

# Live surgery

Dr. Root

2019.08.30 (Fri.)

# [Case Preview]

Implantation using Digital Guide  
& Both maxillary Sinus elevation

# Patient Information

**Age** : 57y

**Sex** : Male

## Chief Complaint

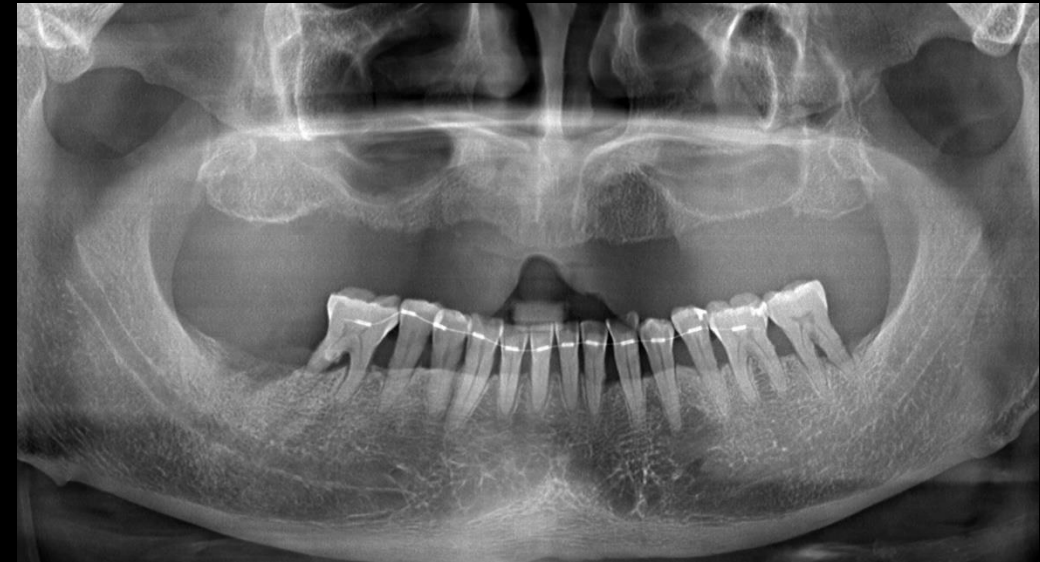
: " I have a problem chewing food.  
So, I want an implant surgery consultation"

## Past Medical History

: Cerebral infarction (Taking a aspirin)  
→ Stop taking aspirin for three days before surgery

## Past Dental History

: Extraction Anterior tooth (2017.10.09)  
Posterior tooth (2015)

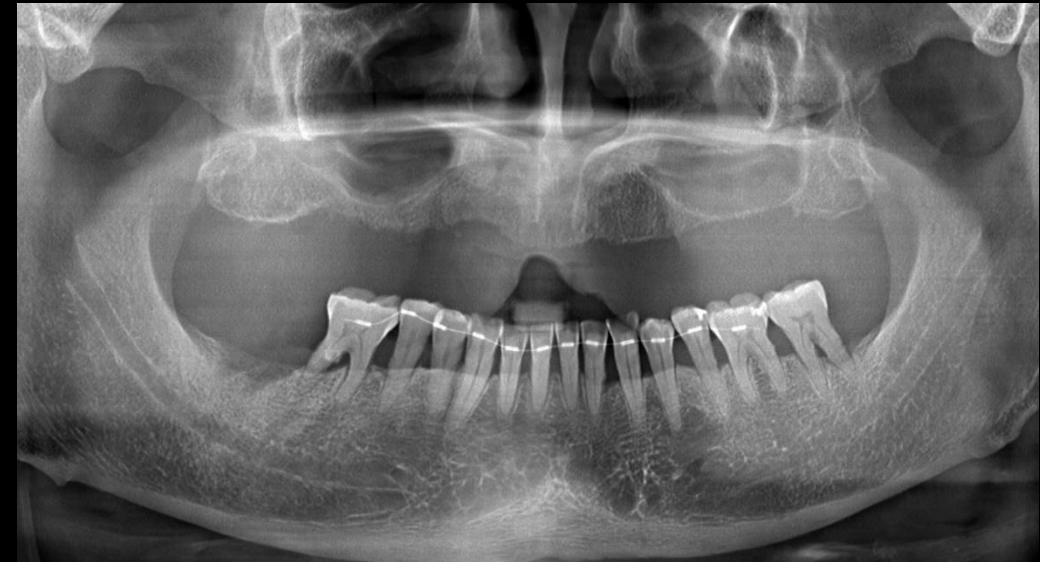




# Patient Information

## Surgery Plan

- #13,14,15,23,24,25 Implantation  
(Using Digital Guide)
- Contour augmentation on Anterior area
- Sinus elevation on Both Maxillary Posterior area
- Implantation on Palatal area  
for Temporary Denture retention





# Medication

## Antibiotics

: Three times a day

## Anti inflammatory Drugs

: Three times a day

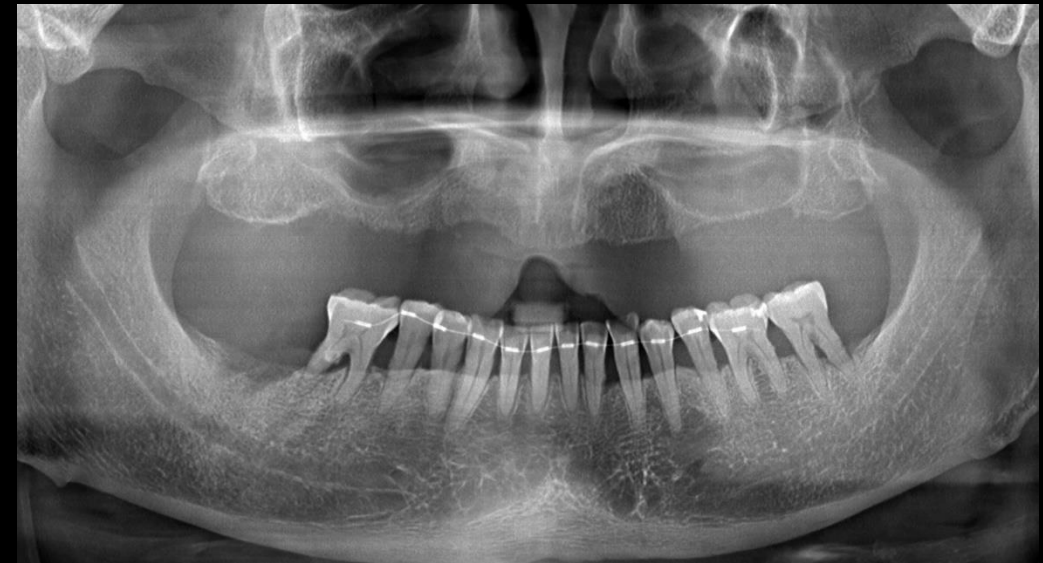
## Digestant

: Three times a day

## Chlorhexidine

: Gargle

→ Take for 7 days (Premedication 1 day)



