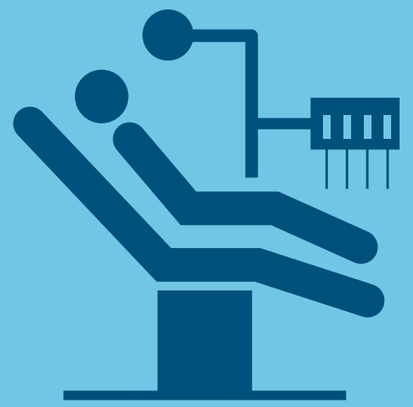
CLINICAL CASES PORTFOLIO

Superior Implant Technology

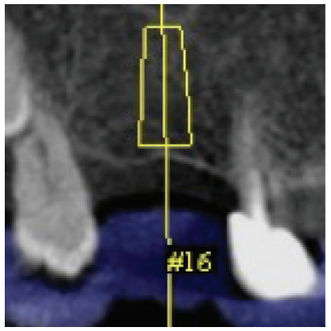


CLINICAL CASES

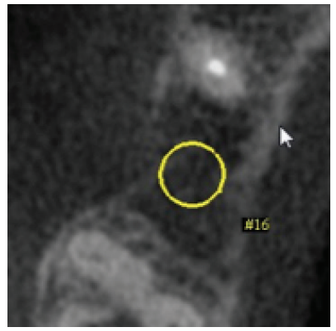
1 IMPLANT MAXILLA
MAXIMUM USE OF BONE HEIGHT

Dr. Partouche

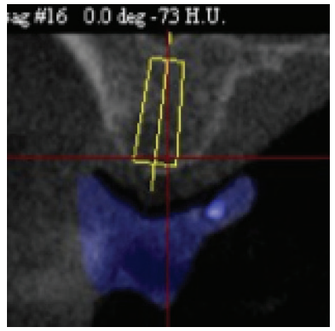
PLANNING ON CT



Pano view

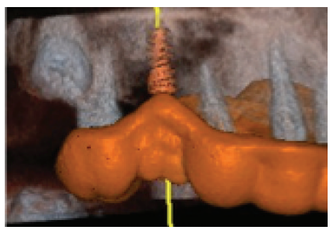


Axial view



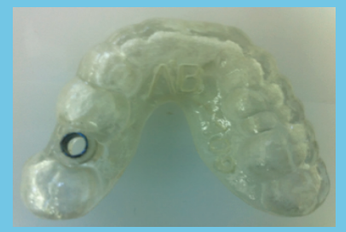
Sagital view

PLANNING IN 3D
RELATION OF IMPLANT TO PROSTHETICS



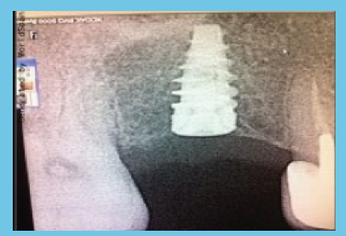
CLINICL CASE 1

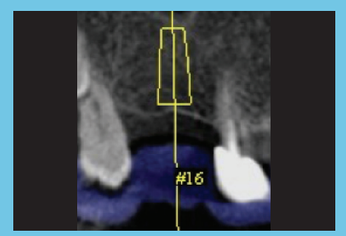
DIGITAL AB GUIDE


AB Guide with blue sleeve for
21mm drill depth

Tooth	Implant	Length	Drill
16	I5-4.2	10	25

IMPLANT PLACED TO SINUS FLOOR

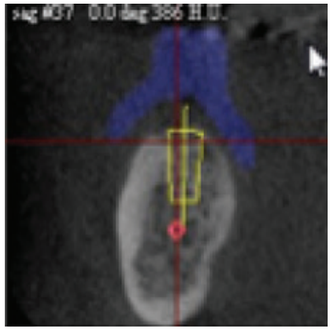

Post-op xray

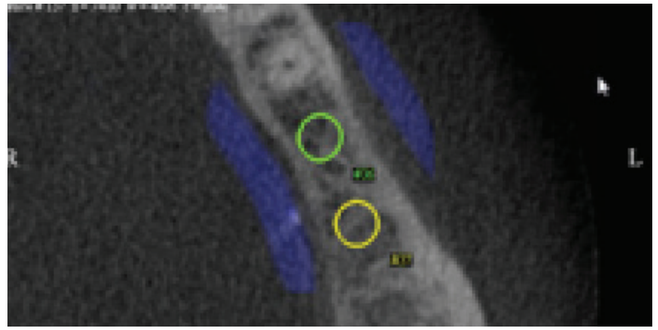


Planning in CT

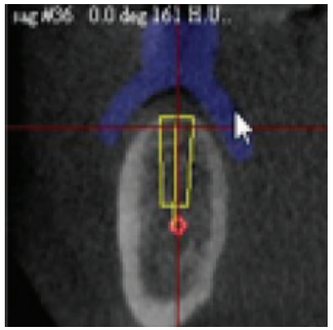
2 IMPLANTS IN MANDIBLE

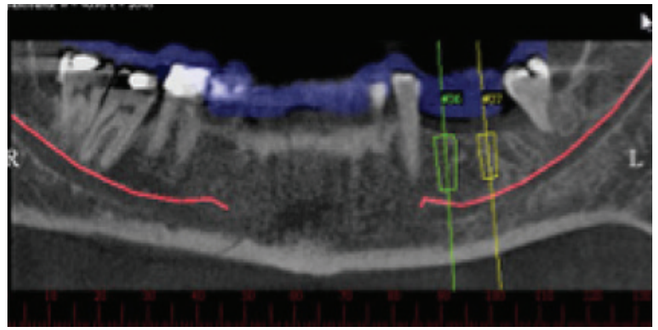
Dr. Partouche





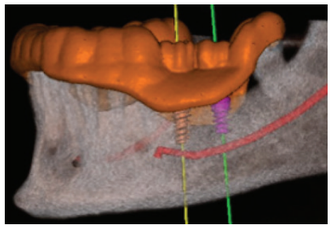
Axial view

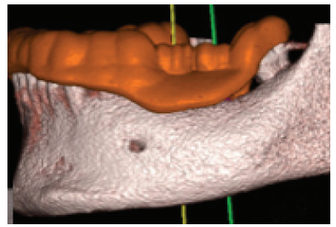




Panoramic view

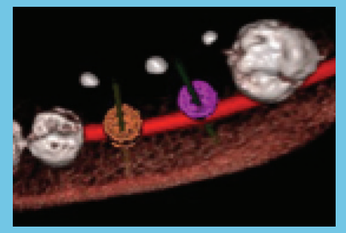
PLANNING IN 3D
RELATION OF IMPLANT TO PROSTHETICS



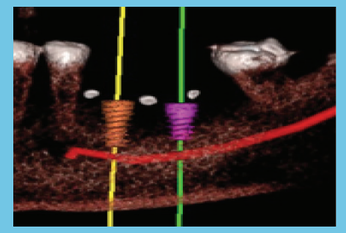


CLINICL CASE 2

PLANNING IN 3D
RELATING TO TEETH AND NERVES



Occlusal

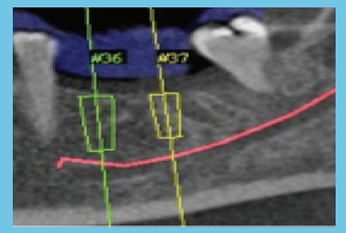


Panoramic

AB GUIDE
WITH YELLOW SLEEVES FOR 21MM DRILL DEPTH

Tooth	Implant	Length	Drill
36	I5-4.2	10	21
37	I5-4.2	8	21

VIRTUAL PLAN>REAL IMPLANT PLACEMENT



Planning

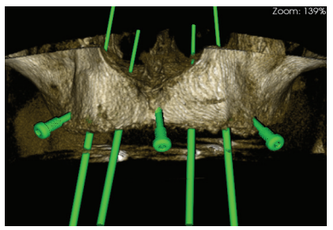
Post-op

4 IMPLANTS IN MAXILLA
SURGICAL GUIDE WITH 3D PLANNING
ABGUIDEDSERVICE
FLAPLESS SURGERY
3D PRINTED MODEL WITH ANALOGS
OVERDENTURE ON HOLDER BAR P17
IMMEDIATE LOADING

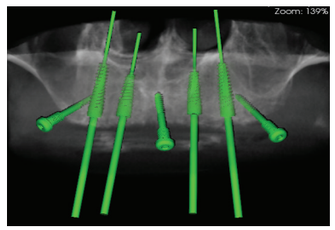
Dr. Robert Fuchs
Louisville, kentucky USA

The patient is a 65 years' old male, who has a full denture.
He is unable to eat hard foods, his denture was not retentive when speaking,
and he wanted a cost effective solution.
An overdenture with bar was decided to be a simple,
low cost method to improve his functional ability and aesthetics.

The treatment was completed in 1 visit.

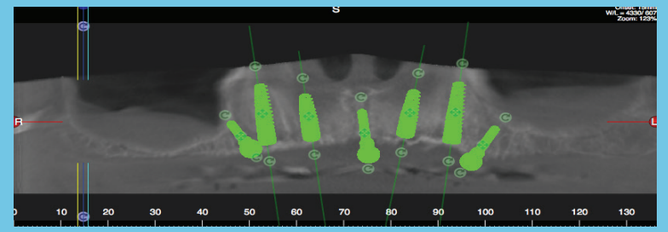


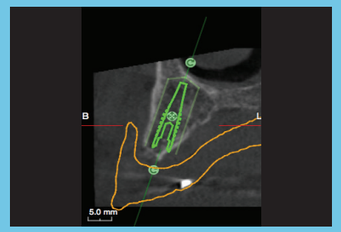
3D Planning with ABGuidedService

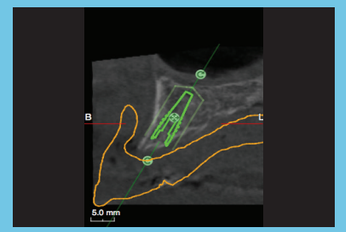


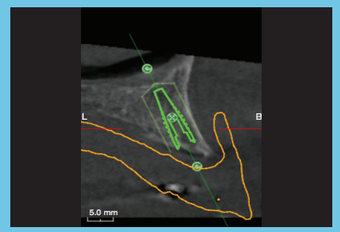
CLINICL CASE 3

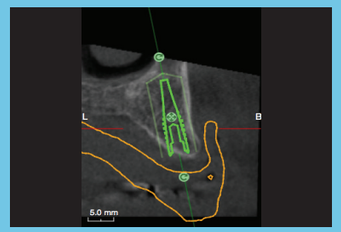
4 IMPLANTS & 3 FIXATION SCREWS

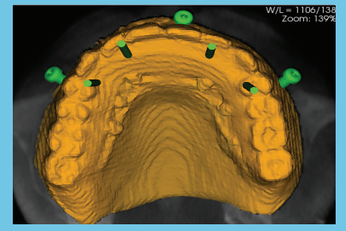




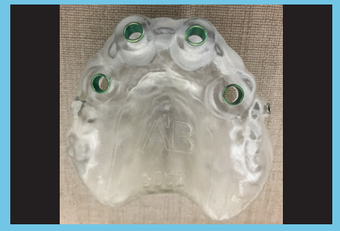








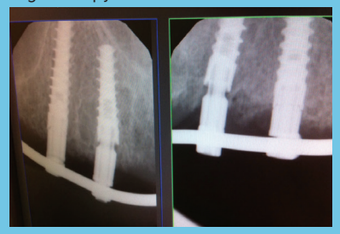
Planned Implant Positions –relating to patient's denture which was scanned in the CT



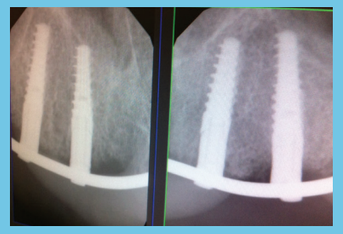
AB Guide from 3D Printer from ABGuided software. the guide is a digital copy of the denture

3D model with analogs
P17 abutments and bar ready

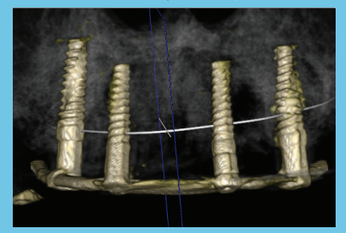
P17 ready for immediate loading bar before cutting distally



X-RAY to check abutments not seated fully

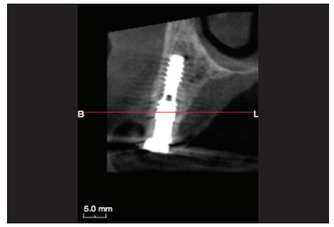


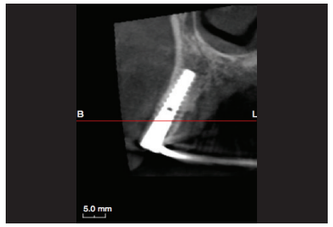
Abutments in correct position

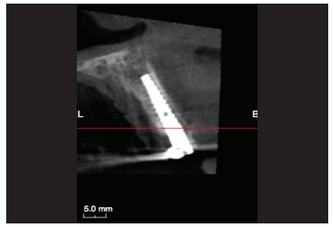


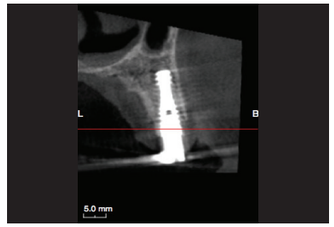
Post-op ct-implants, P17 abutments and bar

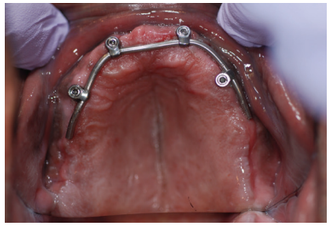
IMPLANTS POST-OP CT







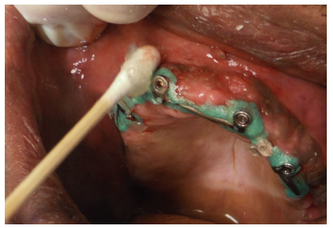




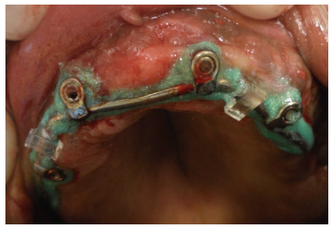
P17 bar and abutments. The bar can be positioned buccal or palatal to the abutment. The bar sits on the gingival tissue.

Light Cure Material to Block Undercuts

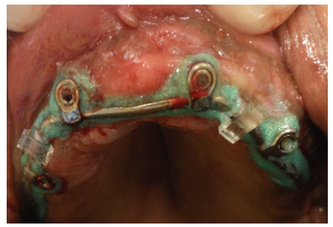
Blocking Undercuts



Lubricant to prevent acrylic sticking



Undercuts blockedclips in position



Clips on bar

CLINICL CASE 3

Fixing denture to clips

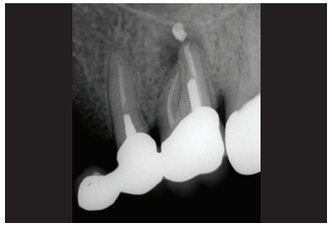
P17 clips fixed to denture with light cure acrylic

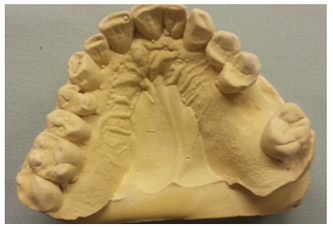
P17 clips attached to denture

3 IMPLANTS LEFT MAXILLA
1 EXTRACTION
IMMEDIATE LOADING
CAD/CAM BRIDGE

Dr. Dov Kishinovsky, Oral Surgeon

Tooth 14 was extracted 20 years ago, and the treatment of choice at that time was a 3 unit bridge with cantilever. Tooth 16 was extracted due to failed root canal 1 year ago.



