctor performs the implantation using the ABGuide.

Implant	Manufacturer	Model	Size	Drill	Mount	Abutment
13	AB Dent	I5	3.75 X 10 mm	25	10 	H:2 CH:2.5 Angel: 0°
14	AB Dent	I5	3.75 X 8 mm	21	8 	H:2 CH:2.5Angel: 0°
15	AB Dent	I5	5 X 6 mm	17	6 	H:2 CH:2.5 Angel: 0°
24	AB Dent	I5	3.75 X 8 mm	21	10 	H:2 CH:2.5 Angel: 0°

USEFUL TIP!

If you are not sure if your case needs a CT Guide, you can send xrays for evaluation to AB World Center.

# GUIDE FOR THE DOCTOR





# AB GUIDED DRILL KIT

AB Guided has developed all the tools you need to do guided surgery.

The Kit contains a tissue punch, 20 color coded drills with depth stops, tissue punch, 5 drilling tools in different diameters, 3 fixation screws and 4 color coded implant mounts to insert the implants through the guide.

The report produced from the planning, gives all the information needed, including drill depths, implant sizes and abutment angles.

The color coded drills correspond to the color of the sleeves in the guide, as an added safety feature. The colors correspond to each of the drill lengths-17, 21, 25 and 30.

The drill depths are standardized as much as possible, by digitally adjusting the positions of the drill sleeves in the

guide, to minimize the changing of drills during the surgery.

The kit comes in an organized, autoclavable box. The Tissue Punch, can be used through the guide to remove a round section of gingival tissue before the osteotomy. The guide can then be taken out to complete the removal of the tissue. The guide is then returned to the mouth to start the osteotomies.

The drilling sequence and drill depths are in the Report, but no additional measuring is needed.

There are 3 fixation screws to stabilize the guide, usually for edentulous cases, but in any situation where the guide can move during the surgery. The 2mm pilot drill is used in the fixation sleeves to drill through the cortical bone, before inserting the screws.

## USEFUL TIP!

Use the same color and diameter drill for as many implants as possible to reduce changing the drill.