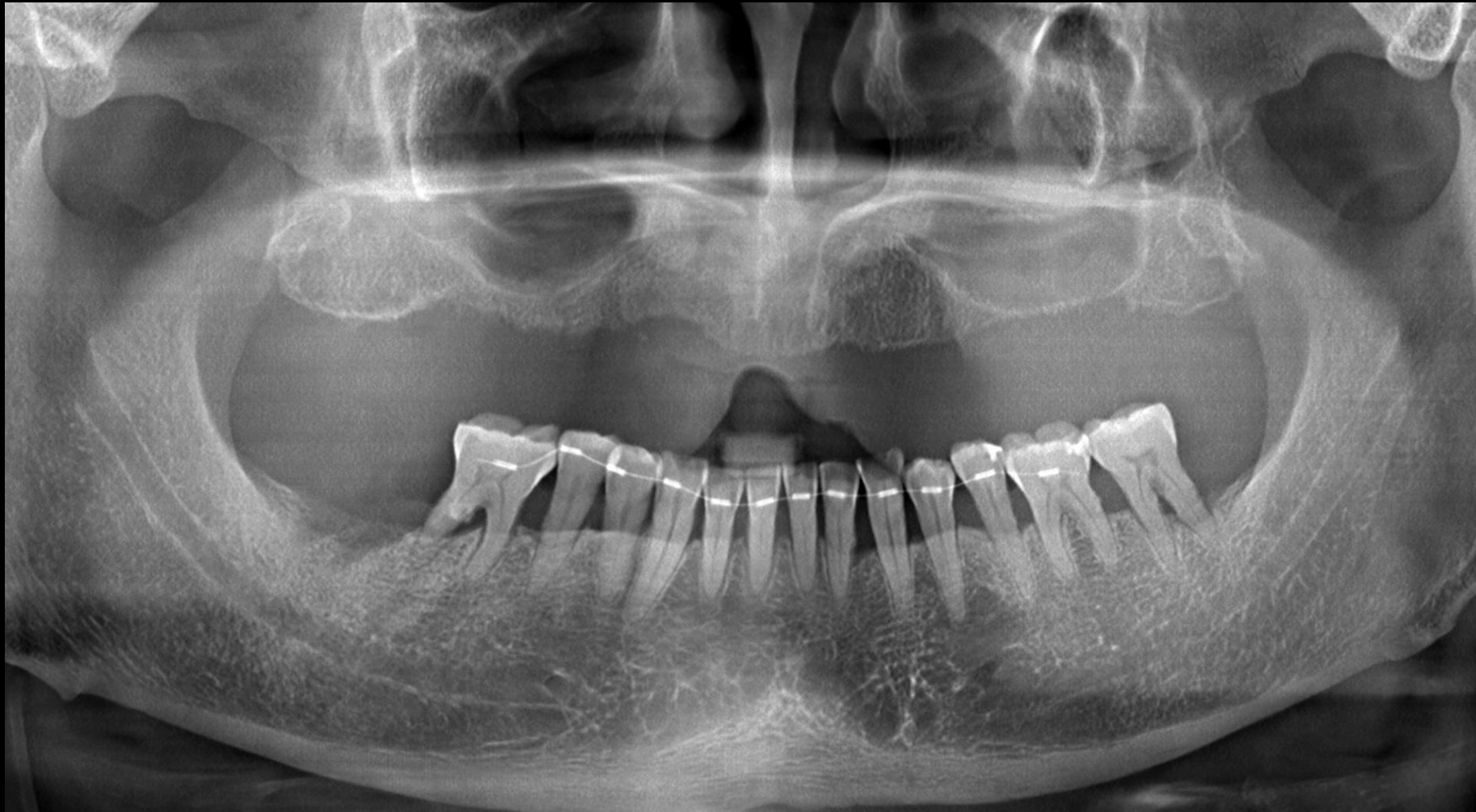
Pt. Kim (57y/M)

Oral exam (2019-08-07)



Pt. Kim (57y/M)

Pre-op (2019-08-28)





Initial Photo



Initial Photo



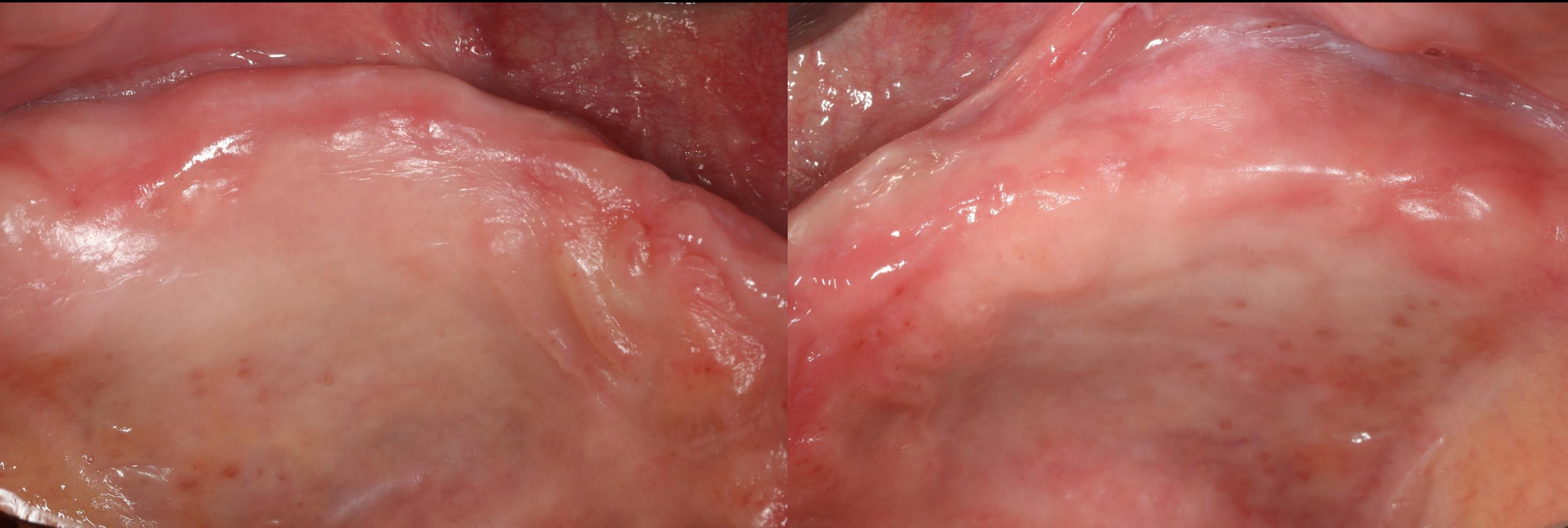


# Initial Photo

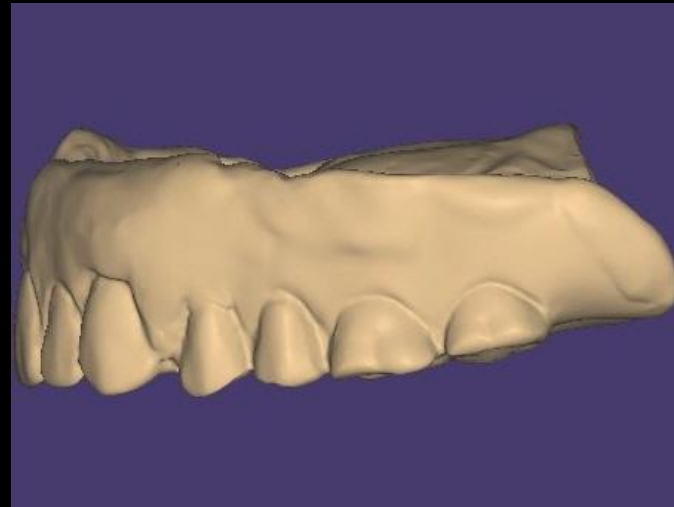
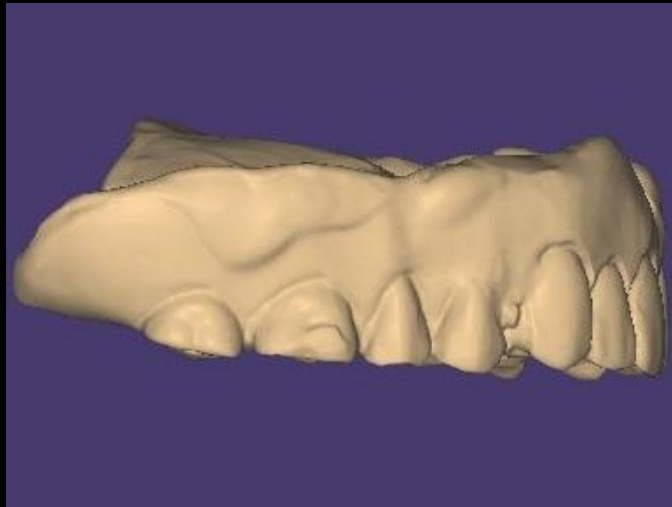
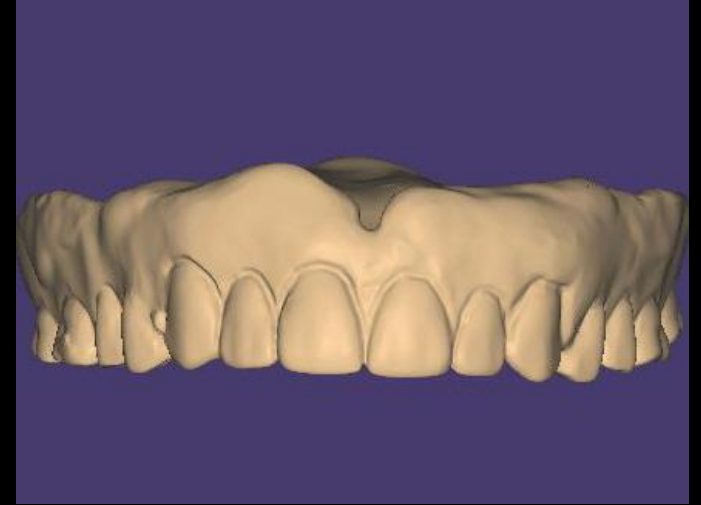
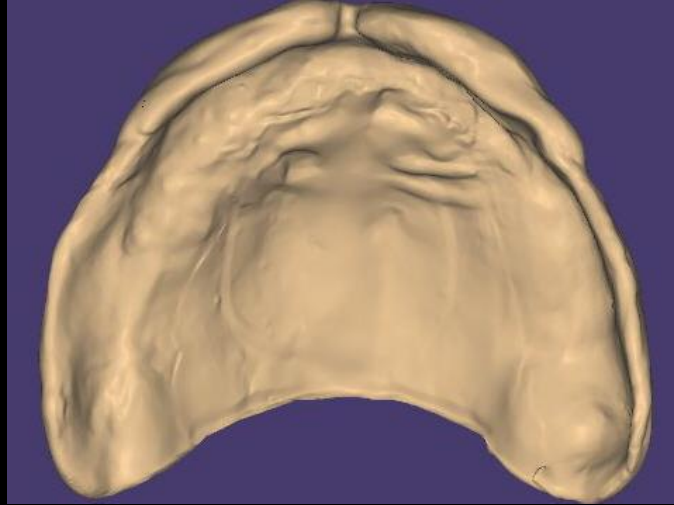
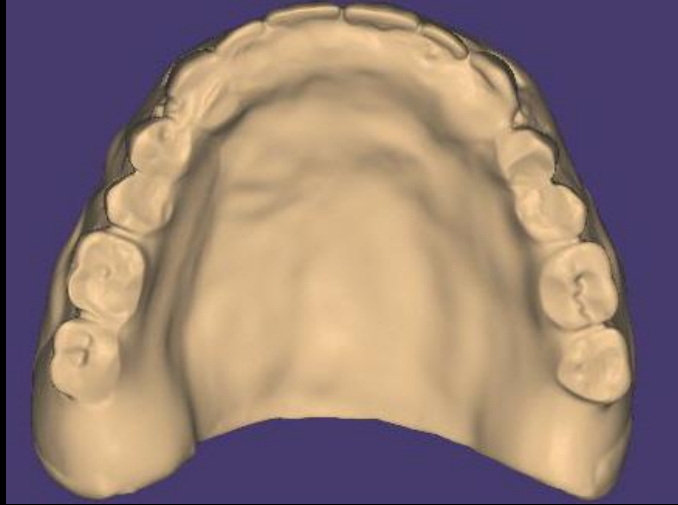