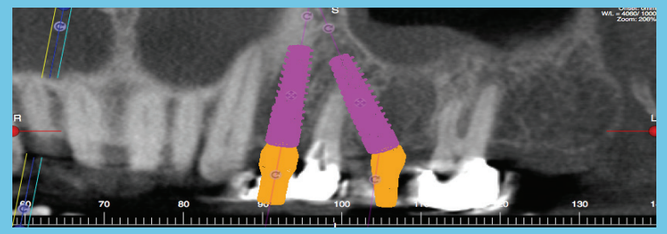


Upper model with bridge 14,15

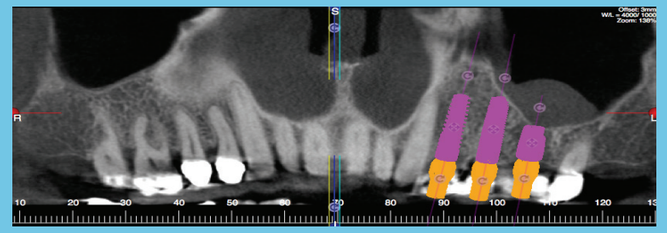
Upper model without bridge

CLINICL CASE 4

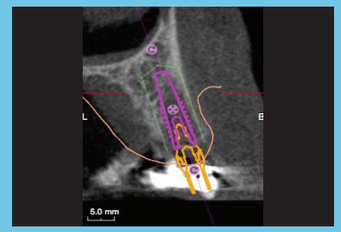
PLANNING OPTIONS

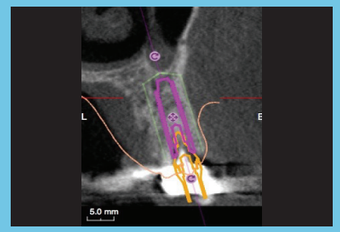


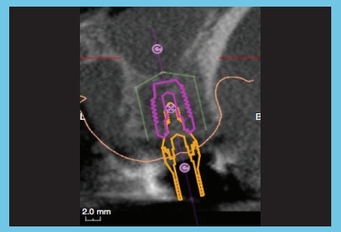
2 implants



Or 3 implants

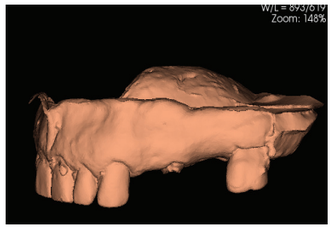


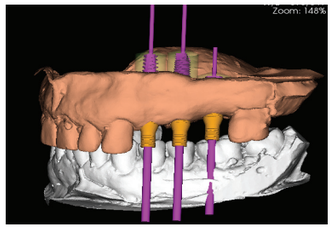




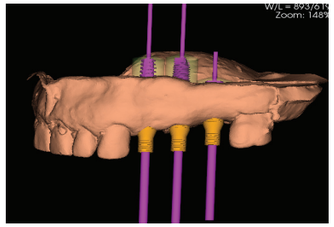
Planning for 3 implants

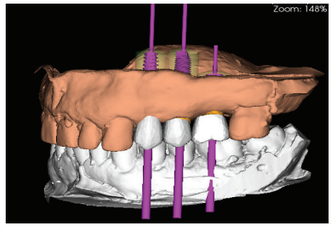
3D IMAGES



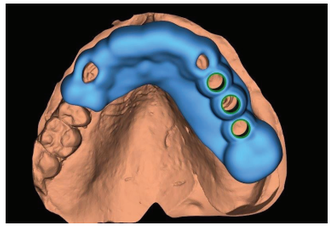


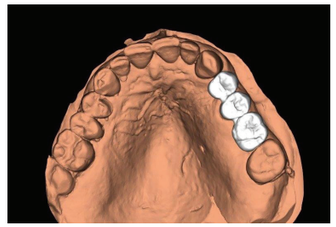
Planning, tooth positions and lower model



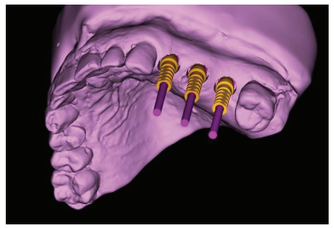


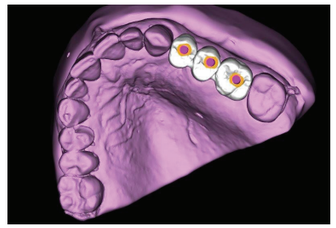
DESIGN AND DIGITAL MANUFACTURE FOR IMMEDIATE LOADING



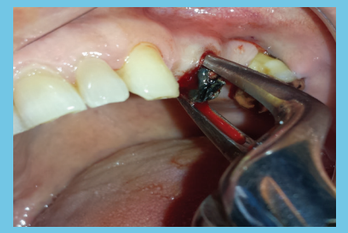


Design of AB Guided Holes at 13 and 23 to view that guide fully positioned





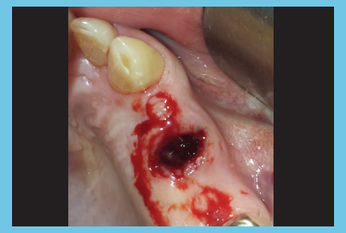
Before

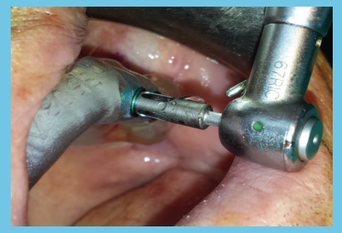


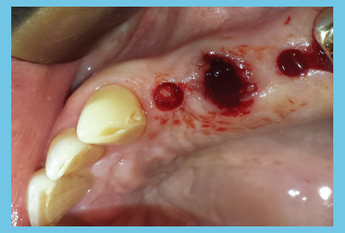
Extraction of Root 2

Accurate fit of guide

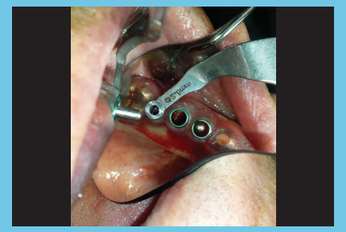
TISSUE PUNCH

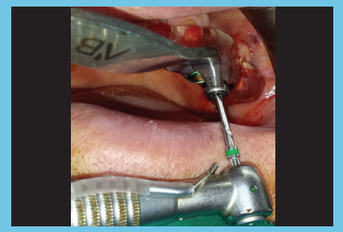


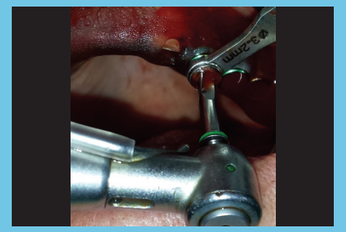


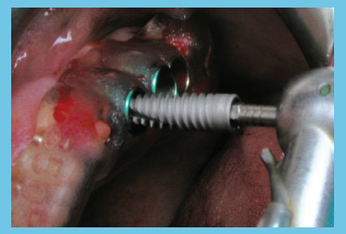


DRILLING WITH ABGUIDE

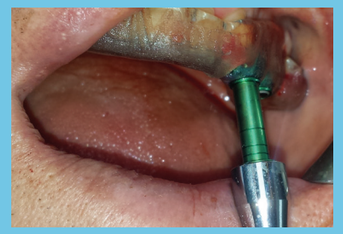








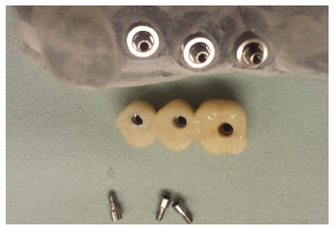
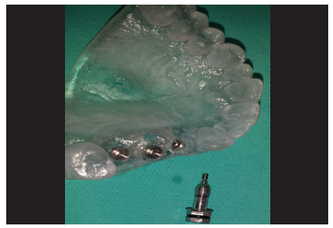
Inserting Implant through the Guide

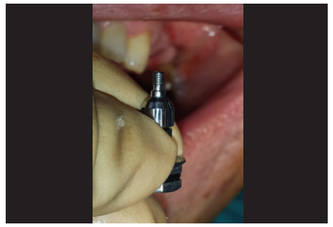
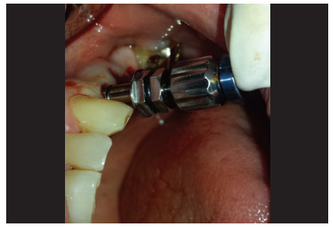


Inserting Implant to full depth with coloured guided implant mount

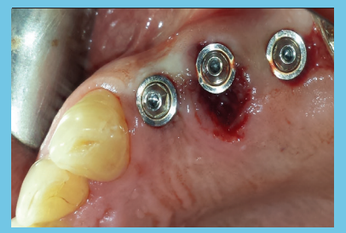
3 Implants-Flapless

TEMPORARY SCREW RETAINED BRIDGE - THE ABUTMENTS

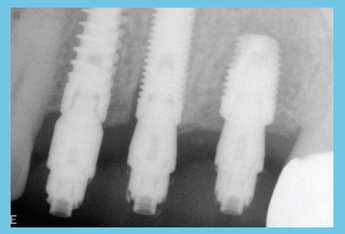



CLINICL CASE 4

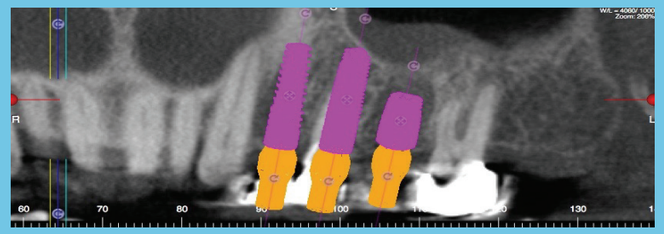



Abutments for Screw retained Immediate Loading


Bridge Post-op



Post-Op Xray

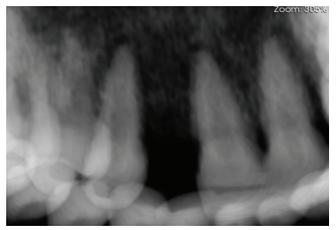


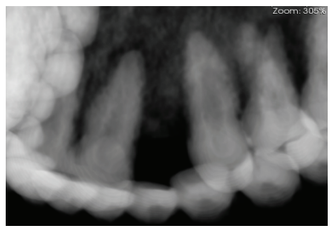
Planning

2 NARROW IMPLANTS FOR MISSING LATERAL INCISORS AFTER ORTHODONTIC TREATMENT FLAPLESS GUIDED SURGERY

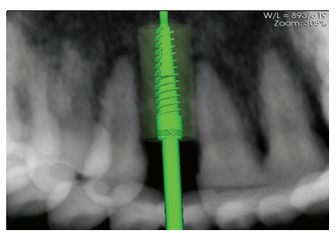
Dr. Hamdan Refat

Models showing space prepared for missing lateral incisors after orthodontic treatment. Here there is enough space for restorations.

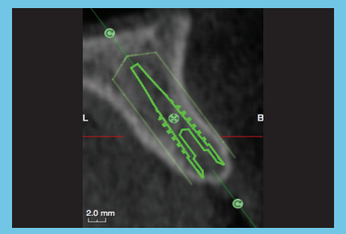


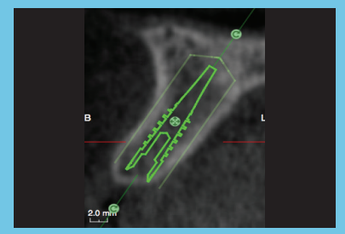


On CT with 3D planning the space is very narrow. Planned implants are 3mm.
The decision was made not to continue with orthodontic treatment to increase the space, but to place narrow implants.

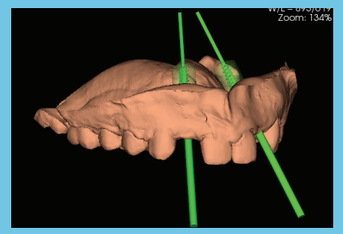


CLINICL CASE 5

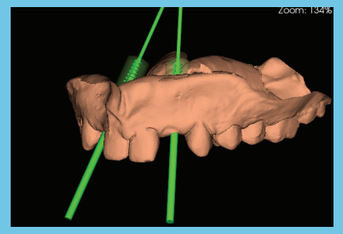


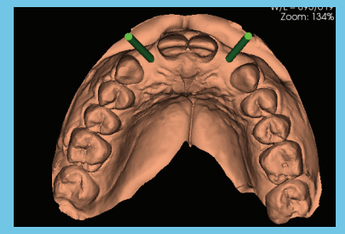


Sagital cross sections 11 and 22, Implants I5 3mm x 16mm

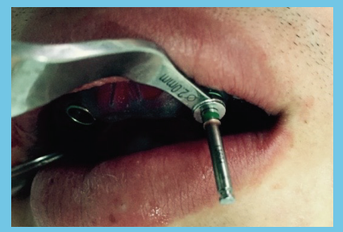


Planning relating to implant emergence for prosthetics



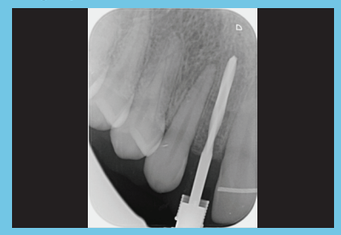


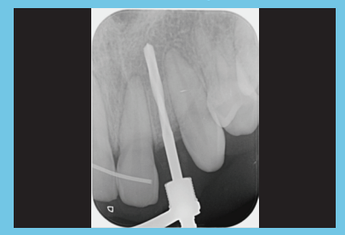
Guide in position



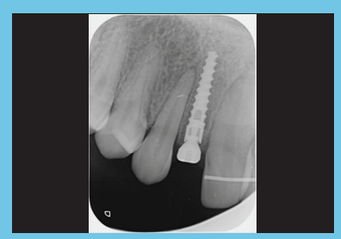
After tissue punching for flapless surgery

Drill inserted in drill tools with guide, after 2mm drill, for X-ray to confirm direction of osteotomy





Diagnostic X-rays with drill showing the accuracy of the osteotomy

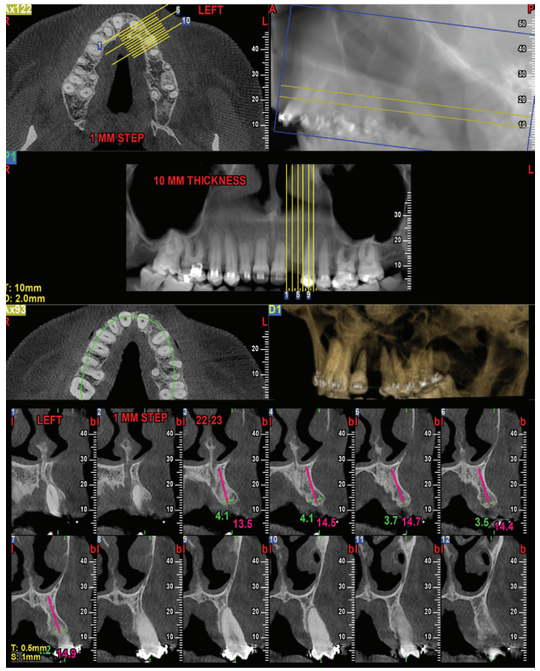


Post-Op X-rays showing precise insertion of implants through the guide

NARROW IMPLANT AS A SOLUTION FOR EDENTULISM IN LIMITED SPACE FOLLOWING ORTHO TREATMENT

Dr. Benjamin Retzkin

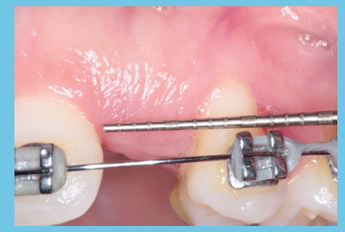
Patient (F, 30s) was referred to the clinic after completion of an orthodontic procedure (teeth straightening) to seek a solution for missing tooth 22. The orthodontic procedure had exhausted all treatment options but without a complete cosmetic and functional solution, despite substantial financial and time investment. An implant would provide a cosmetic and functional solution for the patient.