## Guide drills

diameter 3.65mm

diameter 3.2mm

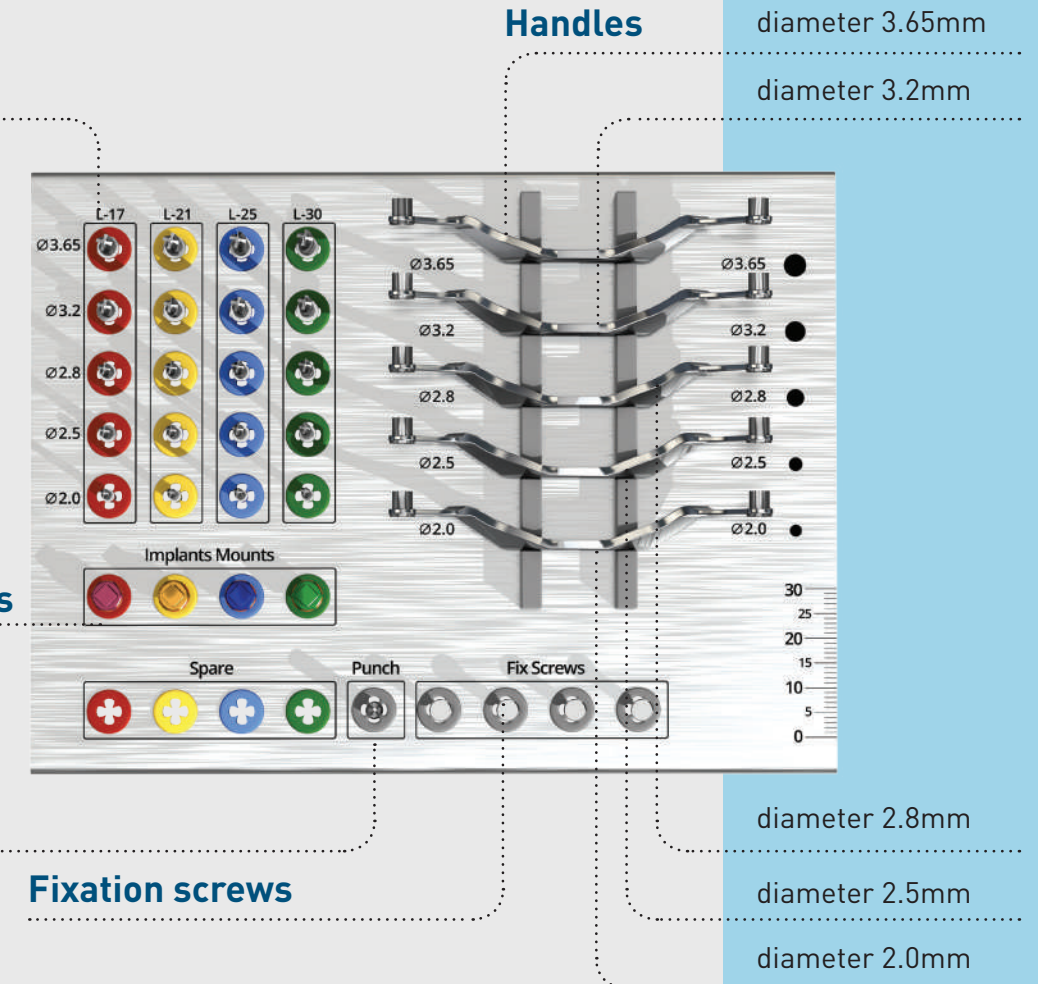
diameter 2.8mm

diameter 2.5mm

diameter 2.0mm

## Implant mounts

## Tissue Punch





# DRILL KIT COMPONENTS



**TP- 2.31**  
Pin Fixation (x3)



**TD-T17**  
Punch for cutting gums



**TDG-2.17**  
Guide Drill Bit Diameter 2.0mm  
Length 17mm



**TDG-2.21**  
Guide Drill Bit Diameter 2.0mm  
Length 21mm



**TDG-2.25**  
Guide Drill Bit Diameter 2.0mm  
Length 25mm



**TDG-2.30**  
Guide Drill Bit Diameter 2.0mm  
Length 30mm



**TDG-2.5.17**  
Guide Drill Bit Diameter 2.5mm  
Length 17mm



**TDG-2.5.21**  
Guide Drill Bit Diameter 2.5mm  
Length 21mm



**TDG-2.5.25**  
Guide Drill Bit Diameter 2.5mm  
Length 25mm



**TDG-2.5.30**  
Guide Drill Bit Diameter 2.5mm  
Length 30mm



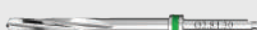
**TDG-2.8.17**  
Guide Drill Bit Diameter 2.8mm  
Length 17mm



**TDG-2.8.21**  
Guide Drill Bit Diameter 2.8mm  
Length 21mm



**TDG-2.8.25**  
Guide Drill Bit Diameter 2.8mm  
Length 25mm



**TDG-2.8.30**  
Guide Drill Bit Diameter 2.8mm  
Length 30mm



**TDG-3.2.17**  
Guide Drill Bit Diameter 3.2mm  
Length 17mm



**TDG-3.2.21**  
Guide Drill Bit Diameter 3.2mm  
Length 21mm



**TDG-3.2.25**  
Guide Drill Bit Diameter 3.2mm  
Length 25mm



**TDG-3.2.30**  
Guide Drill Bit Diameter 3.2mm  
Length 30mm



**TDG-3.65.17**  
Guide Drill Bit Diameter 3.65mm Length 17mm



**TDG-3.65.21**  
Guide Drill Bit Diameter 3.65mm Length 21mm



**TDG-3.65.25**  
Guide Drill Bit Diameter 3.65mm Length 25mm



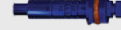
**TDG-3.65.30**  
Guide Drill Bit Diameter 3.65mm Length 30mm



**FS-19**  
Tapered screw for template



**T3G-2.4.30-G**  
Driver for installing the  
implant thru AB Guide



**T3G-2.4.25-B**  
Driver for installing the  
implant thru AB Guide



**T3G-2.4.21-Y**  
Driver for installing the  
implant thru AB Guide



**T3G-2.4.17-R**  
Driver for installing the  
implant thru AB Guide



**TH- 2.0**  
Handle Diameter  
2.0mm



**TH- 2.5**  
Handle Diameter  
2.5mm



**TH- 2.8**  
Handle Diameter  
2.8mm



**TH- 3.2**  
Handle Diameter  
3.2mm



**TH- 3.65**  
Handle Diameter  
3.65mm

# FLAPLESS

**AB Guided enables flapless surgery in many cases, resulting in less post-operative pain and swelling.**

The AB Guide brings the treatment plan digitally to the mouth. The plan, with all the information, enables the osteotomies to be made through the soft tissue.

If, however it is necessary to open a flap, all the drilling can be made through the AB tooth supported guide, in partially edentulous cases.

In fully edentulous cases, if a partial or full flap is planned, there is the option of drilling the pilot drills before the tissue is opened to establish the location and angle, or to use fixation pins to locate the guide after the flap is opened.

In any case, the AB Guided team is available to help you with our collective experience.

# PLACING MARKERS IN A FULL DENTURE BEFORE CT

If the patient's full denture fits well, and no major changes are planned in the position of the teeth for both function and aesthetics, then the 6 gutta percha markers can be placed in the denture. No impressions or models are needed. The denture can be relined with hard acrylic. The markers are used to integrate the CT scan of the denture into the planning software, with the dual scan technique.

A 1mm round drill is used to drill 6 holes of 1mm in diameter, approximately equally spaced in the lingual or palatal side of the CT Guide.

The GP markers are 1-2 mm diameter round and do not pass all the way through the denture.