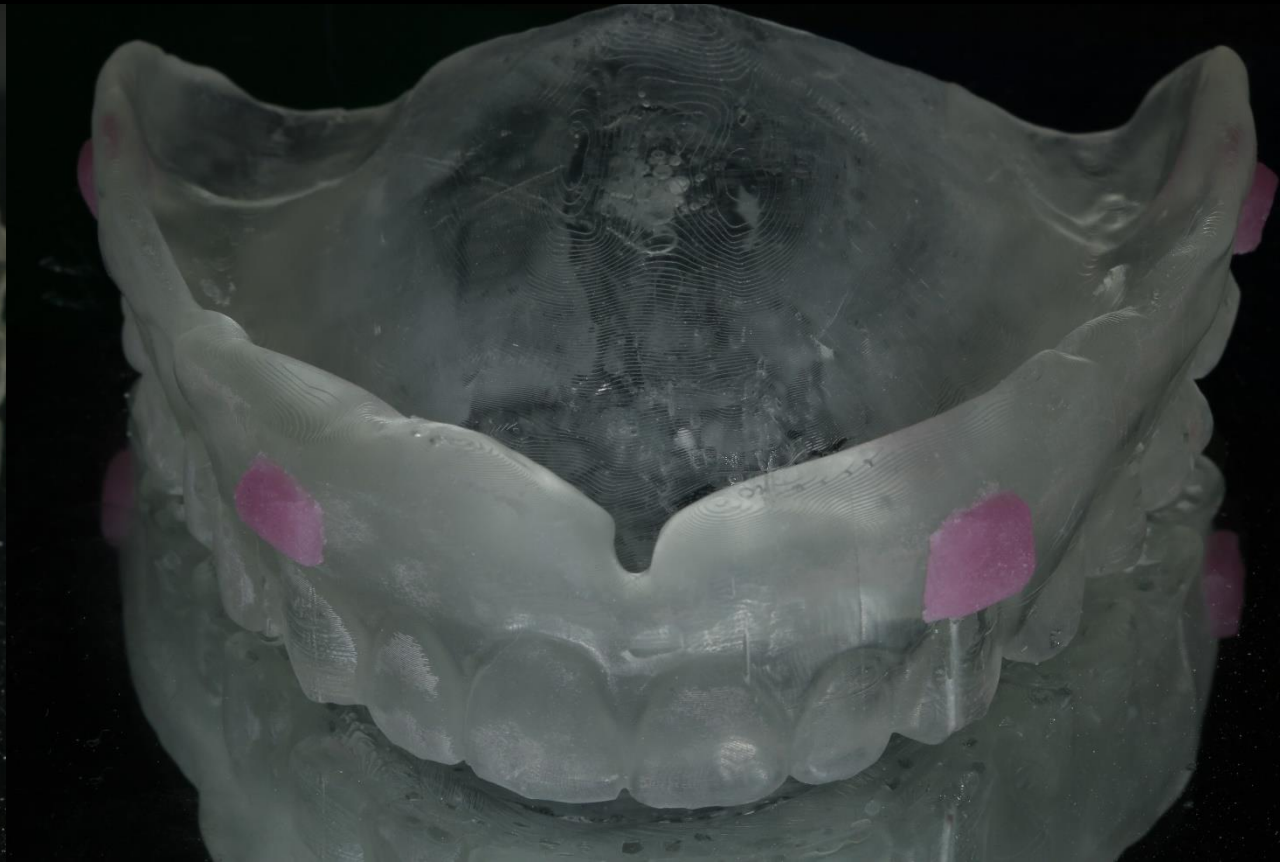
# Initial Photo



# Duplication Denture Design



# Duplication Denture (3D Printer)





# Duplication Denture adaptation



rainbow 3D Viewer

IMPLANT MPR Cross Report

Curve Info  
W 80mm  
I 0.5mm  
T 0.0mm

김흥수  
MALE  
19610813  
57  
8 [mA]  
94 [kVP]  
CT

Nerve Info  
R 1.0mm

Dis : 2.95 mm

H  
PR  
F

The image shows a 3D medical visualization of a patient's skull and mandible. The main view is a 3D reconstruction of the skull with a semi-transparent mesh overlay on the mandible. A red dashed line indicates a cross-section through the mandible. The interface includes various toolbars and panels for navigation and analysis. On the right, there is a 'Curve Info' panel with parameters: W 80mm, I 0.5mm, T 0.0mm. Below that is a 'Nerve Info' panel with 'R 1.0mm'. A central panel shows a cross-section of the mandible with a measurement 'Dis : 2.95 mm'. The bottom right corner features a 'Dentium' logo with the tagline 'For Dentists By Dentists'. The top right corner shows the software name 'rainbow 3D Viewer' and window controls. The left side has a vertical menu with 'IMPLANT', 'MPR', 'Cross', and 'Report' options. The top left corner displays the patient's name 'Pt. Kim (57y/M)' and the slide number '#16'.