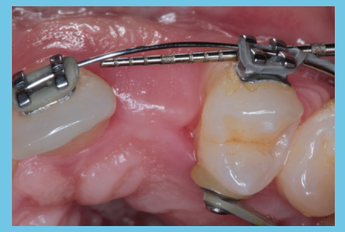
CT

CLINICL CASE 6

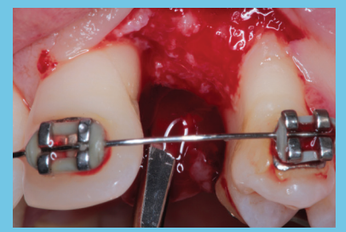
Clinical view before implant



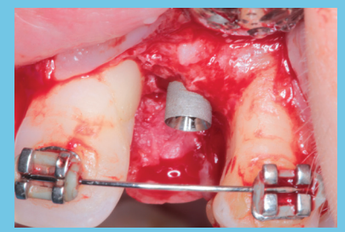
Limited space between teeth 21 and 23 clearly visible



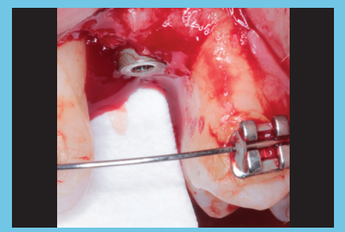
Implant location before flap lift



Flap lift



Narrow AB implant in place



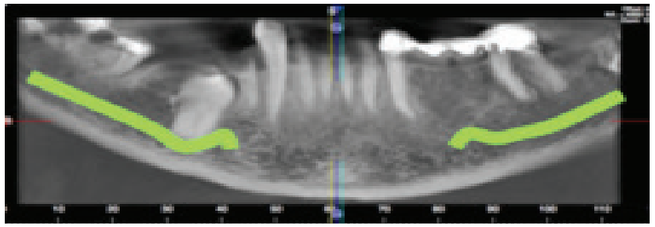
Capping screw already in implant

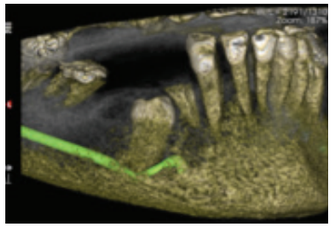
3 IMPLANTS MANDIBLE IMPACTED TOOTH FULL FLAP

Dr. Gustavo Yatzkaier, Oral Surgeon

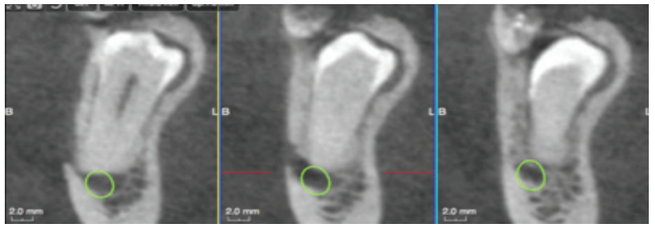
ABGuidedService 3D Planning and Surgical Guide were used to restore the lower left mandible, without removing the impacted tooth at 45 and avoiding the danger of damage to the nerve.

2 EXTRACTIONS: 44 AND 47



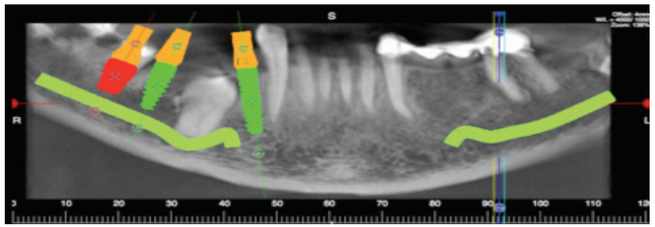


IMPACTED TOOTH IN THE NERVE CANAL



There is a high possibility of nerve damage if the tooth is extracted

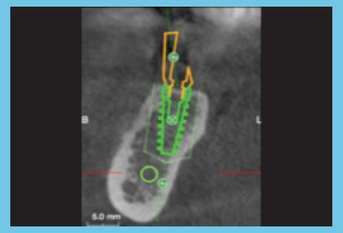
PANORAMIC VIEW SHOWING THE IMPLANT POSITIONS



Implant 44 is I5 3mm x 16mm

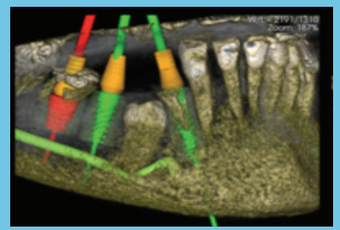
CLINICL CASE 7

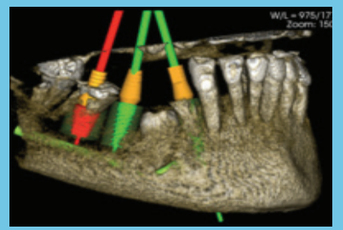
SAGITAL VIEWS OF THE IMPLANTS



In the extraction sites 44 and 47, the implants are longer than the roots, to ensure initial stabilization

3D IMAGES OF THE PLANNED IMPLANT POSITIONS

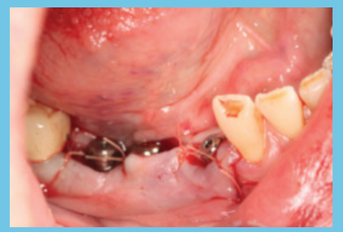




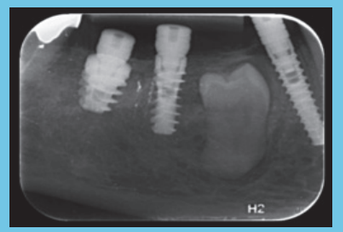
Before treatment

After Extractions:
The incision is made lingually, to allow the flap to be opened bucally, without affecting the fit of the guide

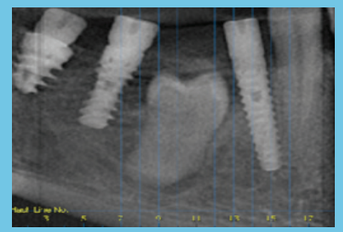
The AB Guide sits on the Teeth and the Lingual Soft Tissues.
The guide sleeves are color coded to indicate the drill length



Post-Op showing Healing Caps and Flap Closure



Post-Op Xray: The implant at 44 has more than 2mm between the adjacent teeth

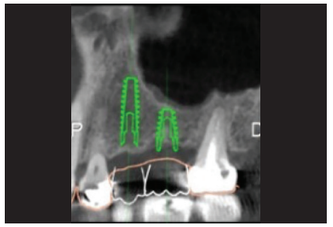


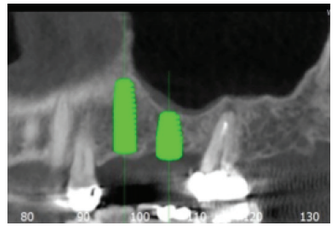
Post-Op CT

IMPLANT PLACEMENT IN LEFT MAXILLA WITH CLOSED SINUS LIFT USING SAFE-JEDER HYDRAULIC SYSTEM WITH ABGUIDEDSERVICE

Dr. Ernest Reuveni
Dr. Gustavo Yatzkaier

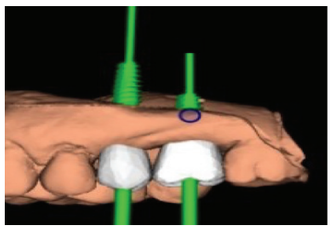
The patient is a healthy 53 year old, and she does not smoke. The bone used is of animal origin. This method of sinus lift was chosen to significantly reduce the risk of perforating the sinus membrane. The Safe system allows maximum elevation with minimal risk.
ABGuided allows the drill depth to be planned 1mm from the sinus floor. This can be difficult to measure using the CT alone, as the sinus floor is curved. The exact location can be found with the guide which is digitally produced from the planning in the 3D software . The entry into the sinus can then be completed using an osteotome.

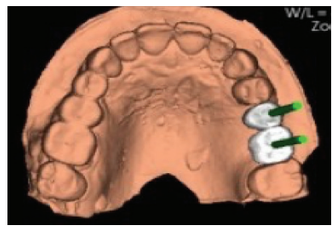




26 planned to 1mm from sinus floor for closed sinus lift

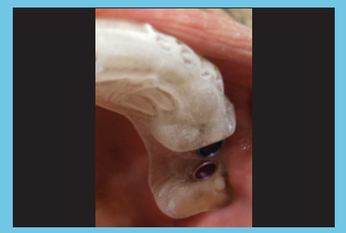
Implant	Manufacter	Model	Size	Drill	Mount
25	AB Dent	I5 Conical Implant	3.5 x 13.0mm	25	
26	AB Dent	I5 Conical Implant	4.2 x 8mm	17	





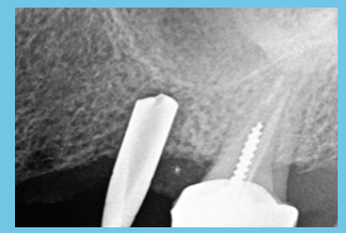
Implants planned relating to tooth positions
26 drill depth to 1mm below sinus floor Longer implant inserted

AB GUIDE



AB Guide-color coded sleevesindicating drill length

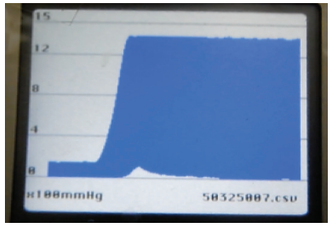
Confirming depth with Safe drill, stopped 1mm from sinus floor



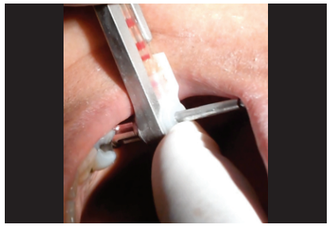
CLINICL CASE 8

Ready to use hydraulic pressure to raise sinus membrane

Saline inserted with controlled pressure

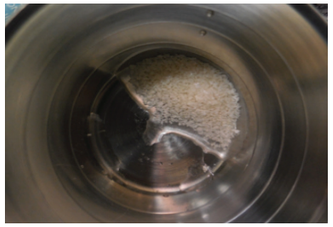


Drop of pressure seen in the device display, indicates that the membrane was successfully elevated



Saline extracted after membrane lift

Osteotome to fracture the sinus floor



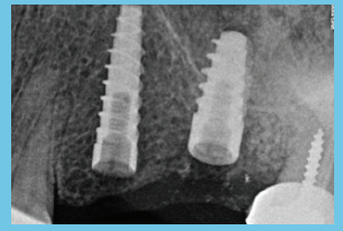
Hydration of bone granules

CLINICL CASE 8

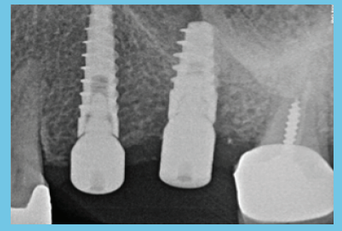
Bone granules compressed through the osteotomy into the sinus

Implants inserted with AB Guide and depth controlling implant mounts

Implants with healing caps. One-stage flapless surgery



Post-op xray



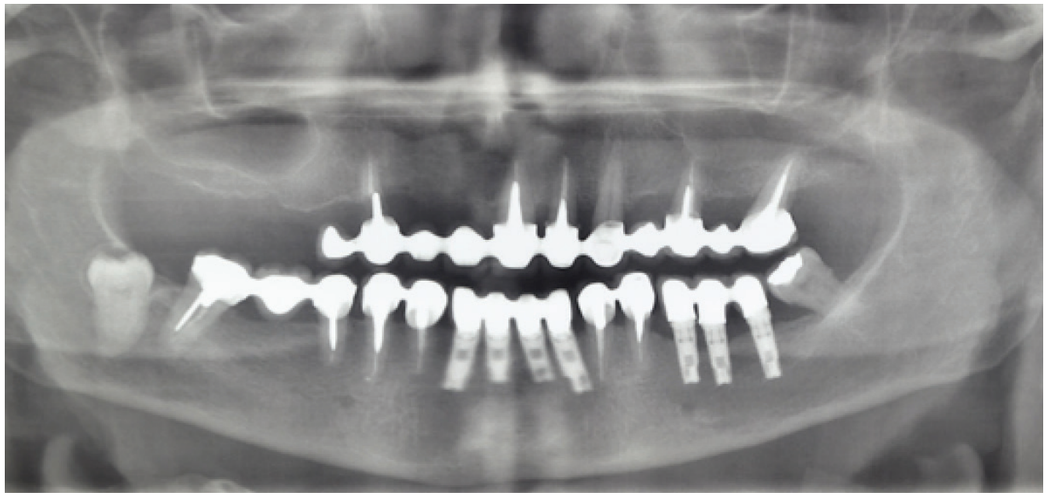
Post-op xray with healing caps

IMMEDIATE LOADING IN UPPER JAW THANKS TO 3D PLANNING.

Dr. Gandi Gunther

Patient (F) with no medical issues.
Upper jaw has a full bridge with fracture in tooth 15. This tooth supports distal cantilever, because tooth 16 is missing. The original treatment plan envisaged cutting the bridge and leaving only the left side, while placing a removable partial temporary denture on the right.
The patient rejected this solution. The decision – implants with surgical split and immediate load.
The plan included an inclined implant in the tooth 16 region, sparing the patient sinus lifting surgery.

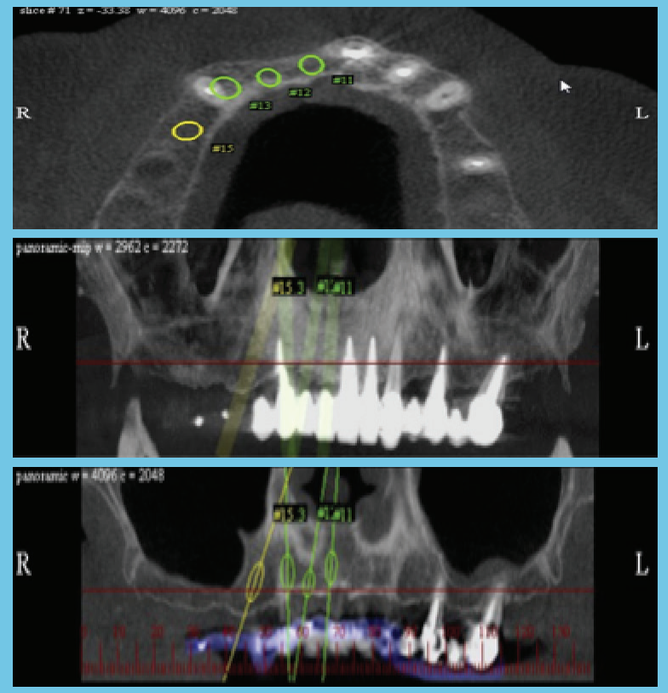
A temporary bridge (copy of old bridge) was created according to a 3D model integrating the position of future implants. After atraumatic extraction of tooth 15, implants were inserted (following the 3D plan and using surgical splint) and immediate load performed.The patient expressed satisfaction with treatment outcomes and the fact that the rehabilitation was both functional and aesthetic.