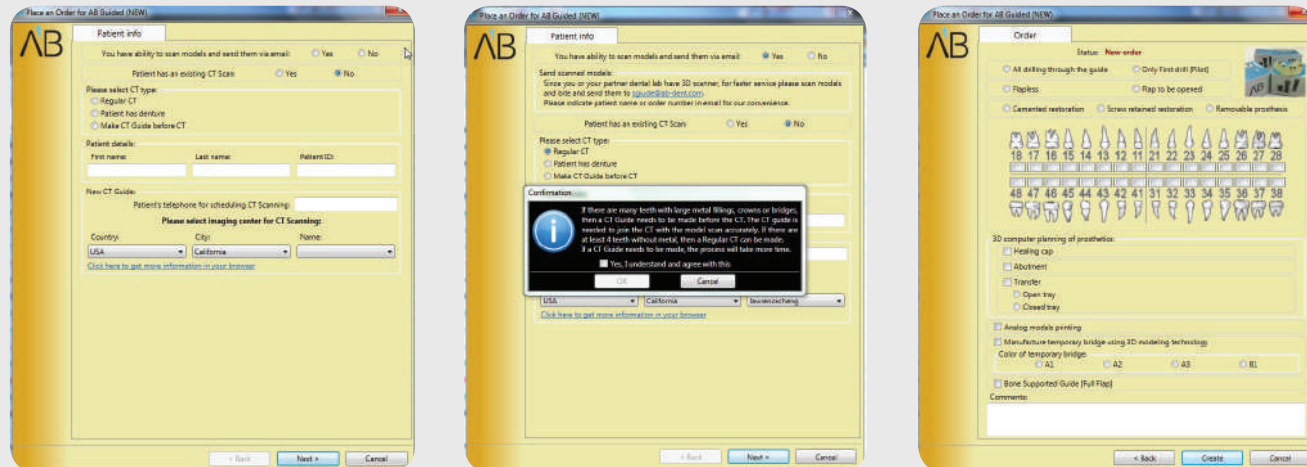
Gutta Percha is compressed into each of the 6 holes, and covered with acrylic.



# BEFORE SENDING PATIENT FOR CT

## 1.

Place a New AB Guide Order in AB Denpax.  
The software will allow you to choose the appropriate options for your case, and will give information at each stage.



### USEFUL TIP!

The impression must be accurate! The implants are planned on the CT, but the AB Guide is made on the scanned model!

## 2.

Make upper and lower models.

If your dental laboratory has an optical scanner, they can send a scan of a model, or of an impression, instead of sending a physical model.



If several teeth are missing, a bite registration is required.

## 3.

For implants in the anterior area, mark the center on the model or on the bite registration.



## WHERE CAN YOUR PATIENT BE SCANNED?

Any CT machine can scan for AB Guided. Cone Beam [CBCT] or Medical scanners can be used.

### **Very Important!**

Inform the scanning center that this is a case for AB Guided, especially for the Dual Scan Technique with a denture.

## STERILISATION AND FIT OF THE SURGICAL GUIDE

THE GUIDE IS SENT STERILIZED. IF THE PACKAGE HAS BEEN OPENED TO TRY THE GUIDE ON A MODEL OR IN THE MOUTH, IT CAN BE COLD STERILIZED PER THE MANUFACTURE'S INSTRUCTIONS OF THE COLD STERILIZATION METHOD YOU USE. THE COLD STERILIZATION PROCESS SHOULD NOT EXCEED 30 MINUTES.

**WARNING: THE GUIDE SHOULD NOT BE HEAT STERILIZED! PLEASE KEEP THE GUIDE IN A COOL PLACE NOT EXCEEDING 30 DEGREES AND AVOID DIRECT EXPOSURE TO HEAT AND HUMIDITY.**

The AB Guide should be placed in a cold sterilizing solution for not more than 30 minutes. The solution must not contain more than 15% alcohol. The guide should not be used if it has become soft in the cold sterilizing solution. The surgical guide brings the planned implant positions and angles to the mouth. The drilling depths are in the accompanying report. The accuracy of the guide depends on the fit of the guide in the mouth, and the guide must sit in one position without "rocking". Sometimes if the guide is not stable, a small adjustment is needed where the sleeves in the guide are very close to an adjacent tooth, due to the software adding material to support the sleeve. The guide has to be held in place when drilling, as the guide is not self-retentive, even if fixation screws are used. The accuracy depends on the surgical guide sitting in the correct position.

# HOW TO USE AN AB GUIDED PACKAGE

When the AB Guided Package arrives, check that everything needed for this case is inside. Make sure that the implants correspond to the implant dimensions in the Report. If this is the first case with AB Guided, there will also be a Drill kit.

The AB guide is in a transparent package, and the guide can be seen and compared with the information in the report. If the guide is removed from the packaging it can be re-sterilized according to the AB protocol. AB Guided Service checks the fit of the guide on the model before sending to the doctor. However, it is advisable to check the fit of the guide in the mouth before the date for the surgery. If there is any discrepancy between the model and the mouth, it is better to discover earlier.

The guide is NOT self-retentive in the mouth, even if fixation screws are used, and the guide should be held in position at every drilling, as it can move.