rainbow 3D Viewer

IMPLANT MPR Cross Report

Curve Info  
W 80mm  
I 0.5mm  
T 0.0mm

김흥수  
MALE  
19610813  
57  
8 [mA]  
94 [kVP]  
CT

H A P R F

H A P R F

H A P R F

H A P R F

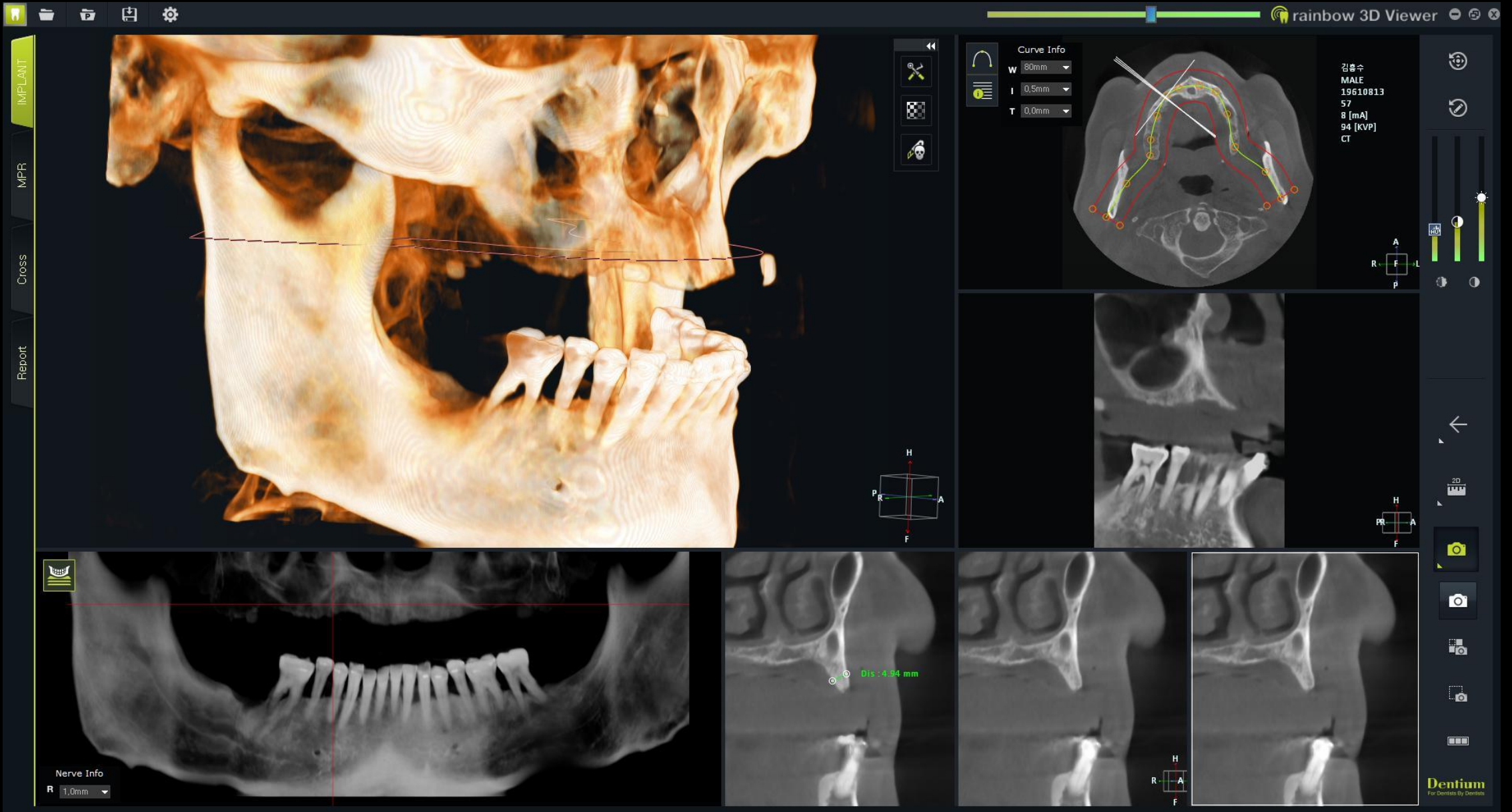
H A P R F

Nerve Info  
R 1.0mm

Dentium  
For Dentists By Dentists

The interface displays a 3D model of a patient's skull with yellow and red curves overlaid on the upper jaw. The main view is a 3D perspective of the skull. To the right, there are several panels: a 'Curve Info' panel with parameters W (80mm), I (0.5mm), and T (0.0mm); a patient information panel with details for 김흥수 (Kim Heung-su), a 57-year-old male, including his ID (19610813), scan parameters (8 mA, 94 kVp), and modality (CT); and a 2D view of an axial CT slice showing the curves in the context of the skull. Below the main view, there are three sagittal CT slices. The leftmost sagittal view shows a 'Nerve Info' panel with a value of 1.0mm. The middle and right sagittal views show a distance measurement of 4.35 mm. The interface includes various navigation and control icons on the right side, such as zoom, pan, and reset buttons.





The screenshot displays the 'rainbow 3D Viewer' interface for a patient named Kim (57y/M). The main view shows a 3D model of the skull and jaw with a red dashed line indicating a cross-section. The interface includes several panels:

- Top Left:** Navigation icons (Home, Delete, Copy, Paste, Settings) and a vertical menu with 'IMPLANT', 'MPR', 'Cross', and 'Report' options.
- Top Right:** 'Curve Info' panel with settings for W (80mm), I (0.5mm), and T (0.0mm). Below it is a 'Curve Info' table:

W	I	T
80mm	0.5mm	0.0mm

Next to it is a patient information panel:

김흥수
MALE
19610813
57
8 [mA]
94 [KVP]
CT
- Right Side:** A series of vertical sliders for adjusting the 3D model's appearance and a '2D' button.
- Bottom Left:** A 'Nerve Info' panel with a dropdown menu set to 'R' and a value of '1.0mm'. Below it is a 2D axial CT slice of the skull.
- Bottom Middle:** A 3D coordinate system with axes labeled H (Head), A (Anterior), F (Foot), and R (Right).
- Bottom Right:** A series of sagittal CT slices showing the jawbone. One slice has a green measurement label 'Dis - 5.39 mm'. A 3D coordinate system with axes labeled H, R, A, and F is also present.
- Bottom Far Right:** A vertical toolbar with icons for camera, zoom, and other functions, and the 'Dentium' logo.



The screenshot displays the rainbow 3D Viewer interface for a patient named Kim (57y/M). The main window shows a 3D reconstruction of the skull and jaw, with a semi-transparent orange mesh overlaying the bone structure. A red dashed line indicates a measurement or path across the jaw. The interface includes several panels and toolbars:

- Top Bar:** rainbow 3D Viewer logo and window controls.
- Left Panel:** Navigation and analysis tools including IMPLANT, MPR, Cross, Report, and a settings gear.
- Curve Info Panel:** Parameters for a selected curve: W: 80mm, I: 0.5mm, T: 0.0mm.
- Top Right Panel:** Patient information: 김흥수, MALE, 19610813, 57, 8 [mA], 94 [kVP], CT. Includes a directional crosshair (A, P, R, L).
- Bottom Left Panel:** Nerve Info panel showing a measurement of 1.0mm.
- Bottom Right Panel:** A grid of axial, sagittal, and coronal CT slices. One sagittal slice shows a measurement of Dis: 6.38 mm. Includes a directional crosshair (H, L, P, F).
- Right Panel:** A vertical toolbar with various icons for navigation and analysis.