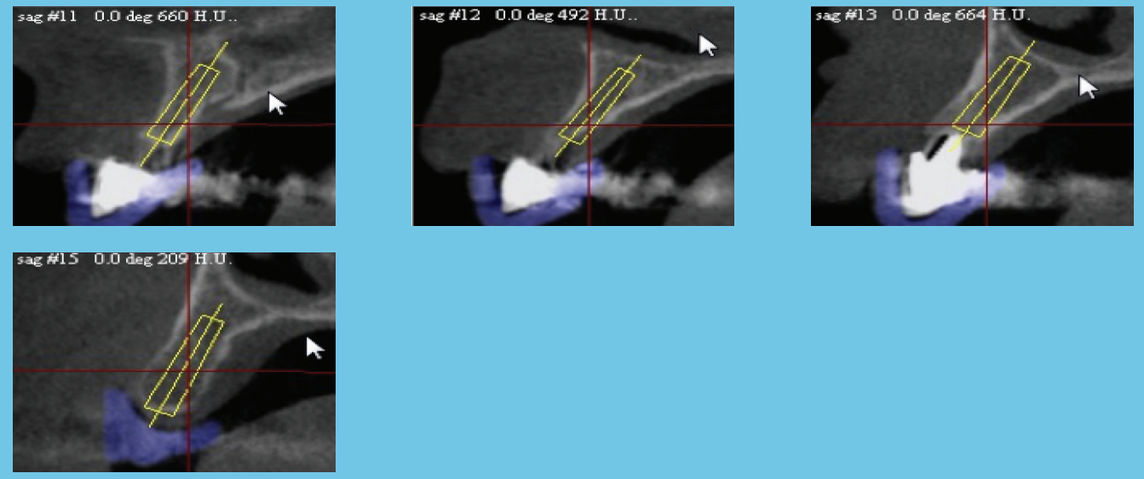
Panoramic Xray showing 15 root fracture and therefore the need for extraction and cutting bridge distal to tooth 21.

CLINICL CASE 9

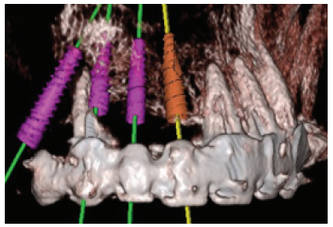
IMPLANT PLACEMENT PLAN, COMPLETE CT (2D)

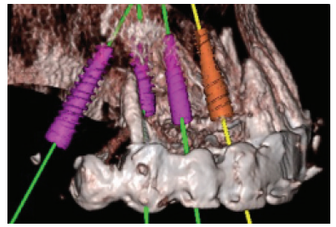


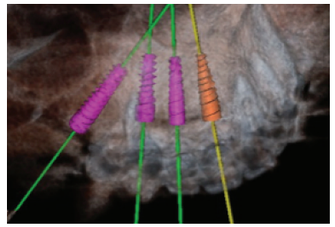
SAGITTAL SECTION OF THE JAW FOR EACH PLANNED IMPLANT

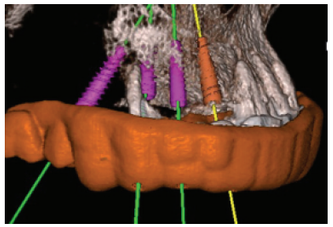


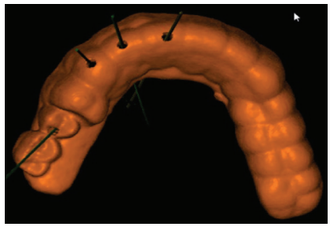
3D IMPLANT PLAN





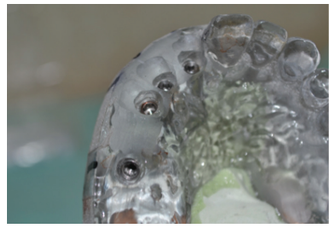






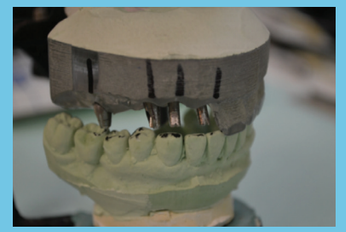
3D plan and relation to teeth location

Surgical splint on model produced by 3D printing (with analogs).



Digital model with integrated analogs.

CLINICL CASE 9



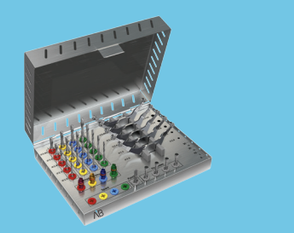
Digital model with structures.

Temporary bridge.

Old bridge in patient's mouth.

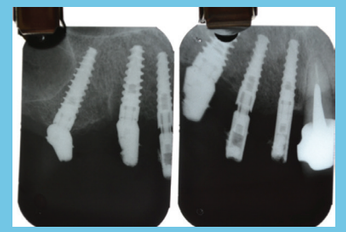
Bridge removal after section distal to tooth 21 and tooth 15 extraction.

Surgical splint in patient's mouth clearly showing splint's colorful sleeves.



Surgical evaluation accompanying every computerized implant plan. Each drill color matches specific sleeve.

Tissue Punch



Post-implant images. Inclined implant (30 degrees) in tooth 16 location to avoid sinus lift.

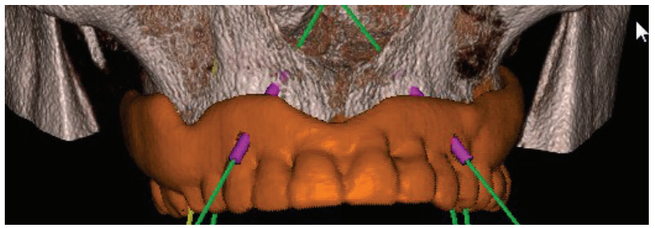
Implants and structures in place, accurate surgery without flap lift.

Temporary bridge in patient's mouth.

PLANNING FOR CLOSED SINUS LIFT 4 IMPLANTS MAXILLA

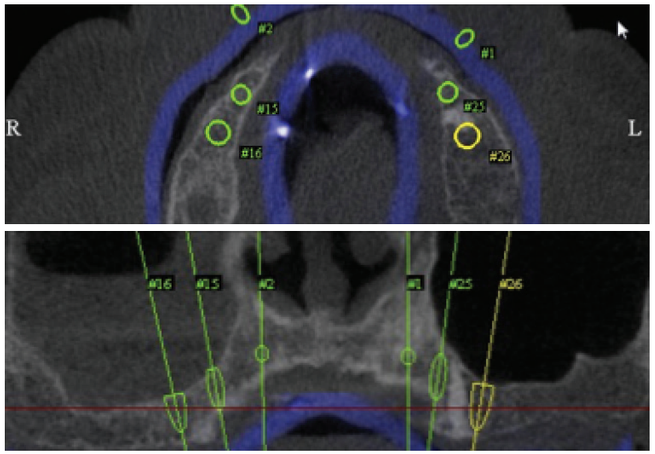
Dr. Oren Kasos

4 Implants were planned for denture stabilization in the upper jaw. In the 15 and 25 areas the bone is very narrow and in 16 and 26 there is only enough height below the sinus for 8mm implants. At 16 and 26 the drill depths were planned to the sinus floor for closed sinus lift, and longer implants were used. The implants were placed using flapless surgery.
The procedure was minimally invasive, and accurately completed in 1 visit making maximum use of the available bone.



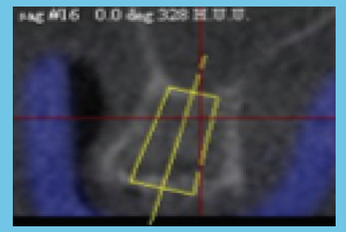
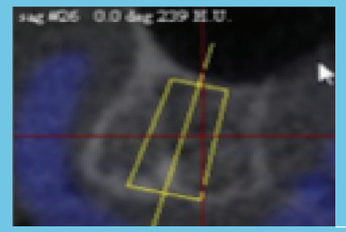
Patient's Denture was used as a CT Guide.
2 Fixation screws were planned

AXIAL AND PANORAMIC VIEWS

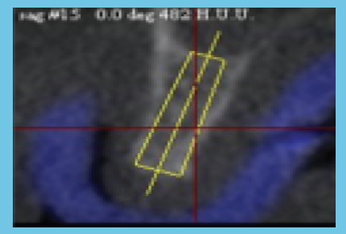
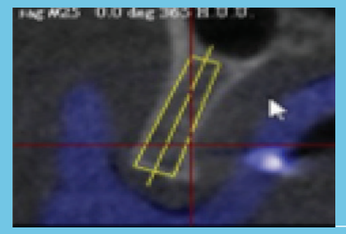


Showing 15 and 25 very narrow bone. Pilot 2mm Drill Only

CLINICL CASE 10

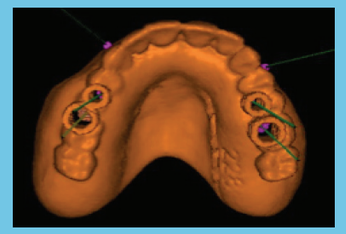
16 and 26 Drill Depth
Planned to Sinus Floor

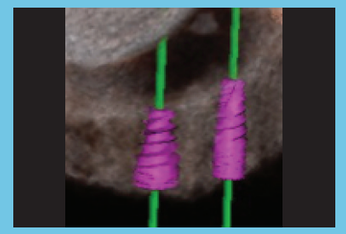
15 and 25 Very Narrow Bone

IMPLANT DETAILS

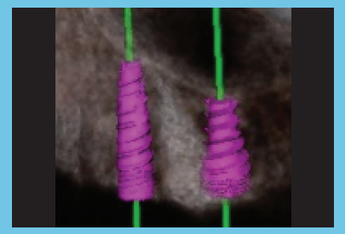
Tooth	Implant	Length	Drill
15	I5-3	10	21
16	I5-4.2	8	21
25	I5-3	11.5	21
26	I5-4.2	8	21



15 and 25 Pilot 2mm Only. The AB Guide is a digital copy of the patient's denture.

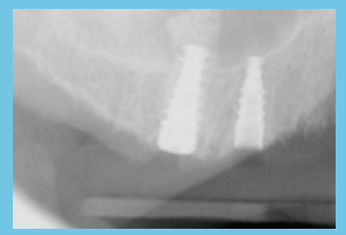


3D Plan Right

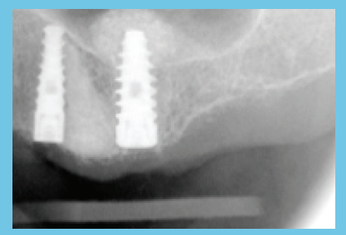


3D Plan Left

16 AND 26 DRILL DEPTH TO SINUS FLOOR-LONGER IMPLANT INSERTED AFTER SINUS LIFT



Xray after sinus lift 16



Xray after sinus lift 26

COMPUTER-AIDED IMPLANT FOR IMMEDIATE LOAD IN UPPER JAW

Dr. Eitan Krause, Oral Rehabilitation Specialist
Dr. Amir Schuster, Mouth and Jaw Surgery Specialist

The trend in general surgical medicine of minimizing invasiveness, improving precision and reducing tissue trauma while relying on computerized diagnosis and performance protocols has not omitted intra-aural surgery. Computer-software-aided implant-supported rehabilitation plans using computerized surgical splints produced with CAD/CAM technology are compatible with the general medical approach, and constitute the state-of-the-art approach to performing implant-supported rehabilitation.
This approach has been made possible thanks to the integration of three diagnostic and therapeutic modules: Computerized Tomographic Scan (CT), dedicated 3D software for implant plans (AB Guide), and computer-aided production of surgical splints using CAD/CAM technology.
Literature shows that rehabilitation plans and implant placement using dedicated software and computerized splints produce significantly more accurate results than conventional free hand implant placement.[1, 2]
The main advantage of the computerized approach is the 3D combination, in the same mold, of the jaw's osseous anatomical data, planning, and the patient's prosthetic requirements. This combination helps achieve two goals:
a. Ideal implant location plan, taking into account both osseous data and rehabilitation requirements, as well as maximum accuracy.
b. Creation of a surgical guide produced with digital technologies for precise insertion of implants according to the previously created plan.
Other advantages of computerized plans and implant insertion include: the option for accurate implant insertion applying the flapless approach, cutting down surgical procedure time and significantly reducing patient morbidity; the use of existing osseous regions, access to which requires extreme precision during implant insertion; and the option of avoiding complex bone construction procedures, as prefabrication of the prosthetic restoration with perfect implant compatibility can be performed for immediate loading.
Conventional surgical splints have been in use in dentistry for years. Their main downside, however, is that they do not reflect the required compatibility between the planned prosthetic reconstruction and the osseous anatomy of the jaw. Such anatomic compatibility and significant improvement of planning and performance accuracy are made possible only by using the computerized surgical splints, which simultaneously and three-dimensionally reflect the prosthetic plan as well as the jaw's anatomy.

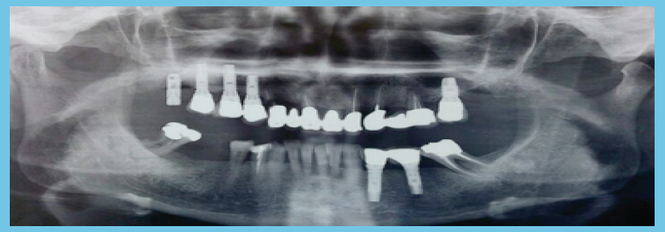
CASE DESCRIPTION

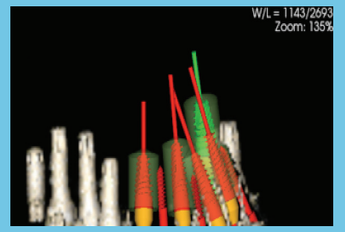
Patient (F, 62) complained of complete loss of retention of a partial fixed denture (13-25) due to widespread dental caries of the holding teeth. This retentive issue significantly limited her speaking and chewing capacity, and constituted major functional limitations on a daily basis (Fig.1-3). In light of the severity of functional limitations, and to provide the patient with permanent rehabilitation, the decision was made to perform a dental implant supported acrylic reconstruction with immediate load in the front region of the upper jaw, using AB Guided Service software for the case plan and implant insertion.
CT scans of upper jaw indicated sufficient bone volume for implant insertion in the front and lateral region of the maxilla. CT scans in the presence of massive metallic substances (large number of dental implants, a large metal-based bridge, a wide bar supporting a removable denture) are affected by "noise" that blurs osseous elements. This creates an obstruction that might be significant during the data processing for a three-dimensional picture in the implant-planning software. It is therefore preferable to avoid such a situation by removing the metal elements (old metal-based bridges), performing a temporary acrylic restoration without metal, and repeating the CT following the acrylic reconstruction.