# TISSUE PUNCH

The tissue punch can be used through the guide to cut a round piece of attached gingival tissue in the exact place of the osteotomy, for flapless surgery. The guide is then taken out of the mouth, and the cut tissue removed.



# PILOT 2MM SLEEVES

A 2mm sleeve is sometimes used in the guide, instead of the regular sleeve:

- Where there is not enough space for a regular sleeve between 2 teeth.
- Where the planned implant is 3.0 or 3.2 diameter, especially in the maxilla.
- If the doctor requests only pilot drills.
- If the guide is used to drill pilot only, before an extensive flap is opened.



# DRILL TOOLS

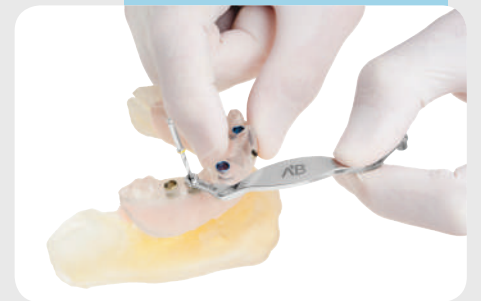
There are 5 drill tools, to correspond to each of the 5 drill diameters 2.0, 2.5, 2.8, 3.2 and 3.75. The tools are used to change the diameter of the sleeve in the guide. They are the same diameter on both ends of each tool, and can be inserted from the buccal [labial] or palatal [lingual] depending on which direction of access is easier, and where the tool can be held while drilling.

The height of the drill tool is part of the drill depth measurement in the report, and the tool must be fully seated in the guide sleeve.

## DRILLS

The drills are color coded according to LENGTH. The sleeves in the AB Guide are colored to correspond to the colors of the drill depths in the Report.  
RED 17mm | Yellow 21mm | Blue 25mm | Green 30mm.

The software automatically measures the total drill depth, which calculates the implant length, the gingival tissue, the AB Guide with sleeve and the Drill Tool.





# FIXATION SCREWS

Fixation screws are used to hold the guide in place, mainly in edentulous cases. The kit contains 3 screws, and their location is planned in the 3D software.

The pins do NOT prevent all movement when drilling through the guide, and the guide still needs to be held in place to ensure maximum accuracy.

The 2mm pilot drill is used to drill in the fixation sleeves, through the cortical bone only! Do not drill to full depth, as the screw is self-tapping. The screw is inserted using the T1 or T2 abutment drivers. In the upper jaw the screws can often be inserted without drilling. Do not insert the screws to full depth at the beginning, so that they can be inserted further to tighten during the procedure.

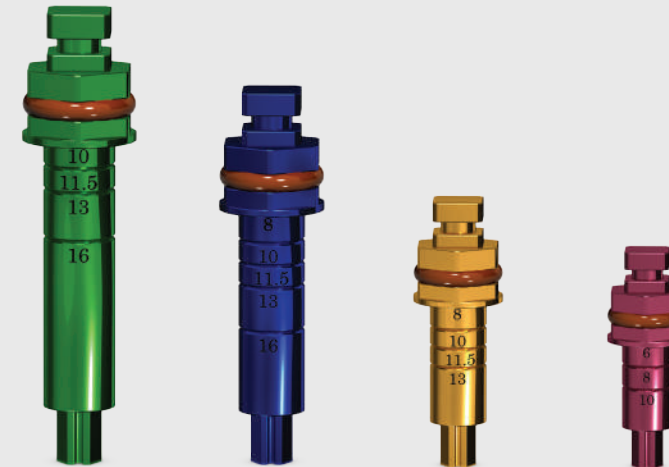


# COLORED IMPLANT MOUNTS

The mounts are used to insert implants through the guide, to the correct depth and direction. The implant is first inserted with the standard mount in the implant package, and then the colored mount is used according to the color in the report, and the length of the implant.

## USEFUL TIP!

The mounts insert to the correct depth in flapless cases, but also place the implants in the right direction in soft bone.



## LIMITATIONS OF MOUTH OPENING

In some locations in the mouth it can be challenging to drill through the guide, due to lack of space. This is especially true where the drill depths are long, or with angled implants. Start with a short drill, and gradually increase the drill length. The next drill can be placed in the osteotomy which has been started, and the handpiece connected to the drill in the mouth.

It can also help to insert the drill in the drill tool, and bring them together to the mouth.



## DOWNLOAD AND INSTALL THE AB DENPAX SOFTWARE

AB Denpax is free software, and can be downloaded from the AB Dental website:

**<http://www.ab-dent.com>**

AB Denpax can also be used to store and view all CT Scans. The user name and password can be used to view CT scans and AB Guided Orders from any computer or iPad.