rainbow 3D Viewer

IMPLANT MPR Cross Report

Curve Info  
W 80mm  
I 0.5mm  
T 0.0mm

김흥수  
MALE  
19610813  
57  
8 [mA]  
94 [kVP]  
CT

Dis : 5.82 mm

Nerve Info  
R 1.0mm

Dentium  
For Dentists By Dentists

rainbow 3D Viewer

IMPLANT MPR Cross Report

Curve Info  
W: 80mm  
I: 0.5mm  
T: 0.0mm

김흥수  
MALE  
19610813  
57  
8 [mA]  
94 [KVP]  
CT

Nerve Info  
R: 1.0mm

Djs: 3.03 mm

Dentium  
For Dentists By Dentists

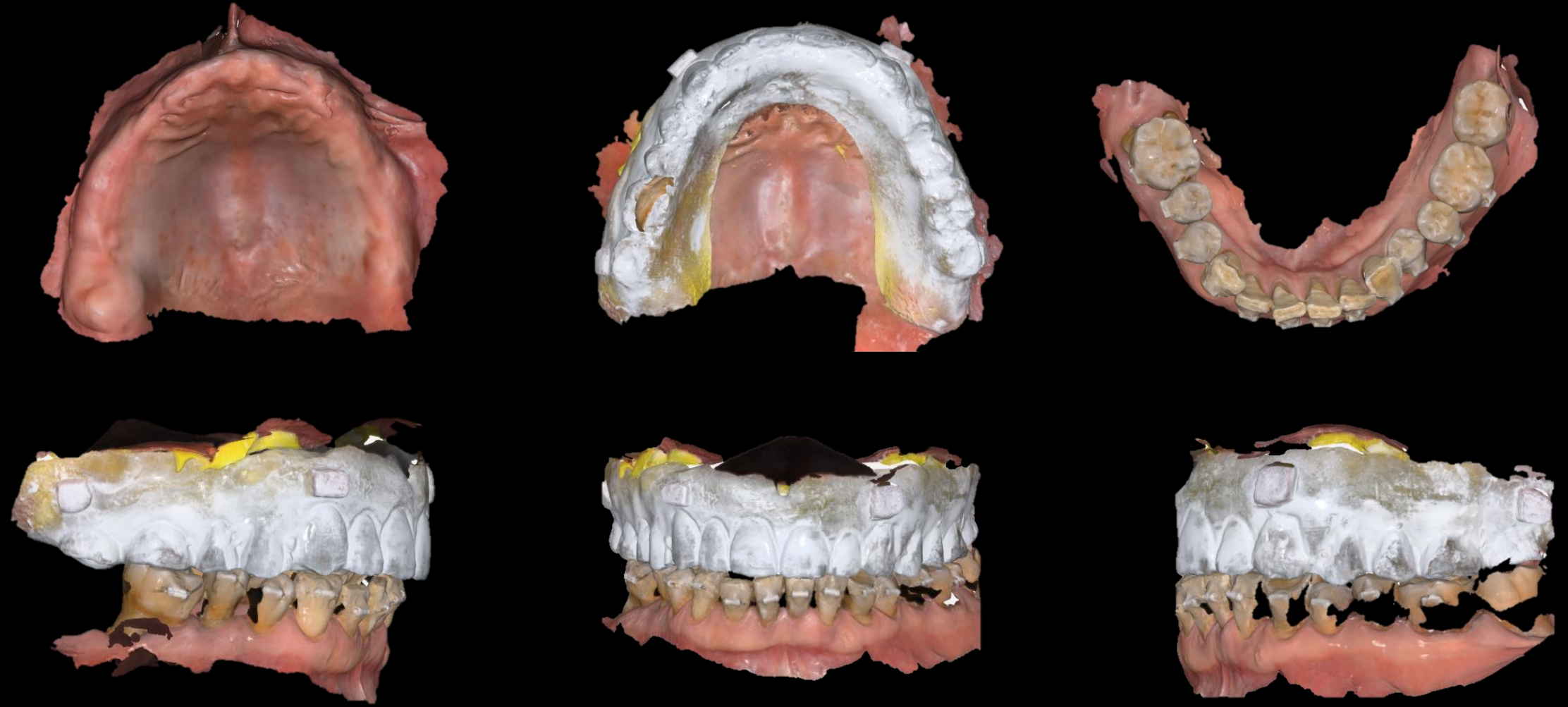


The screenshot displays the rainbow 3D Viewer interface for a patient named Kim (57y/M). The main window shows a 3D reconstruction of the skull and jaw, with a semi-transparent mesh overlaid on the mandible. The interface includes several panels and toolbars:

- Top Bar:** rainbow 3D Viewer logo and window controls.
- Left Panel:** Navigation and tool options including IMPLANT, MPR, Cross, Report, and a home button.
- Top-Right Panel:** Curve Info with parameters: W: 80mm, I: 0.5mm, T: 0.0mm. It also displays patient information: 김흥수, MALE, 19610813, 57, 8 [mA], 94 [KVP], CT. A directional crosshair (A, P, R, L) is visible.
- Bottom-Left Panel:** Nerve Info with a dropdown menu set to R 1.0mm.
- Bottom-Right Panel:** A series of axial and sagittal CT slices. One slice shows a measurement of Dis: 1.25 mm. A directional crosshair (H, F, P) is present.
- Right Panel:** A vertical toolbar with various icons for navigation and viewing, including a camera icon and a 2D/3D toggle.