CLINICL CASE 11


(Fig. 1)


(Fig. 2)


(Fig. 3)



(Fig. 4)

Implants were planned based on the CT scan. Using the AB Guided Service software, the decision was made to extract all the upper holding teeth and insert the implants in the frontal and lateral regions of the upper jaw (Fig. 4).
Existing implants in the upper jaw placed a few years earlier (Fig. 3) served as additional support for the immediate acrylic permanent partial denture and for the final reconstruction.
Impressions were made to create lab acrylic permanent partial dentures combined with an acrylic base resting on the gum. Supporting the permanent partial denture on the gum using the acrylic base allowed stable, secure positioning of the permanent partial denture on top of the implants during the surgical procedure and maintained proper occlusion, as previously determined (Fig. 5).
The surgical procedure itself was performed using a bone-supported surgical splint (Fig. 6).


(Fig. 5)


(Fig. 6)

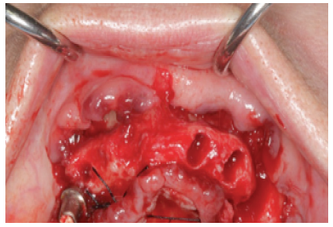
Proximity of the bone-supported splint to the bone tissue reduces the distance the drill has to travel until the completion of the entire bore length, thus improving the accuracy of the drilling and implant insertion. The need to extract teeth and match the bone tissue required a flap lift, which indicated the use of the bone-supported surgical splint. The splint was attached to the bone tissue with fastening screws.

After the flap lift and teeth extraction, the surgical splint›s compatibility with the bone tissue for definite passive imposition was examined, and the splint was attached to the bone tissue with fastening screws (Fig.s 7-8).

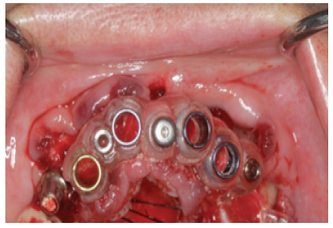
The bores in the bone for positioning the implants were made with a set of drills dedicated for use with surgical splints (AB Guided Drill Kit) (Fig. 9).

The insertion of the implants into the bone was also guided by the surgical splint (Fig. 10). Inserting the implants without using the surgical guide might change the direction of the implant as determined in the plan and the creation of the bore for the implant. This is especially the case when using implants with an active tip. When it is not possible to insert the implants using the surgical guide, it is preferable to use more passive implants with inactive tips, so that the implant is inserted into the bone with the previously determined drilling trajectory.

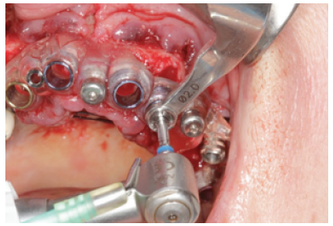
Insertion of the implants to the predetermined depth using dedicated stoppers. Scale marks on the stopper accurately indicate the depth of the implant screw (Fig. 11).



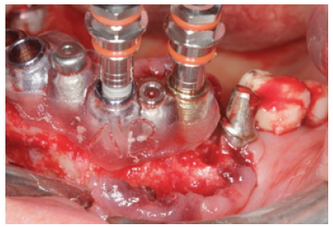
(Fig. 7)



(Fig. 8)



(Fig. 9)



(Fig. 10)

(Fig. 11)

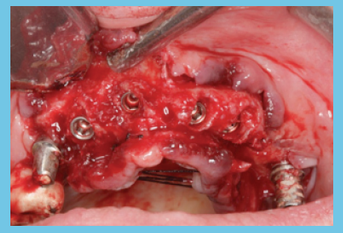
CLINICL CASE 11

Upon completion of inserting the implant, they were attached to temporary structures of types P15 and P12 (Fig. 12-13). The acrylic permanent partial denture placed upon the implants precisely at the predetermined position and helped by covering the acrylic palate. The acrylic permanent partial denture was attached to the temporary structure with acrylic material to create a screwed reconstruction. The acrylic support on the palate was removed and the bridge was processed to create a screwed/glued acrylic permanent partial denture (Fig. 14, 15, 16).

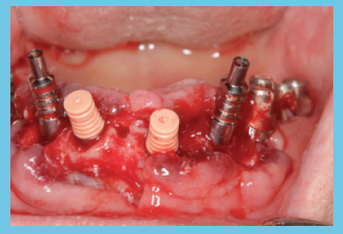
Summary: Computerized planning of implant-supported rehabilitation and implant insertion with bone-supported splint using AB Guided Service software, as demonstrated in this patient, allowed precise positioning of implant with full synchronization between bone structure and patient's existing teeth. Bone-supported surgical splint resting passively and accurately on top of bone tissue allowed drilling and implant insertion according to the location, angle and depth established during the planning stage. Temporary acrylic permanent partial dentures, previously planned according to intended implant location and attached to implants after their insertion into the bone with temporary structures (immediate loading), allowed patient to regain full aural functioning.

References:

1. Renaud Noharet, DDS, Andreas Pettersson, Denis Bourgeois, DDSc. Accuracy of implant placement in the posterior maxilla as related to types of surgical guides: A pilot study in the human cadaver. J Prosthet Dent 2014.
2. Implant positioning error in freehand and computer-aided placement methods. A single-blind clinical comparative study. Arisan V, Karabuda CZ, Mumcu E, Özdemir T. Int J Oral Maxillofac Implants. 2013 Jan-Feb; 28(1):190-204.



(Fig. 12)



(Fig. 13)

(Fig. 14)

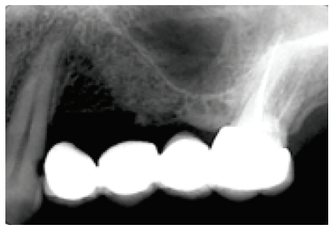
(Fig. 15)

(Fig. 16)

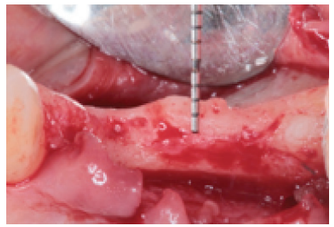
PROVIDING A COSMETIC SOLUTION THROUGH IMMEDIATE LOADING IN CASE OF BONE DEFICIENCY

Dr. Benjamin Retzkin

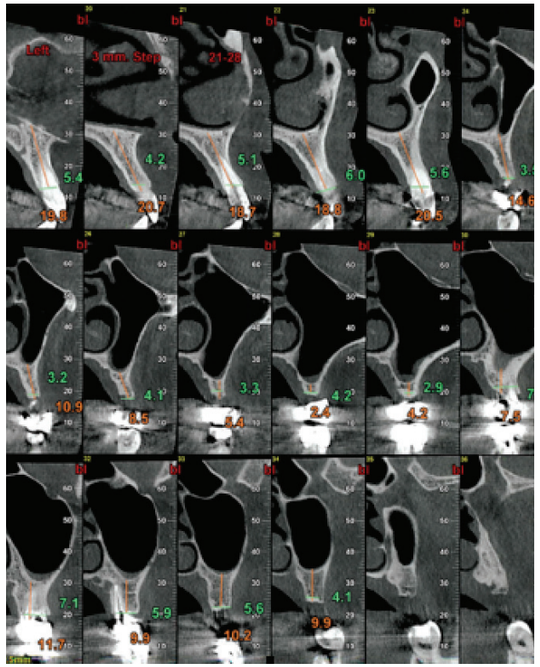
Patient (F, 37), edentulism in 24, 25, 26, removable bridge supported by tooth 27 only.
Root residue 24, 25.



Clinical photos and X-rays displayed significant bone loss on the upper left side, in three dimensions: vertical in region 25, 26; mesiodistal horizontal between 23 and 27, and sagittal, primarily at 24 and 25.

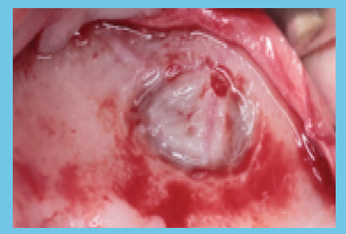


Case Issues: Patient insistence on a cosmetic solution and desire for temporary fixed rehabilitation.

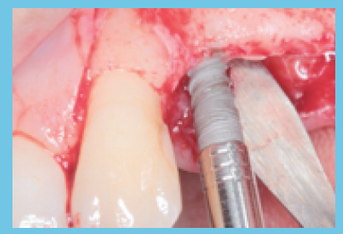


CLINICL CASE 12

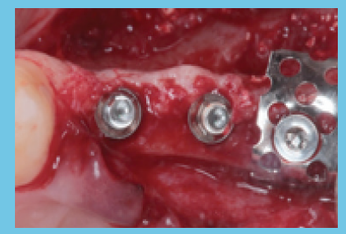
SELECTED TREATMENT PLAN: CUTTING BRIDGE BETWEEN 26 AND 27



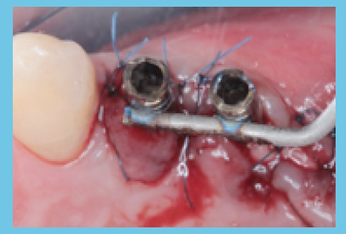
Sinus lift with opening lateral window.



Placing 2 short implants (of I5 type 3mm diameter) in teeth 24-25.



Placing implant 26 with standard platform (I5 3.75mm diameter) fixed in place without loading, and use of titanium mesh for stability.



Placing structures on top of 24, 25; subsequently bone graft and membrane placement, sewing and attaching structures by soldering titanium rod on palatial side.

Crowning using temporary crowns. (Dr. Zahi Lehar) Occlusal balance.

After 6 months, exposure of implant 26 and referral for permanent rehabilitation by Dr. Zahi Lehar.

COMPUTERIZED IMPLANTATION

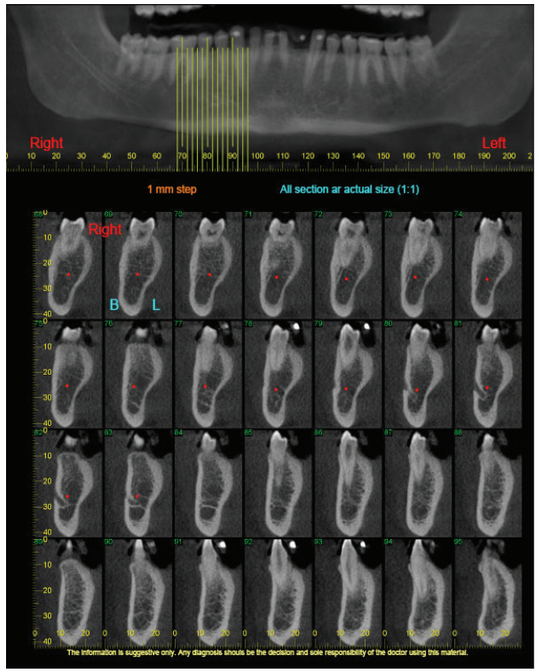
Dr. Gustavo Yatzkaier

GENERAL DESCRIPTION:

Patient (M, 28) presented with edentulism (tooth 32) and generalized spacing between teeth. Orthodontic treatment was recommended, but the patient declined.

CHALLENGE:

In light of the spacing and the rejection of orthodontic treatment, obtaining favorable cosmetic outcomes entailed high risk. Consequently, the implant had to be located optimally and at an ideal angle in this case – a difficult result to achieve without a computerized implant plan.



Pre-Op CT scans

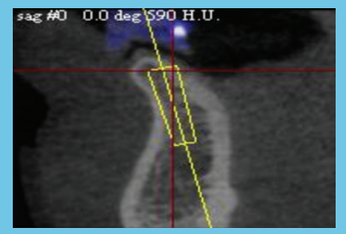
TREATMENT PLAN:

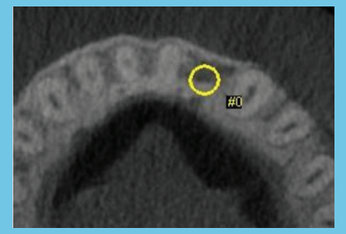
Digital plan via AB Guided Service to obtain accurate placement of the implant, taking into account existing spacing between proximal teeth in the same jaw and maintaining equal spacing on both sides to obtain the required aesthetic outcomes.

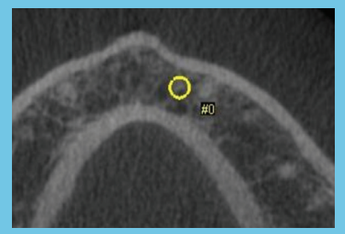
Pre-Op clinical images

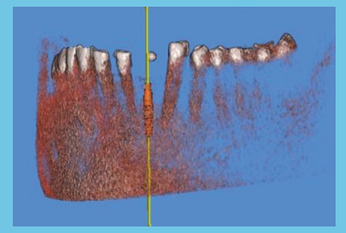
CLINICL CASE 13

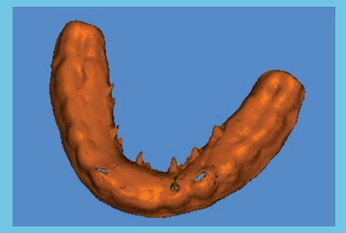
COMPUTERIZED PLAN

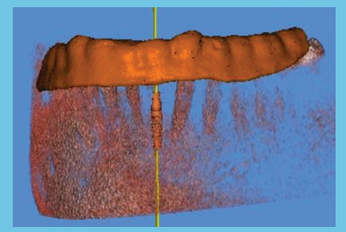


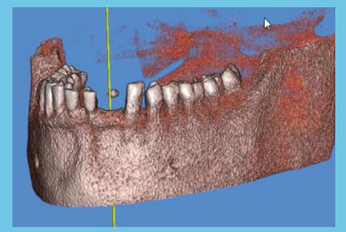




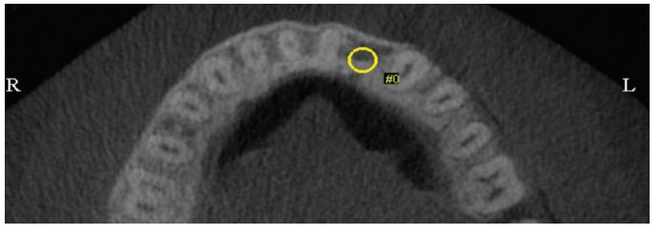


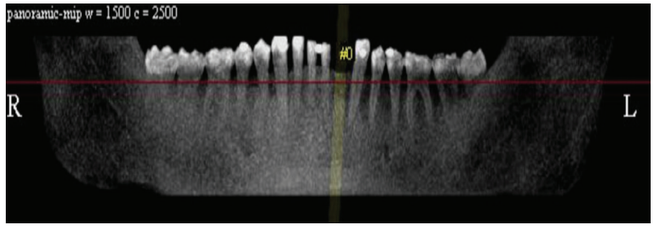


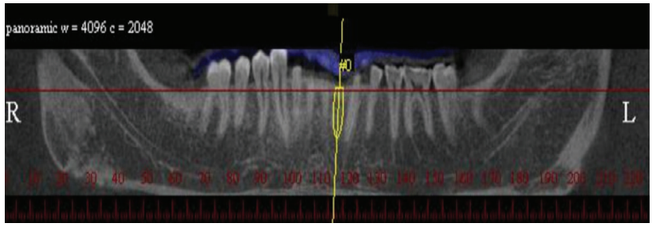




COMPUTERIZED PLAN



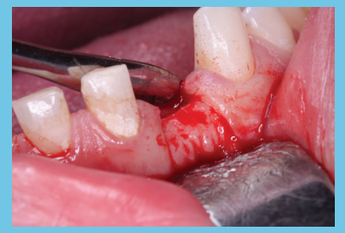




CLINICL CASE 13

Pre-op positioning of surgical splint.