# CLINICAL CASE #1

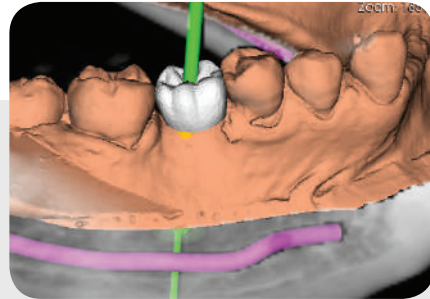
## 3D IMAGING AND SURGICAL GUIDE TO PLACE A SINGLE IMPLANT IN THE LOWER JAW. DR . BABICH SEMION

There is a general misconception that Guided Implantology is only for complicated cases. However, there is great value in using this technology for even the “easy” cases. The 3D planning software allows us to relate to all the 5 directions: mesial, distal, buccal, lingual and depth. The implant can be placed in exactly the right position, and often with minimally invasive flapless surgery, with the use of a surgical guide. All the calculations are made before the surgery, and the use of drills with stoppers for the required depth, gives maximum safety. The implant is inserted through the guide with depth controlled implant mounts. The same procedure is used for multiple implants, for accurate and predictable results.



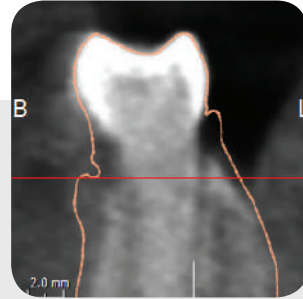
1.

Model showing missing first molar on the right side



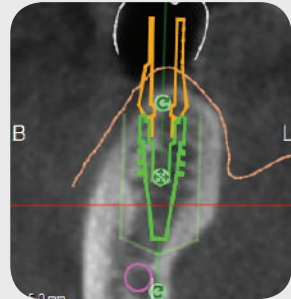
2.

Model integrated with the CT, and virtual tooth



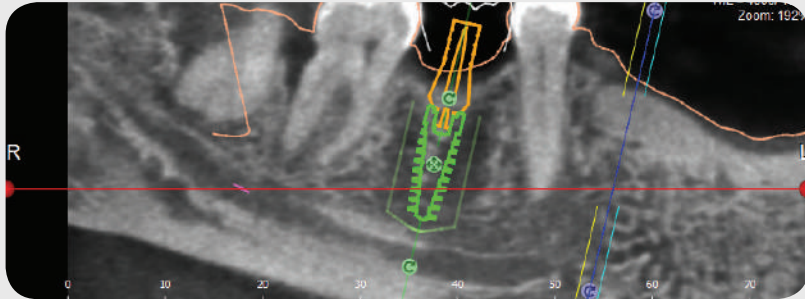
3.

Very accurate integration of the model with the CT



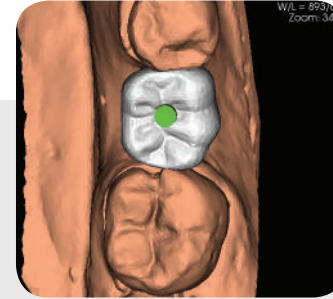
4.

Sagittal section showing implant in relation to bone, nerve, gingival tissue and crown



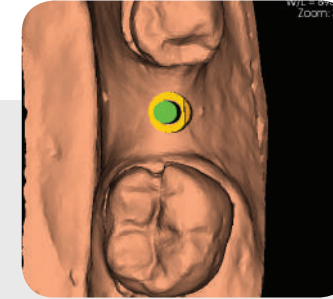
5.

Panoramic view of planned implant position



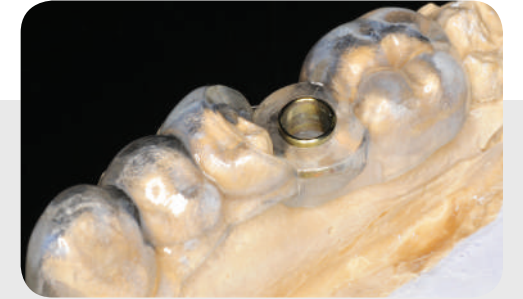
6.

Occlusal view of implant position in tooth



7.

Implant position in crestal bone



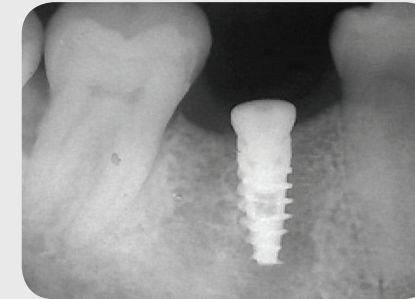
8.

Guide is digitally manufactured directly from the planning software, with colored sleeve indicating the drill depth



9.

Occlusal view immediately after implant placement. Flapless and one-stage surgery



10.

Post-operative xray



## CLINICAL CASE #2

### BONE SUPPORTED GUIDE IN MAXILLA WITH 6 IMPLANTS.

**DR. BENNY RETZKIN | DR. DAVID BEN ISRAEL**

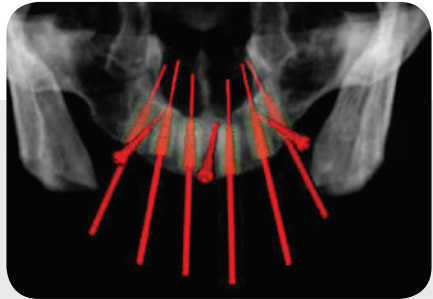
Bone supported guides require a full flap procedure, but are the most accurate. The guide has direct contact with bone, with excellent stability.