# Intra Oral Scanning

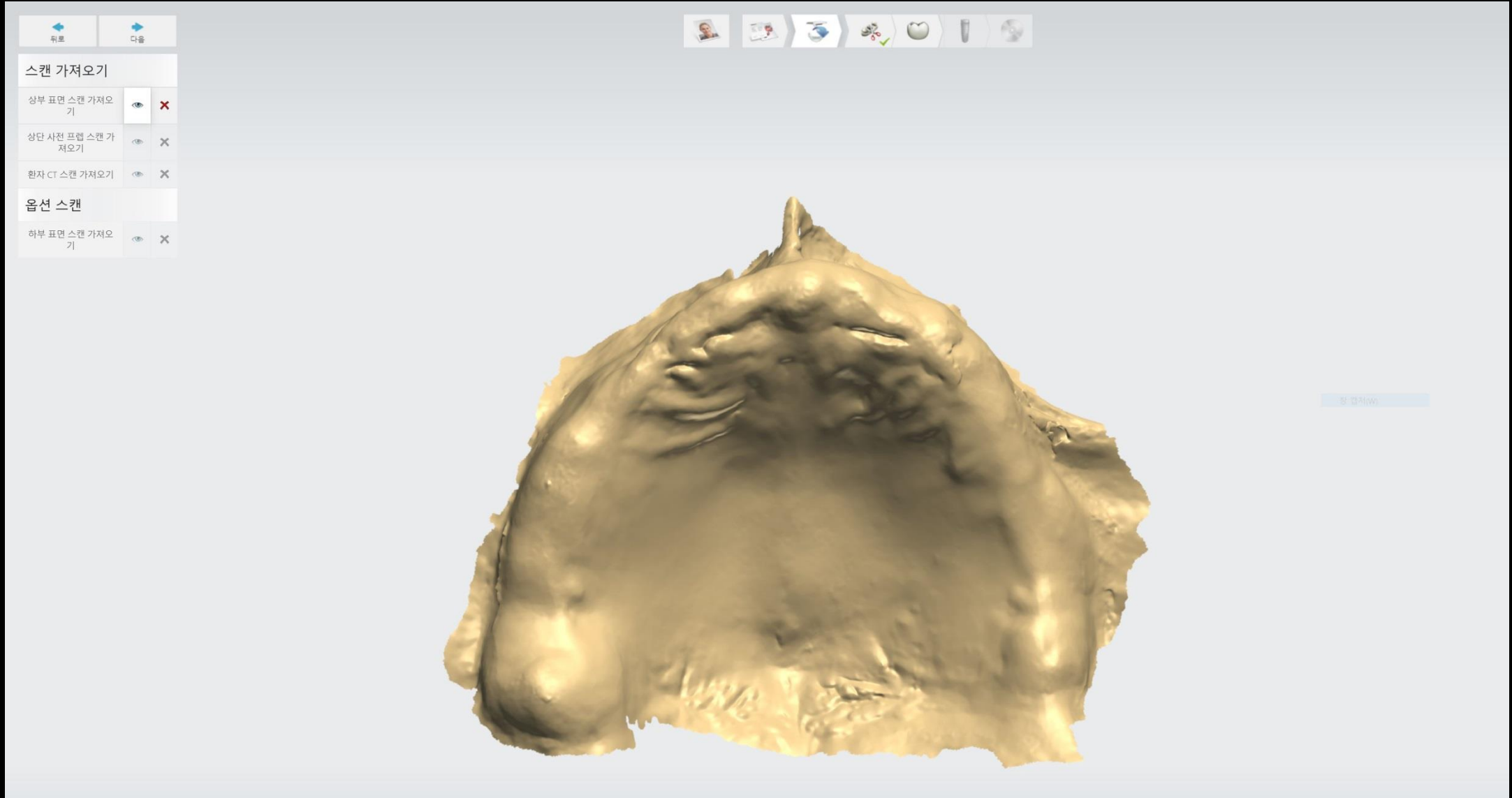


# Digital Guide (Planning)

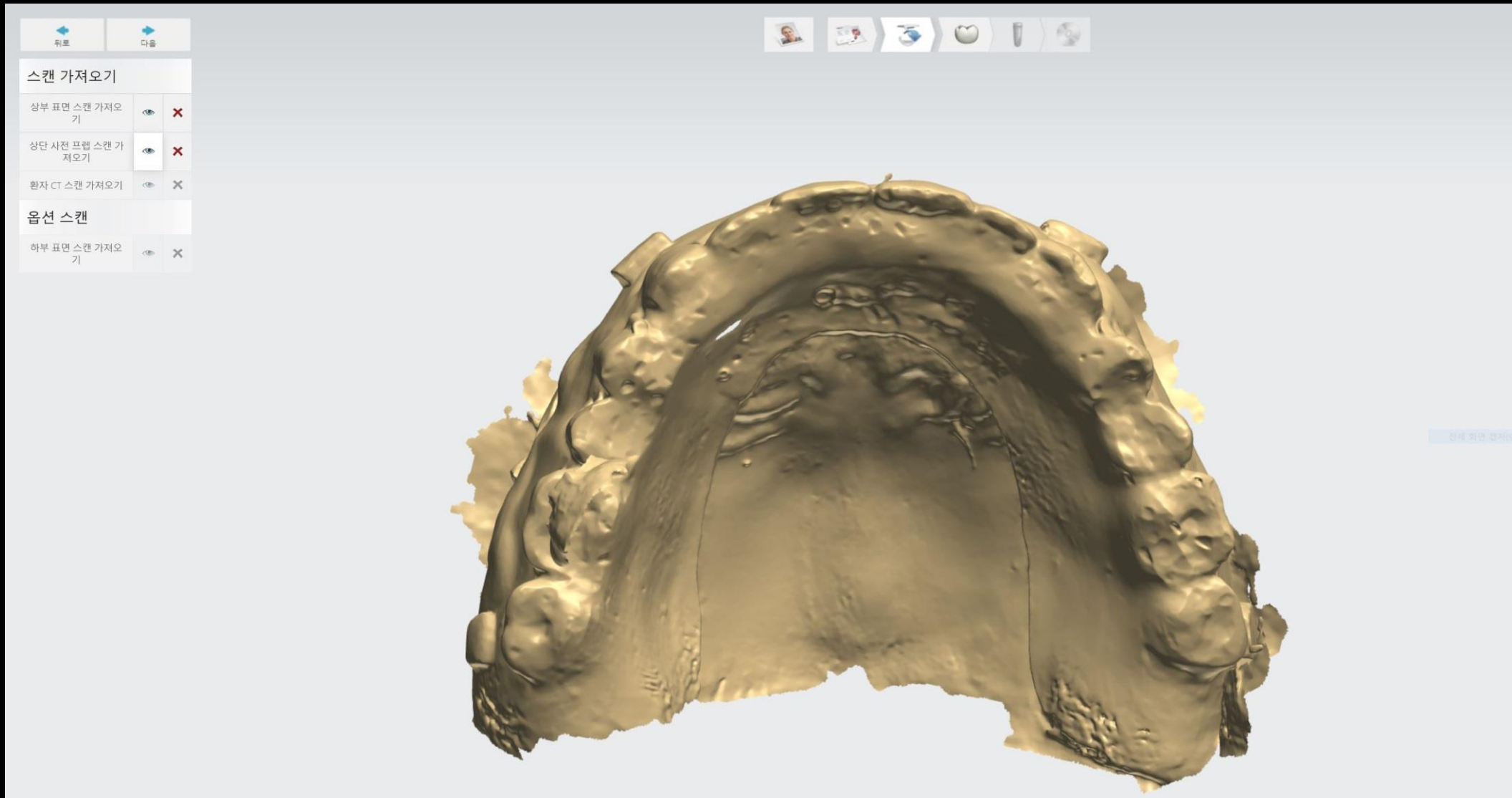
The screenshot displays a dental software interface for digital guide planning. The central focus is two 3D models of dental arches. The upper arch (maxilla) is shown in a light purple/pinkish hue, with teeth numbered 11 through 28. The lower arch (mandible) is shown in a reddish-pink hue, with teeth numbered 32 through 48. A central brown structure, likely representing a dental arch or implant support, is visible in the upper arch model. The interface includes a top toolbar with navigation and tool icons, a left sidebar with a menu of dental procedures (e.g., In-house, 해부, 어버트먼트, 브리지, 임플란트 계획, 스캔만, 스마일 디자인), and a right sidebar with patient information (김홍수 헬치과), a search bar, and a case summary (케이스 개요) listing items like '브리지 16,26', '임플란트 계획 16, 15, 14, 13, 1', and '수술 안내서 16,26'. The 3shape logo is located in the bottom right corner.