Marking with Thompson stick to probe future implant placement.

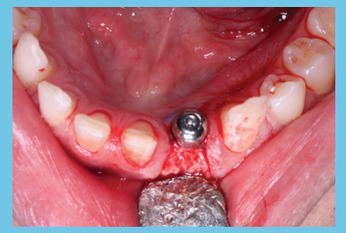


Lifting dental flap while maintaining the papilla.

Placing parallel implant pin after pilot drilling, probing implant angle.

Drilling with 3.2mm bore (final drill), using splint ring adapter.

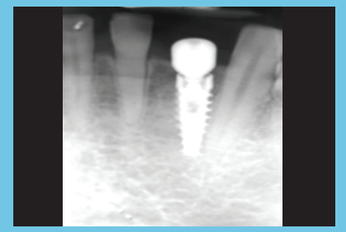
Placing implant AB I5.



Placing healing cap during procedure to improve gum healing.

Sewing up.

Sewing up



Periapical X-rays immediately after procedure.

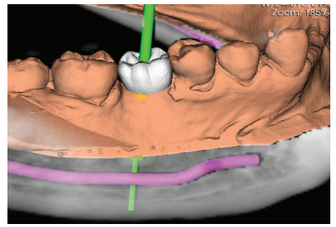
Clinical rehabilitation image.

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

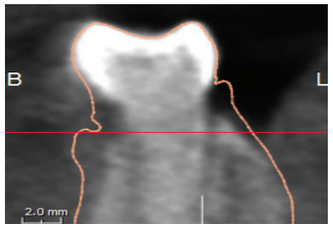
Dr. Babich Semion

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.

Model showing missing first molar on the right side.

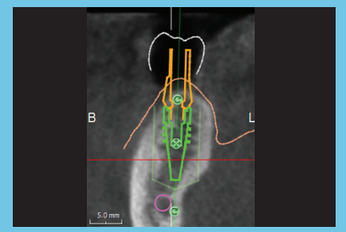


Model integrated with the CT, and virtual tooth.

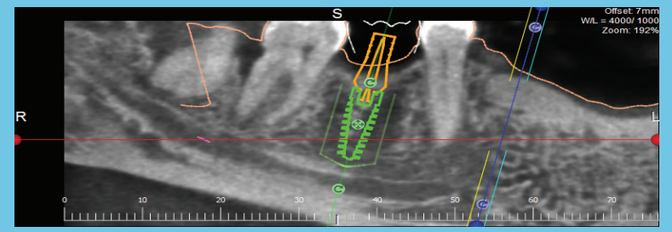


Very accurate integration of the model with the CT.

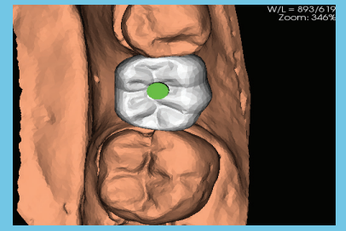
CLINICL CASE 14



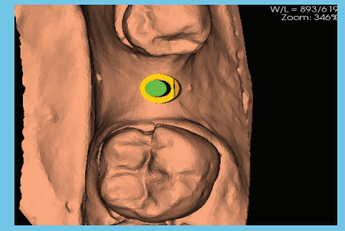
Sagital section showing implant in relation to bone, nerve, gingival tissue and crown.



Panoramic view of planned implant positon.



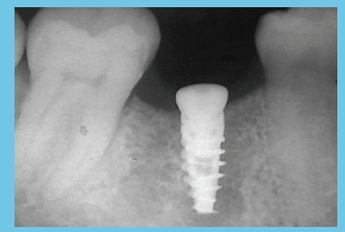
Occlusal view of implant position in tooth.



Implant position in crestal bone.

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

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

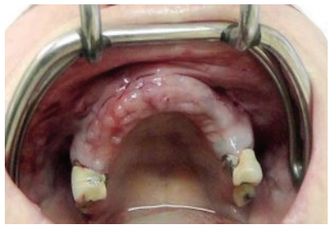


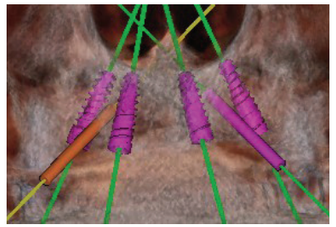
Post-operative xray.

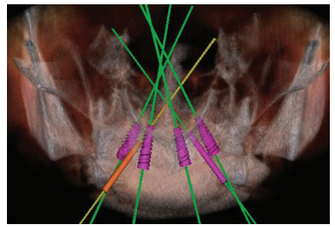
RESTORATION OF MAXILLA WITH 4 IMPLANTS

Dr. Joshua Keren

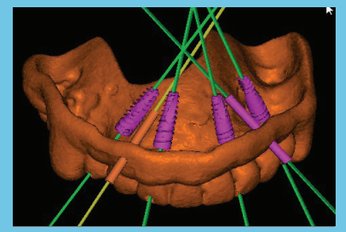
Resoration of Maxilla with 4 Implants, with 2 Angled implants to avoid bone augmentation.
The patient requested a fixed restoration instead of her removable prosthesis. She was not prepared to undergo additional surgeries.
The temporary prosthesis was in position immediately after implant placement.


Before-Missing teeth 15-25


Planning with ABGuidedService

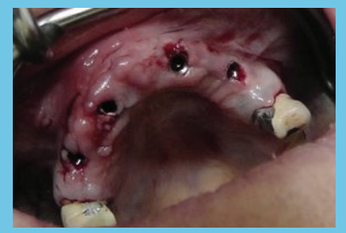


CLINICL CASE 15


Virtual AB Guide with planned Implant Position


AB Guide in position


4 AB I5 Implants placed through the AB Guide


Flapless Surgery-after implant insertion


4 AB Multiunit Abutments with Sleeves


Temporary bridge made before surgery from the planning


Immediate Smile!

SURGICAL GUIDE AS A SOLUTION FOR A COMPLICATED CASE REQUIRES TEMPORARY AESTHETIC RESTORATION

Dr. Gustavo Yatzkaier

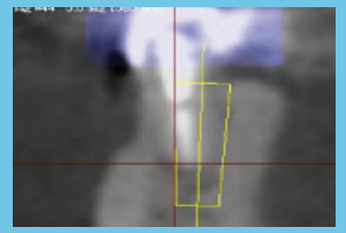
Patient (F, 48) referred for tooth extraction 44-48 and four immediate implants 44-45-46-47. The patient indicated her preference for a temporary aesthetic solution, but declined a removable partial denture.
Inspection of initial CT (Fig. 1) and consultation with her oral rehabilitation doctor indicated buccal plate deficiency, and the decision was made to perform a staggered treatment:
Stage 1: Extractions 44-48, placing 4 immediate implants 44-45-46-47.
For implants 45-46-47, immediate loading will be applied. Implant 44 will remain unexposed due to the need for a bone transplant. Rehabilitation with a temporary bridge on implants, including dental pontic 44.
Temporary rehabilitation to be performed without buccal contact.
Stage 2: Exposing implant 44 after three months.

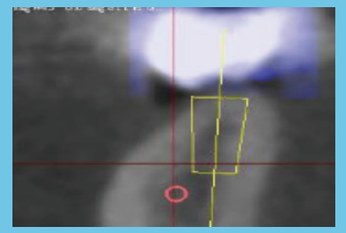
Clinical view with bridge before procedure.

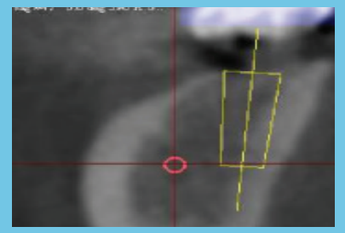
After extractions 44-48.

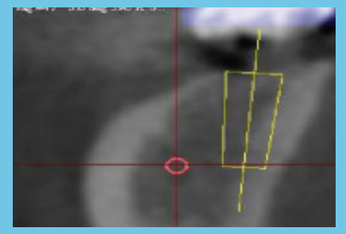
CLINICL CASE 16

AB GUIDED SERVICE PLAN

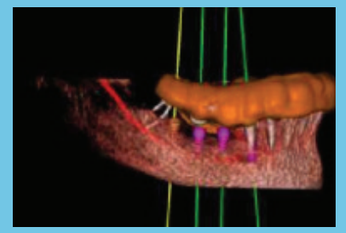


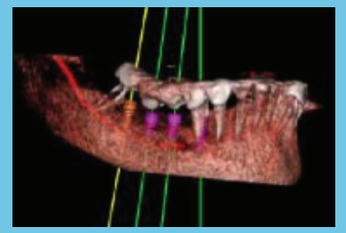


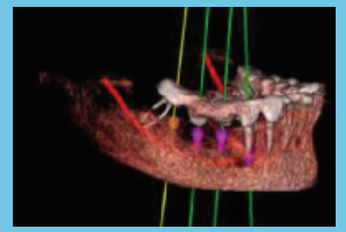


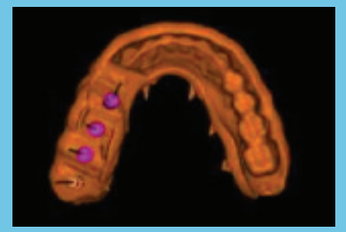


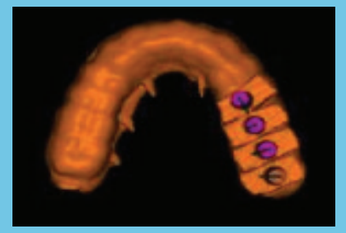
The Sagi Hal Images for all implants





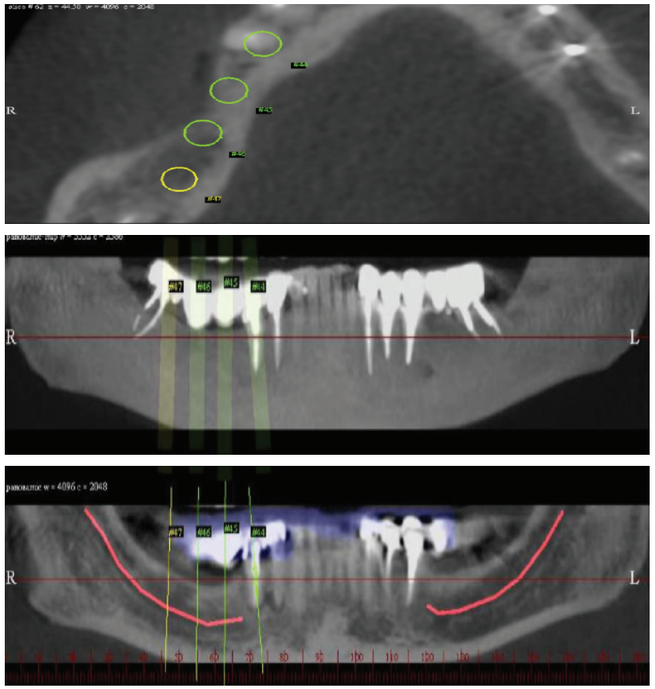






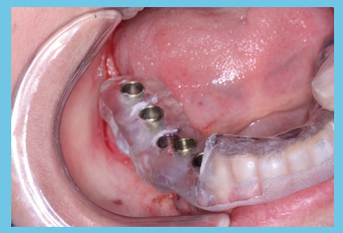
AB Guided Service plan.

CLINICL CASE 16

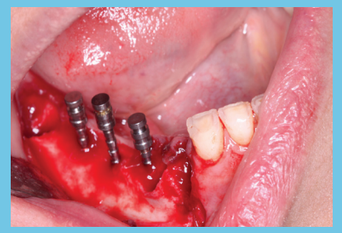


AB Guided Service plan.

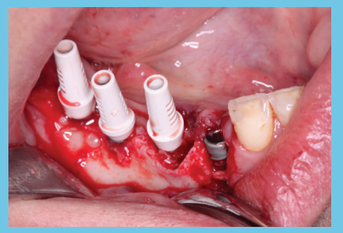
CLINICL CASE 16



Pre-op testing of buccal tube.



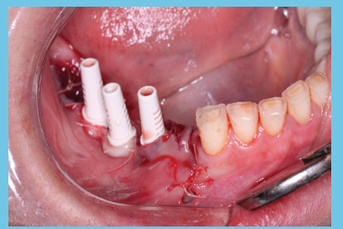
View of 3 parallel implant pins in the 45-46-47 zone after initial drilling with pilot drill.



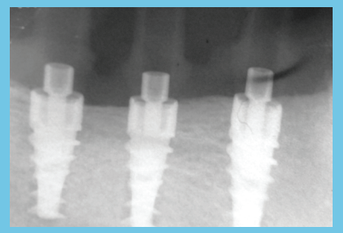
View of implant 44 in need of augmentation and implants 45-46-47 structure attachment with screws for immediate loading.

Filling implant 44 zone with human-derived bone allografts (DFDBA).

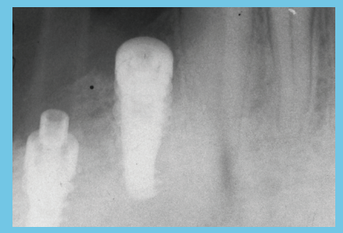
Pericardium membrane augmentation in the 44 zone.



After closing the flap.



Post-op periapical X-rays.



3-month follow-up after exposure of implant 44.

Following exposure of implant 44.

NARROW IMPLANT AS A SOLUTION FOR EDENTULISM IN LIMITED SPACE FOLLOWING ORTHO TREATMENT.

Dr. Gustavo Yatzkaier

GENERAL DESCRIPTION:

Patient (72, F) had undergone hip replacement and suffered from osteoporosis, which is treated with Fosalan. CTX test is normal.

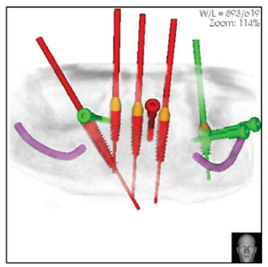
She was referred by her rehabilitation doctor for implants in her lower jaw, with some root residue, two implants in the 3435- area are permanently rehabilitated. Orthodontic treatment was recommended, but the patient declined.

CHALLENGE:

An elderly patient who takes bisphosphonates, with limited bone mass and a problematic bone angle, which makes it difficult to predict reasonable rehabilitation results.

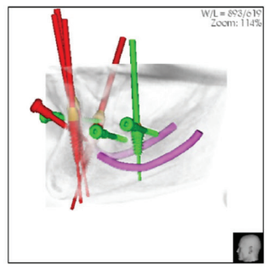
TREATMENT PLAN:

Using AB Guided Service software to allow the extraction of teeth and the precise placement of immediate implants, taking the limited amount of bone into account, as distally as possible, in order to achieve permanent restoration with an acceptable risk level, and overcoming the problematic angle of the bone in the front part of the lower jaw.