The guide sleeves are as close as possible to the bone, enabling shorter drill lengths and maximum precision.

This case was planned using only a CT. To relate to the tooth positions there are 2 options:

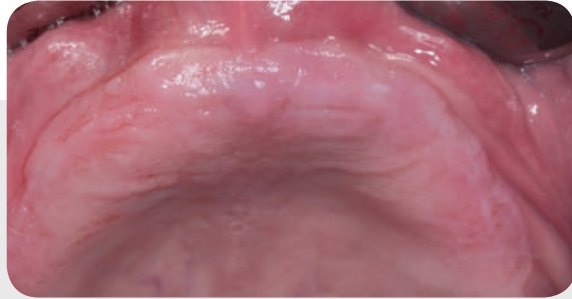
1. CT with markers in the patient's denture or
2. CT with CT Guides made by AB Guided on models of the soft tissues.





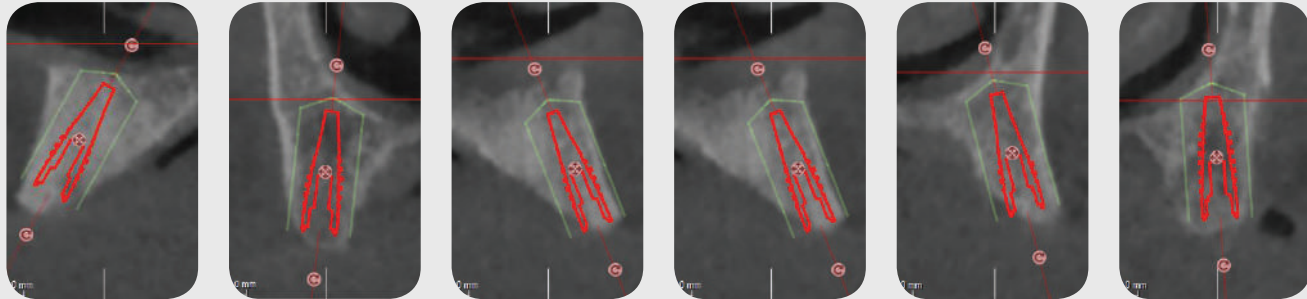
1.

Anterior view of planning



3.

Edentulous maxilla



2.

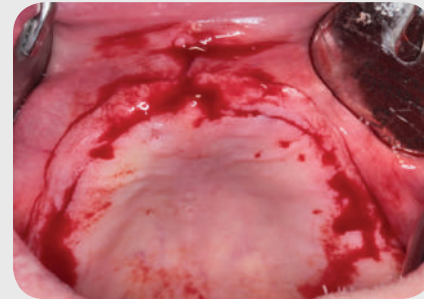
Sagittal sections of each implant  
in 3D Planning

4.

3D Occlusal view of implants  
and fixation positions

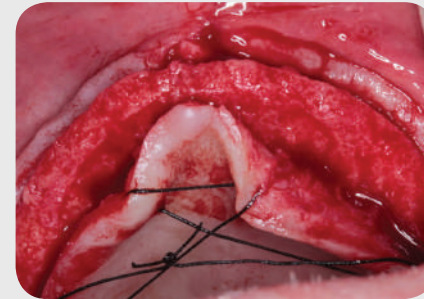
5.

Bone Supported Guide 3D Digital Manufacture



6.

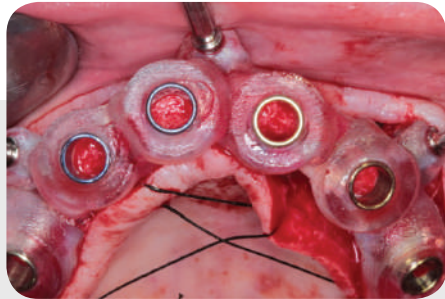
Initial incision



7.

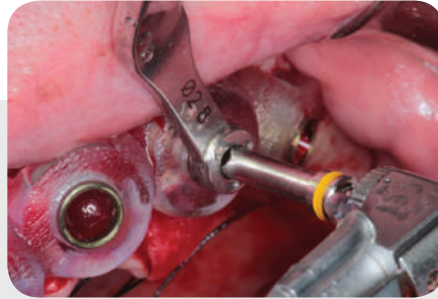
Bone exposed





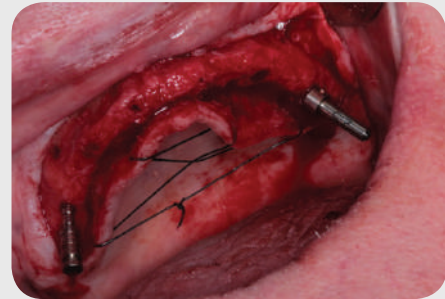
8.