# Digital Guide (Intra oral Scanning Data)

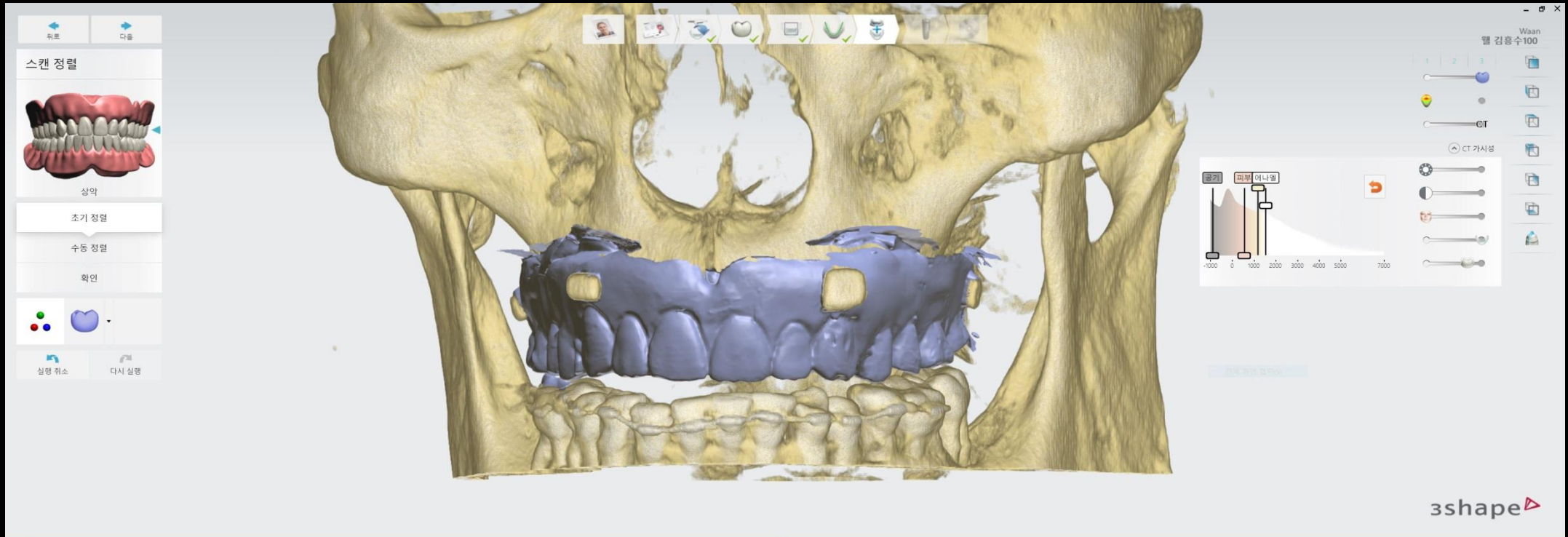


# Digital Guide (Duplication Denture Scanning Data)





# Digital Guide (3 Point Merging)

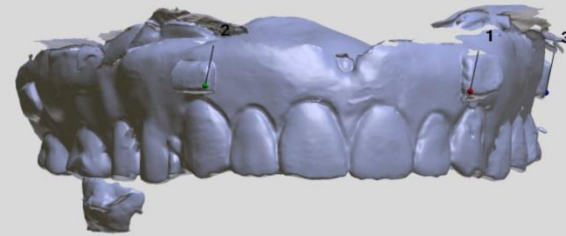


3shape

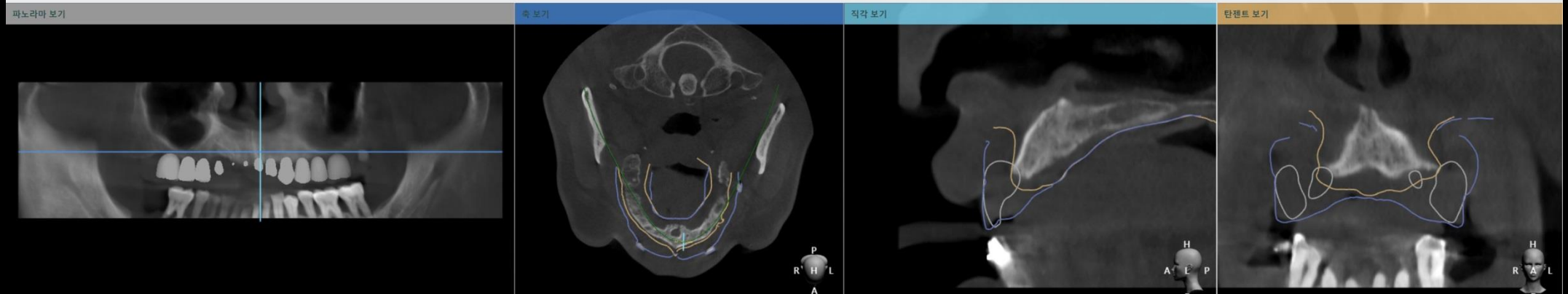
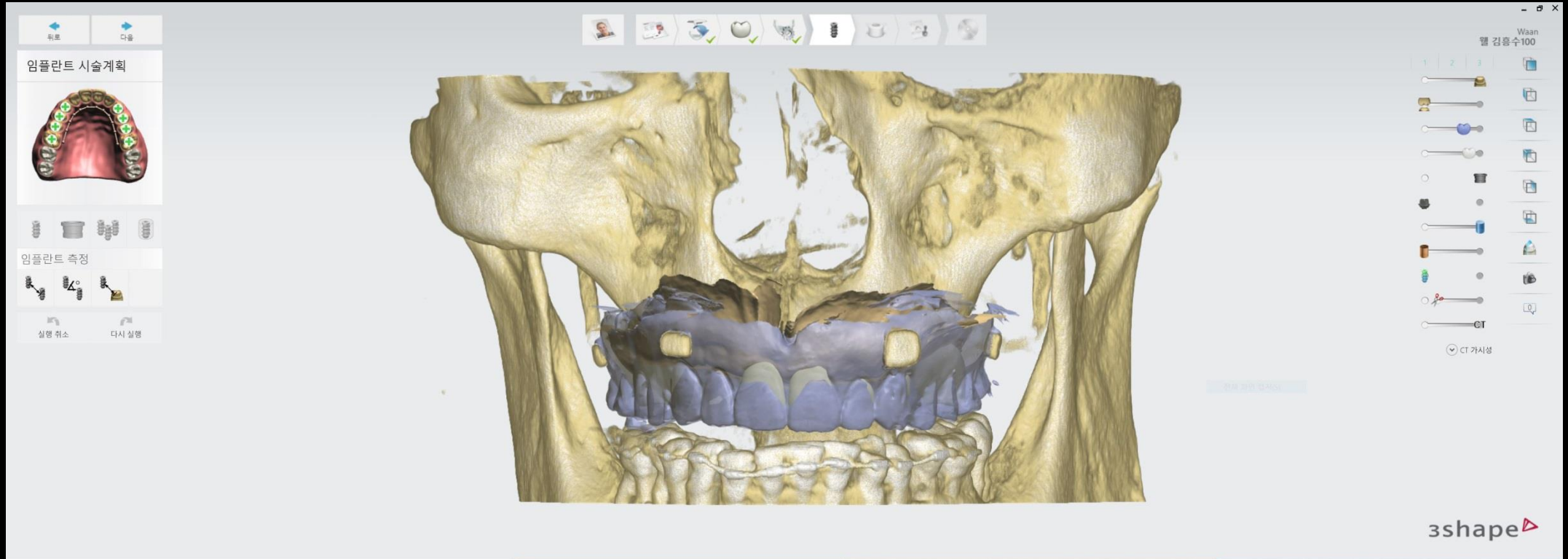
CT - 3D



표면 스캔 - 3D

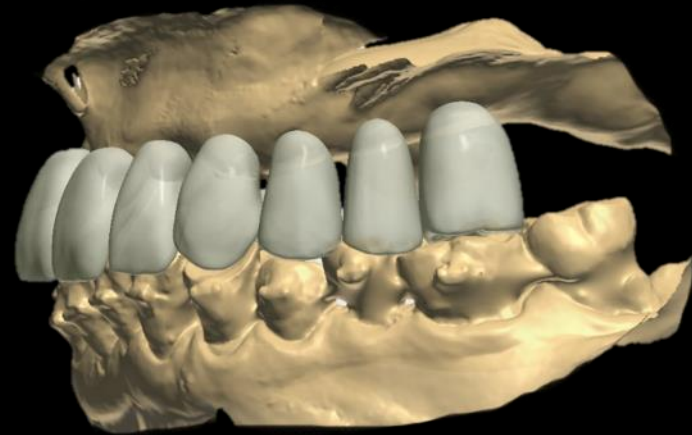
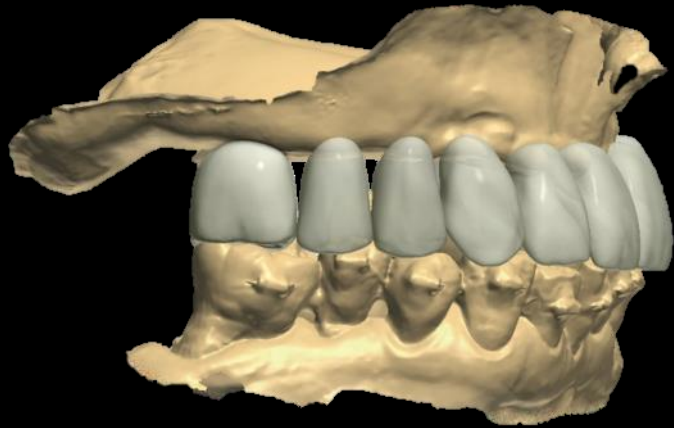
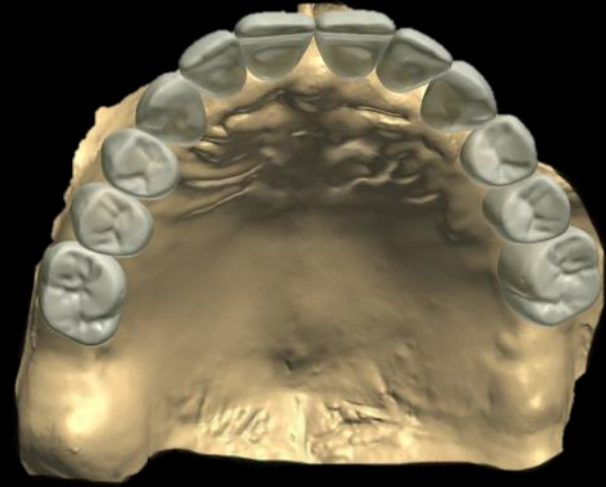