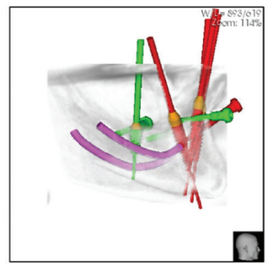


Frontal view

Occlusal view

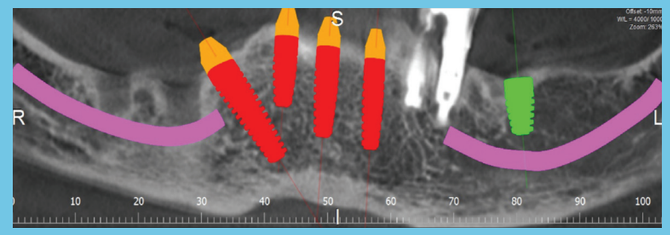


Left view



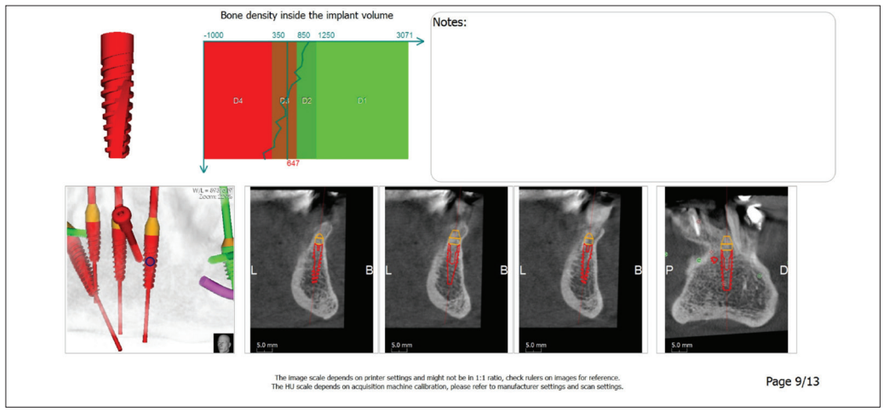
Right view

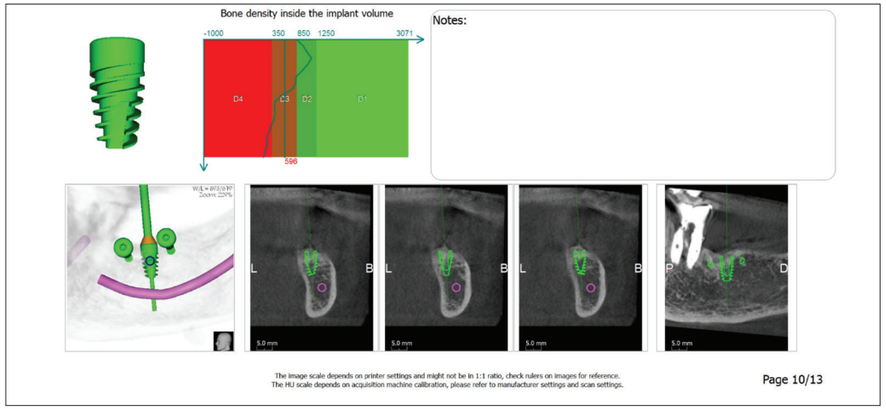
CLINICL CASE 17

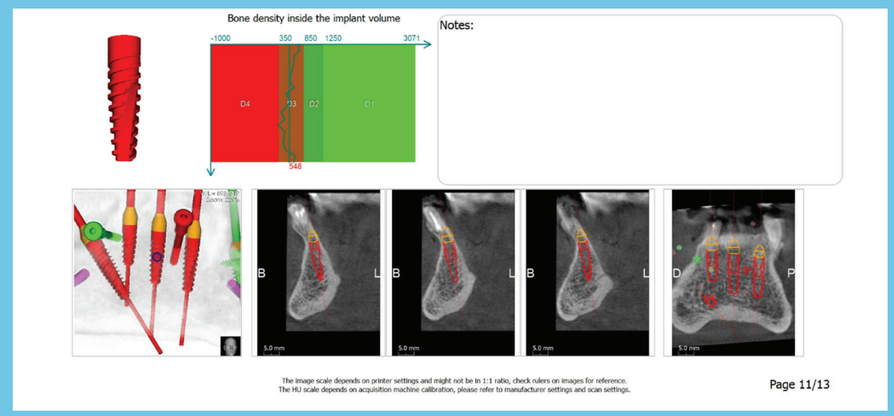


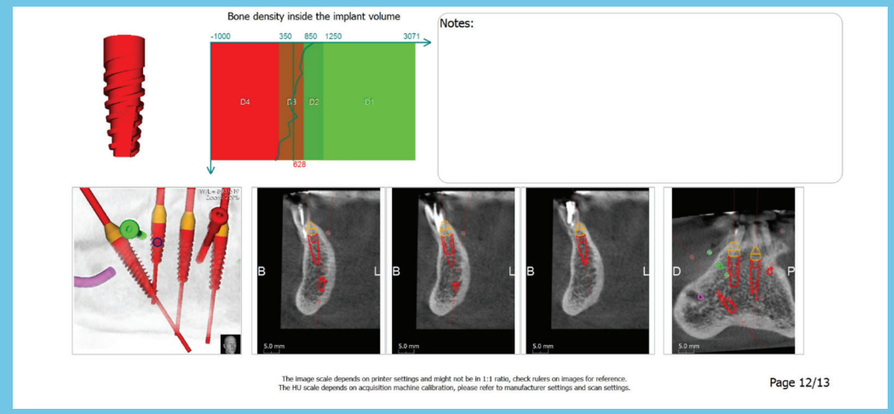
Implant	manufacture	Model	Size	Drill
32	AB Dent	I5	3.5 x 13.0mm	0
36	AB Dent	I5	4.2 x 8.0mm	0
41	AB Dent	I5	3.5 x 13.0mm	0
43	AB Dent	I5	3.5 x 10.0mm	0
45	AB Dent	I5	4.2 x 16.0mm	0

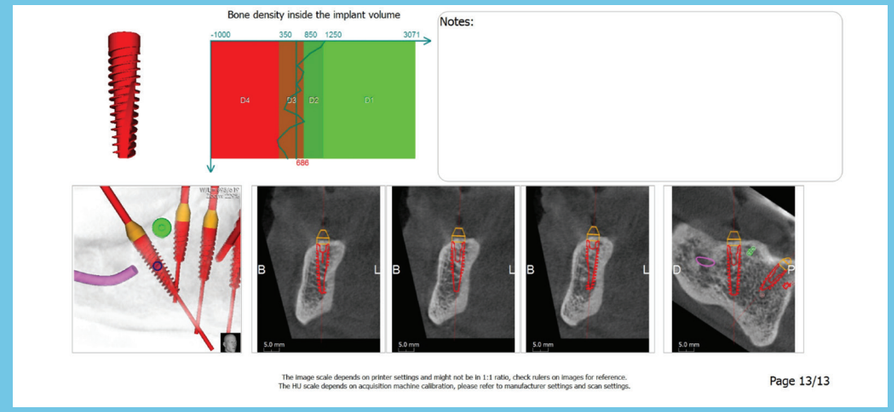
TREATMENT PROTOCOL:





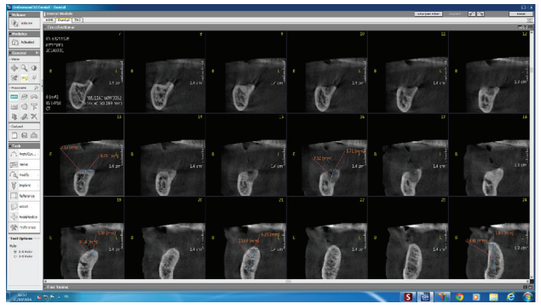


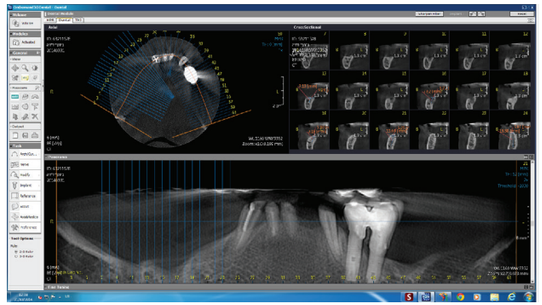


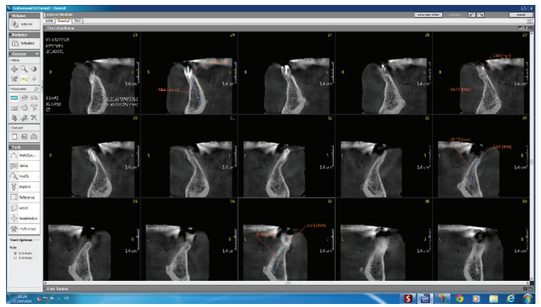


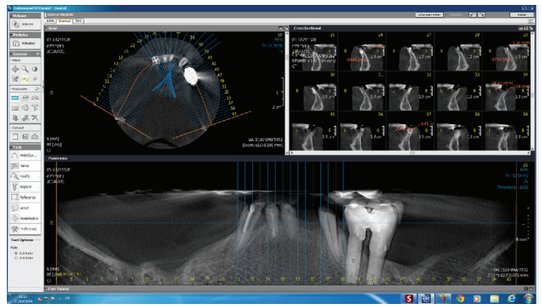
Computer Planning

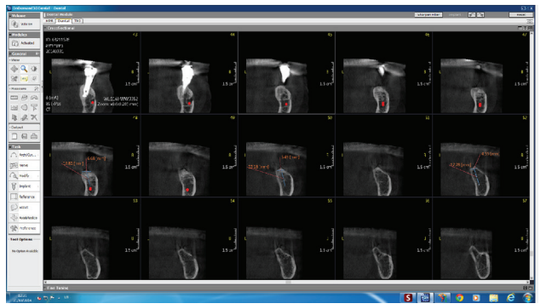
PRE-OP CT SCANS

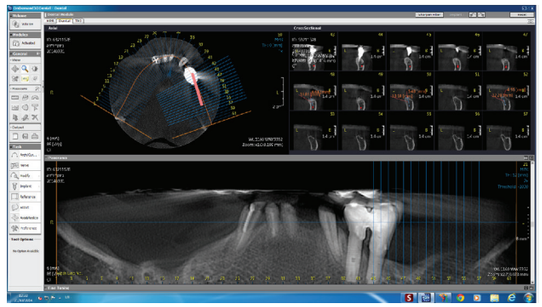






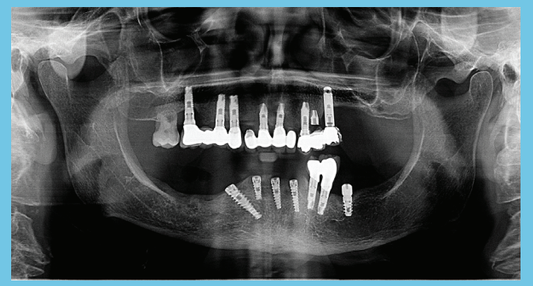






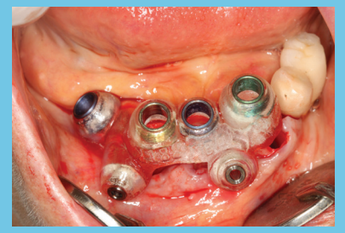
CLINICL CASE 17

PANORAMIC POST TREATMENT IMAGE



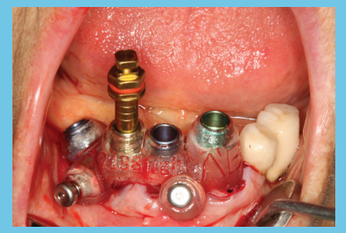
Pretreatment clinical image.

Clinical image immediately following the extraction.

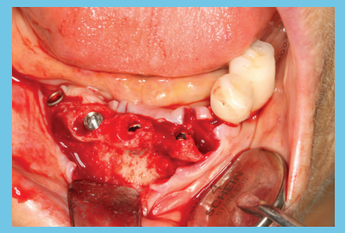


Splint placement in the oral cavity test.

Fixing the splint in place with two screws.



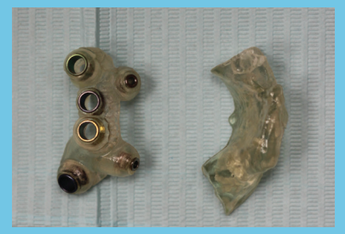
Use of a mount to precisely place the implant.



Frontal implants at the site, removing minimal bone.

Frontal implants after minimal bone removal.

Splint image.

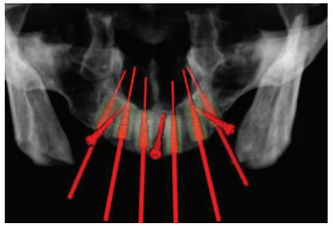


Splint and impression of the jaw.

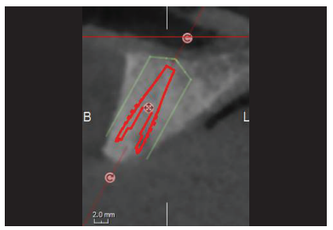
BONE SUPPORTED GUIDE IN MAXILLA WITH 6 IMPLANTS

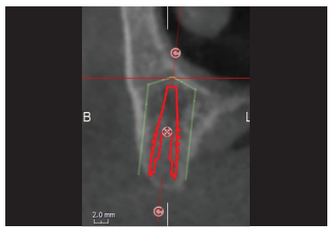
Dr. Benny Retzkin
Dr. David Ben Israel

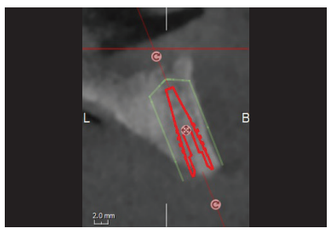
Bone supported guides require a full flap procedure, but are the most accurate. The guide has direct contact with bone, with excellent stability.
The guide sleeves are as close as possible to the bone, enabling shorter drill lengths and maximum precision.
This case was planned using only a CT. To relate 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.