Guide in position



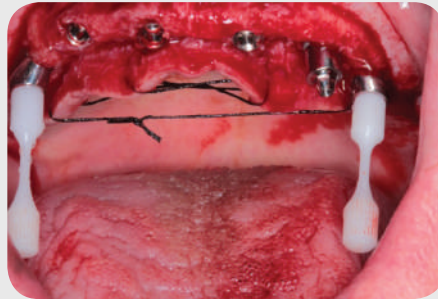
9.

Drilling through guide with color coded drill with stopper



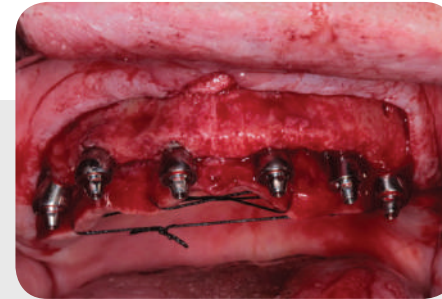
10.

After osteotomy-direction of angled implants



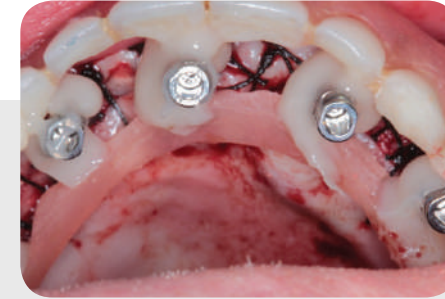
11.

Angulation of Angled Abutments



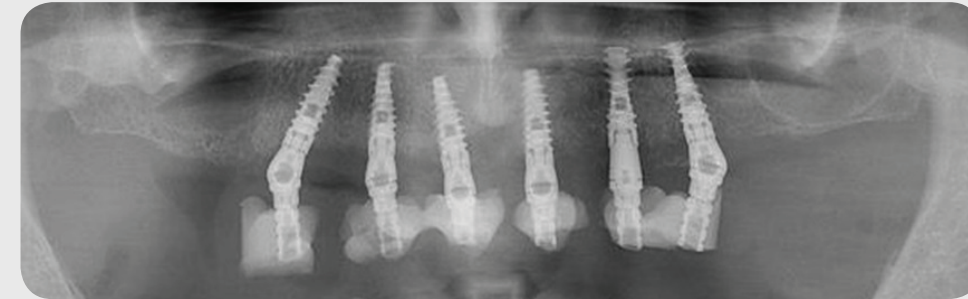
12.

Angled abutments for screw retained immediate loading



13.

Converting denture into temporary bridge



14.

Post-Operative Pano X-ray



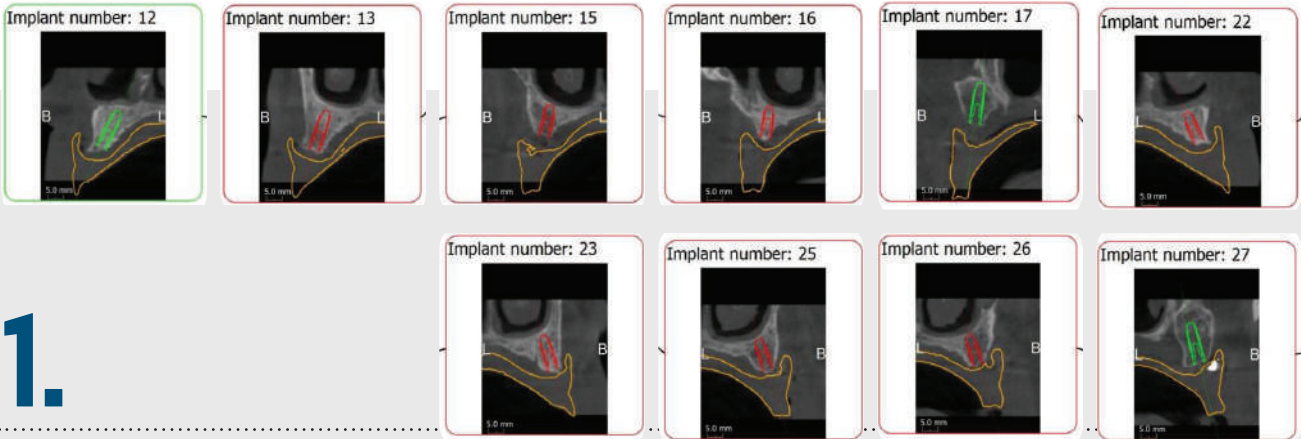
## CLINICAL CASE #3

### **FULLY EDENTULOUS MAXILLA 10 IMPLANTS FOR FIXED RESTORATION FLAPLESS SURGERY DR. DARRYL SMITH, ORAL SURGEON**

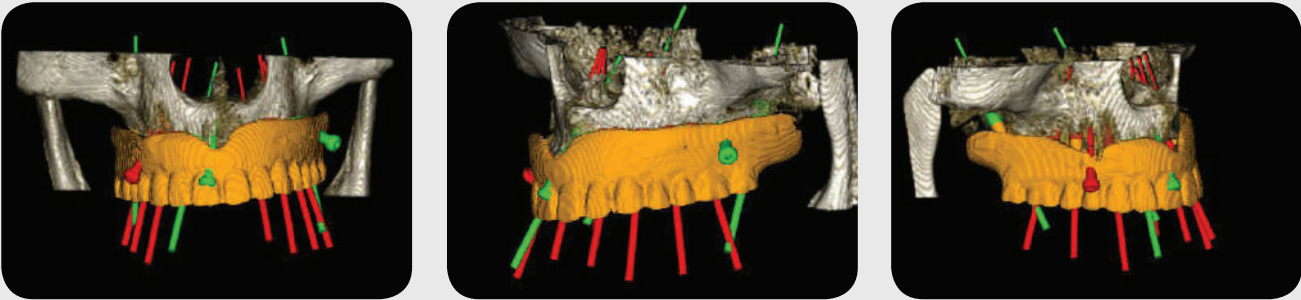
The patient is a healthy 70 year old man, who has been edentulous for many years. No bone augmentation or bone reshaping was needed, and a flapless procedure was planned.

The patient's decision to undergo implant surgery was partly due to the flapless approach.

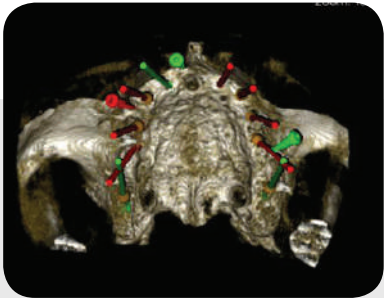
6 GP markers were placed in the patient's well fitting denture, which was scanned in the mouth, and separately.



1.  
Implant Position planned with  
Tooth Position in Patient's Denture



2.  
3D Planning with Denture



3.  
3D Planning

Implant	Manufacturer	Model	Size	Drill	Mount
12	AB Dent	I2	3.5 x 13.0 mm	25	13mm
13	AB Dent	I2	3.75 x 13.0 mm	25	13mm
15	AB Dent	I2	3.75 x 10.0 mm	21	10mm
16	AB Dent	I2	3.5 x 10.0 mm	21	10mm
17	AB Dent	I2	3.75 x 13.0 mm	25	13mm
22	AB Dent	I2	3.5 x 10.0 mm	21	10mm
23	AB Dent	I2	3.5 x 11.5 mm	21	11.5mm
25	AB Dent	I2	3.5 x 10.0 mm	21	10mm
26	AB Dent	I2	3.5 x 10.0 mm	17	10mm
27	AB Dent	I2	3.75 x 13.0 mm	21	13mm

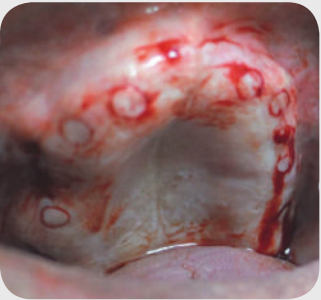
4.  
Implant Report



5.  
AB Guide with Colored Sleeves.  
The AB Guide is a Digital Copy  
of the Denture. The guide fits  
exactly like the denture



6.  
AB Guide with Fixation Screws.  
The contact with the soft tissue can be  
seen through the transparent guide



7.  
Tissue Punching Through  
the Guide. The cut tissue is  
removed without the guide.





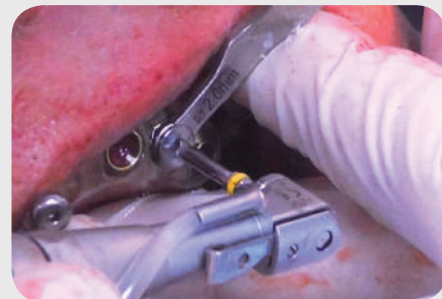
8.

The tissue is removed, and the AB Guide is returned for drilling.



9.

Drilling with AB Guide.  
The drill tool changes the sleeve diameter for each drill.



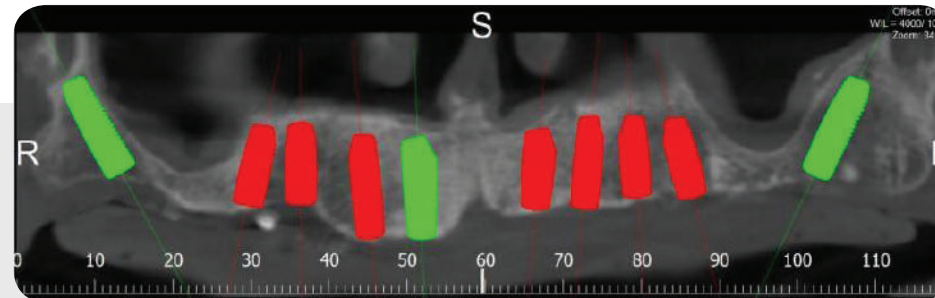
10.

2mm Yellow Drill



11.

Flapless Surgery-Healing Caps  
and Screws, depending on gingival  
thickness.



12.

Planning and PostOp Pano X-ray







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