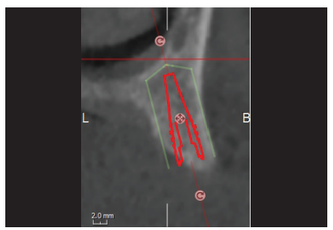


Anterior view of planning



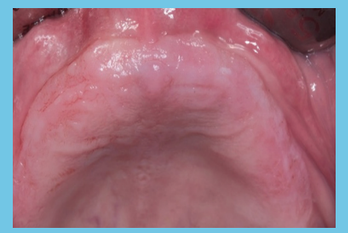




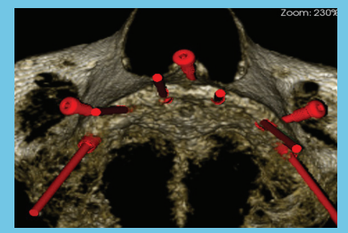


Sagital sections of each implant in 3D Planning

CLINICL CASE 18

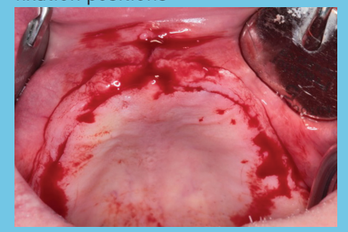


Edentulous maxilla

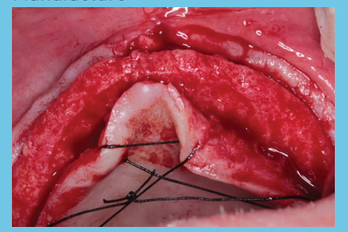


3D Occlusal view of implants and fixation positions

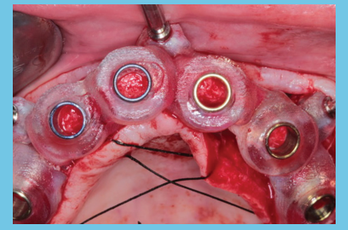
Bone Supported Guide 3D Digital Manufacture



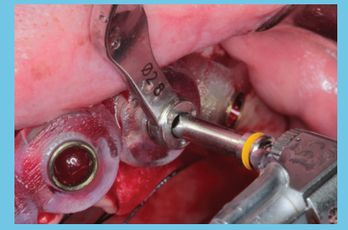
Initial incision



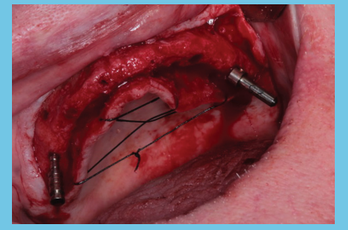
Bone exposed



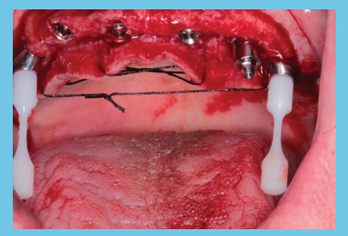
Guide in position



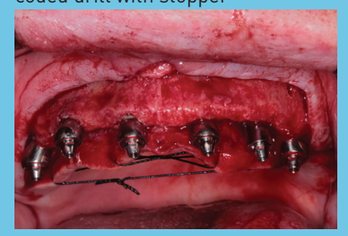
Drilling through guide with color coded drill with stopper



After osteotomy-direction of angled implants

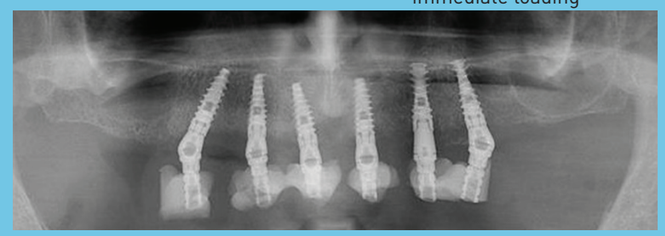


Angulation of angled abutments



Angled abutments for screw retained immediate loading

Converting denture into temporary bridge



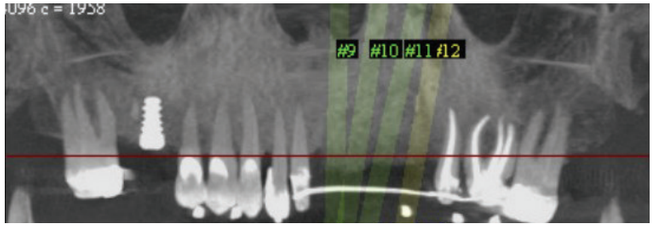
Post-Operative Pano X-ray

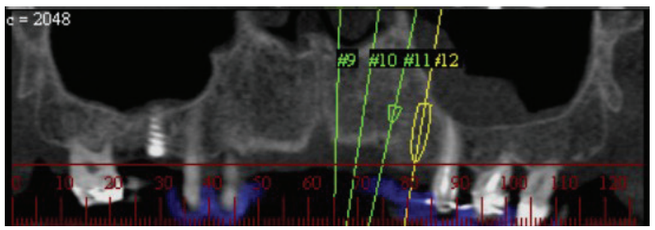
4 IMPLANTS MAXILLA WITH FULL FLAP

Dr. Ziv Simon, Beverly Hills, California

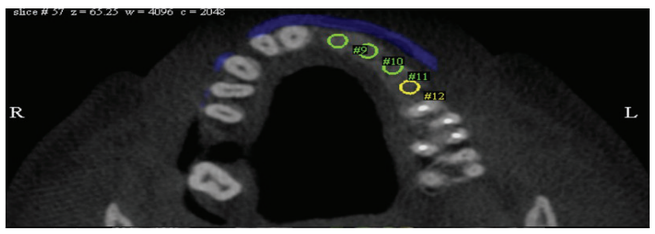
A Full Flap was opened due to the lack of attached and keratinized gingival tissue

Upper Jaw showing missing teeth



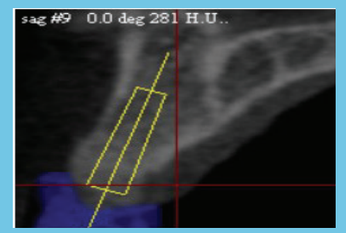


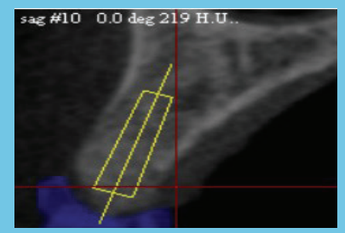
Panoramic Views of Planning

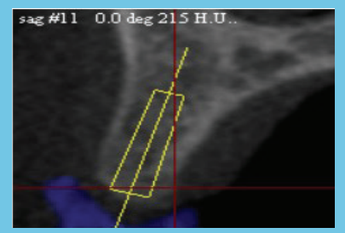


Axial View of Plan in Coronal area

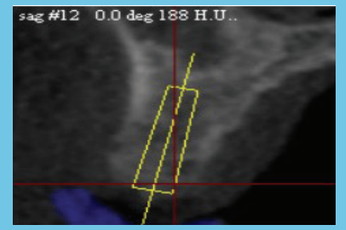
CLINICL CASE 19

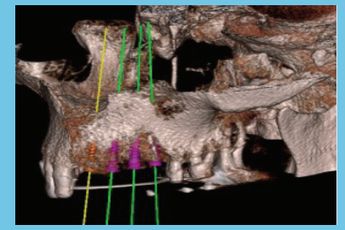


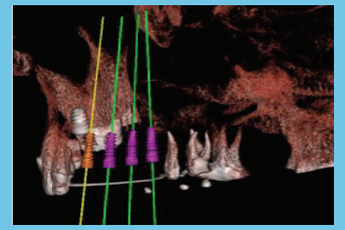




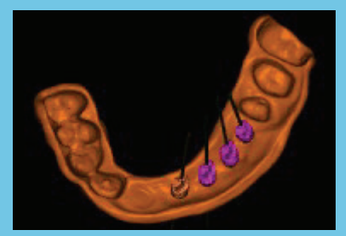
The Sagittal images for all implants

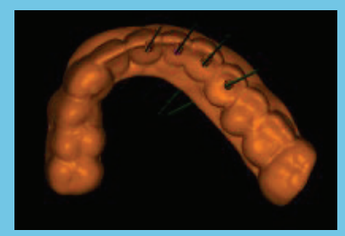


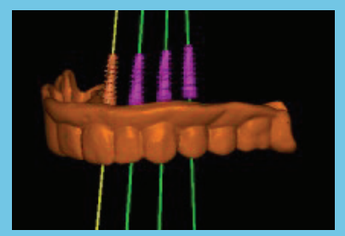




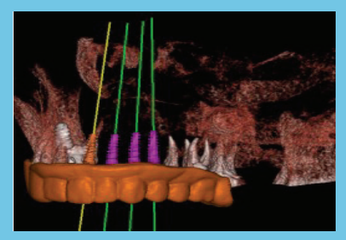
3D Images

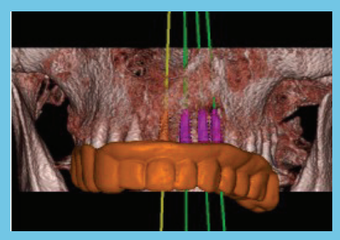






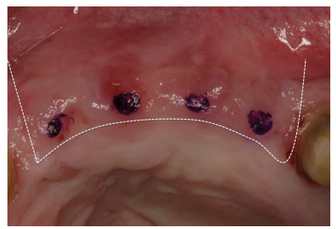
3D Images in Planning



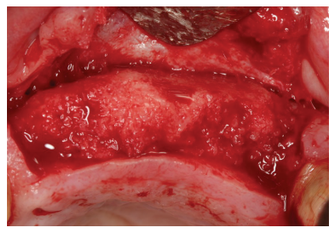


AB Guide on 3D Printed Model

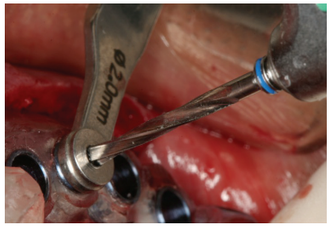
Guide in Position



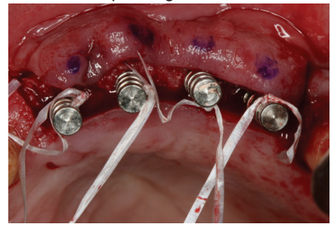
Implant positions marked using guide
Planned flap design



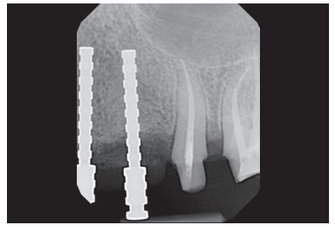
Flap opened

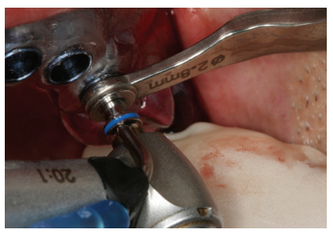


Pilot 2mm Drill-Blue 25mm



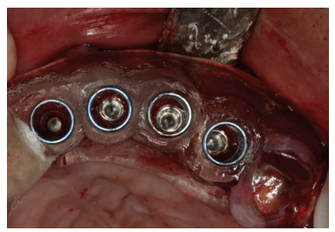
Depth Check



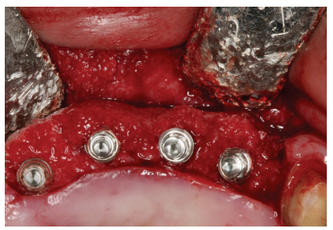


2.8 Drill Blue 25mm

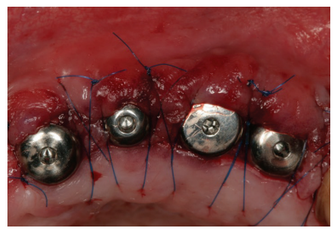
Implant through Guide



Implants Inserted

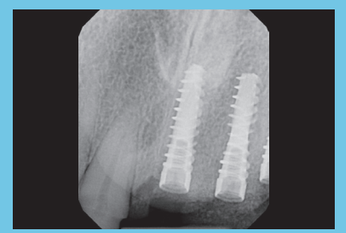


Implants in Bone



Flap Closure with Sutures

CLINICL CASE 19



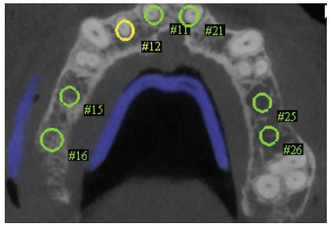
Post-Op Periapicals

Temporary Bridge

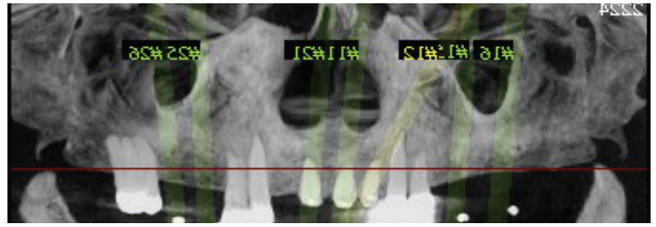
7 IMPLANTS MAXILLA

Dr. Korf Eitan

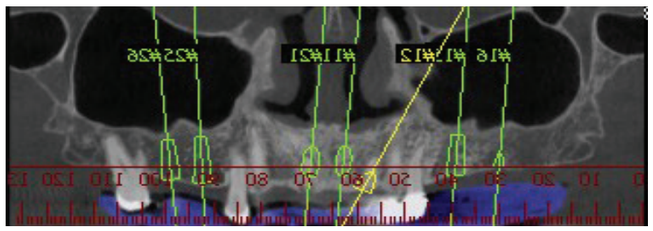
Partially Edentulous Maxilla
Flapless-except for Upper Left



Axial view of planned implant position

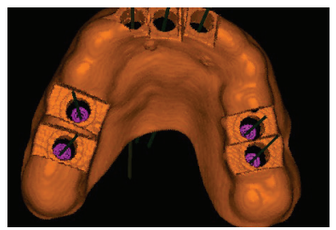


Volume panoramic view



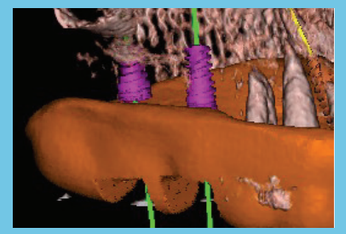
Panoramic slice

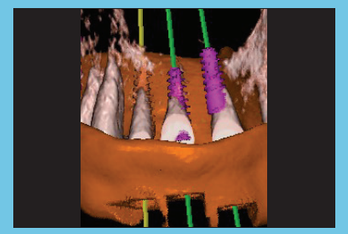
Digitally produced surgical guide with colored sleeves
The colors match the drill colors

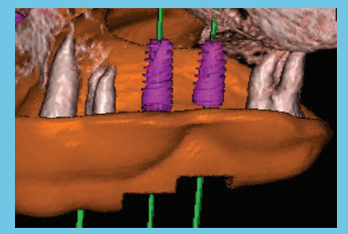


Virtual guide in 3D plan

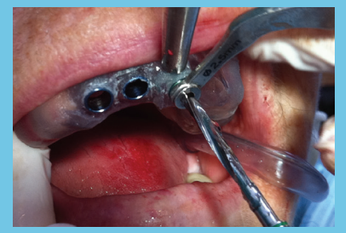
CLINICL CASE 20





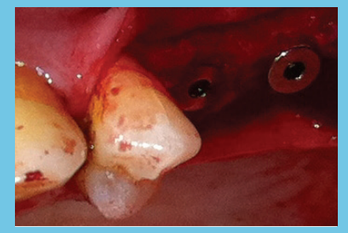


These views show the relationship of the planned implants to the teeth to be extracted, and to the Teeth remaining.



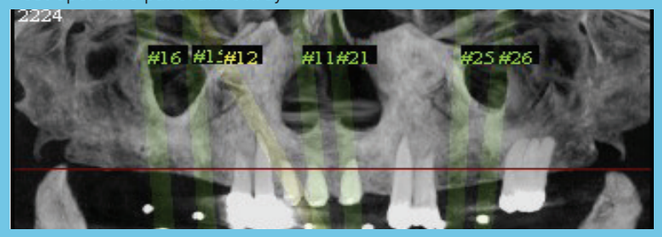
Drilling with 30mm drill and 2.5mm diameter drill tool

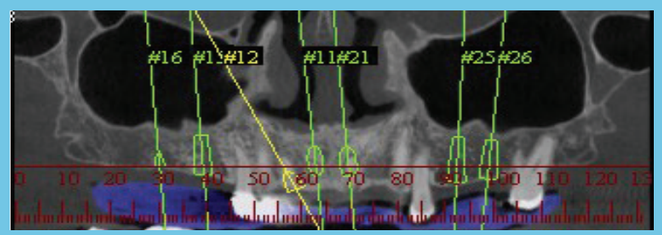
Drilling with 21mm drill and 2.5 diameter drill tool



2 implants with healing screws
A flap was opened

Post operative panoramic xray





2 panoramic views of The CT in the plan

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