# Digital Guide (Merging)

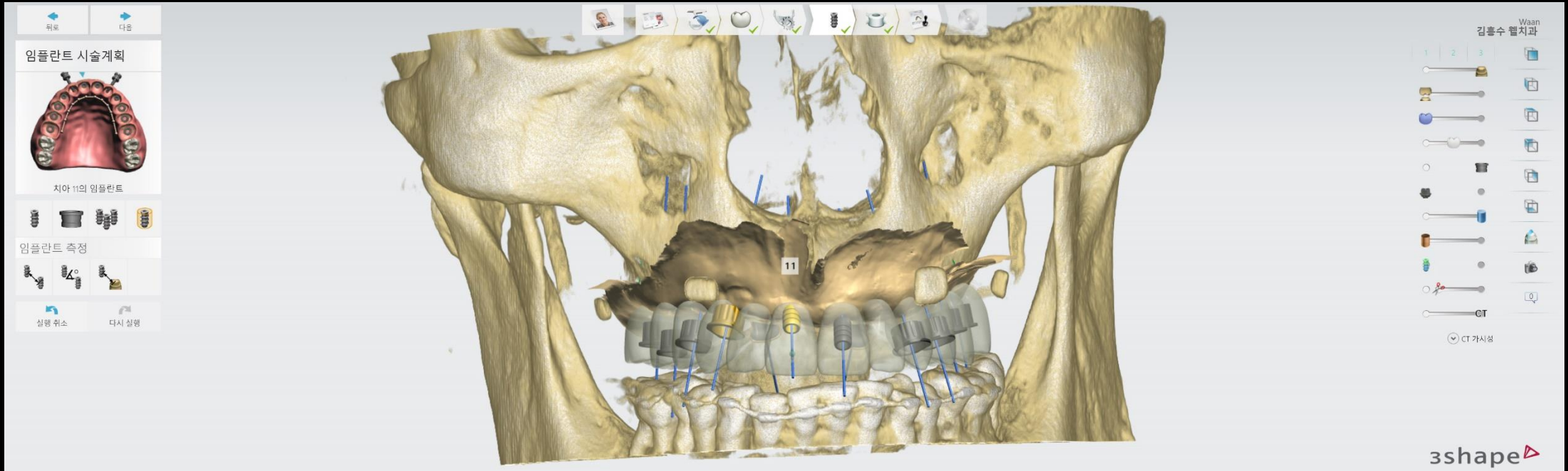




# Digital Guide (Set-up)



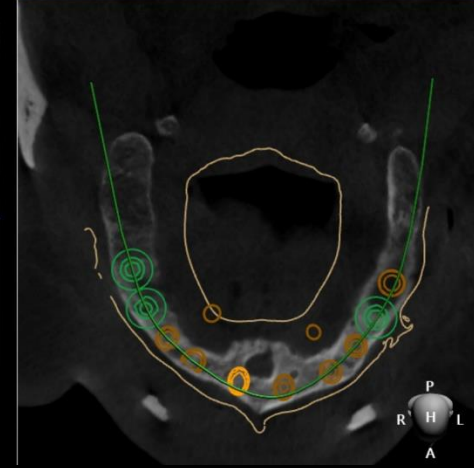
# Digital Guide (#11 Implant Planning)



파노라마 보기



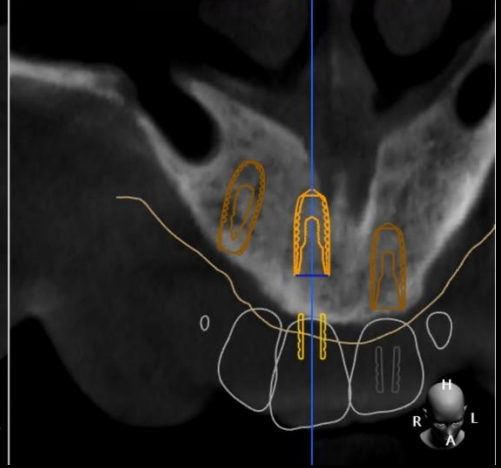
측 보기



임플란트 정렬됨: 90°

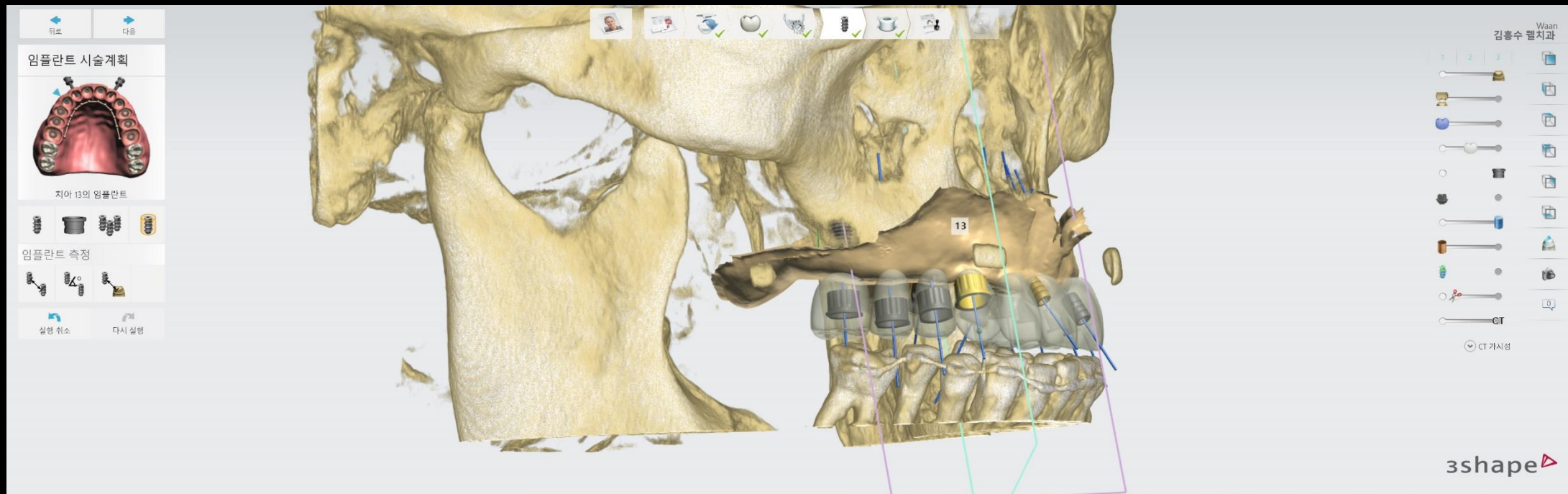


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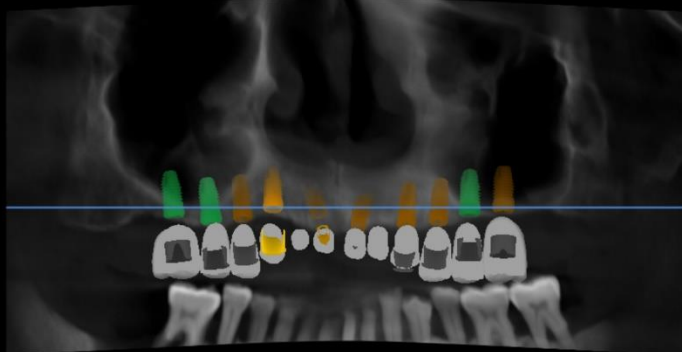




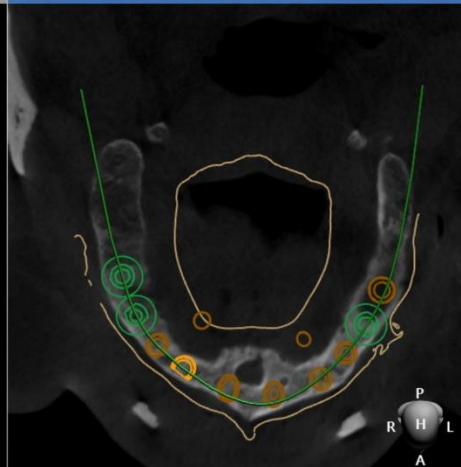
# Digital Guide (#13 Implant Planning)



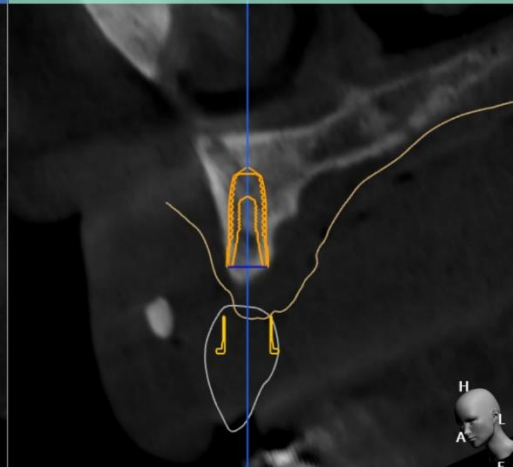
파노라마 보기



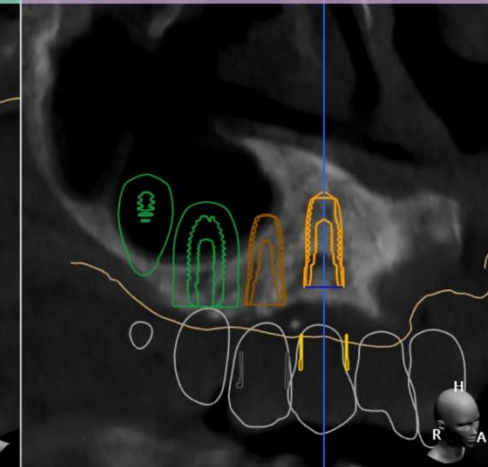
측 보기



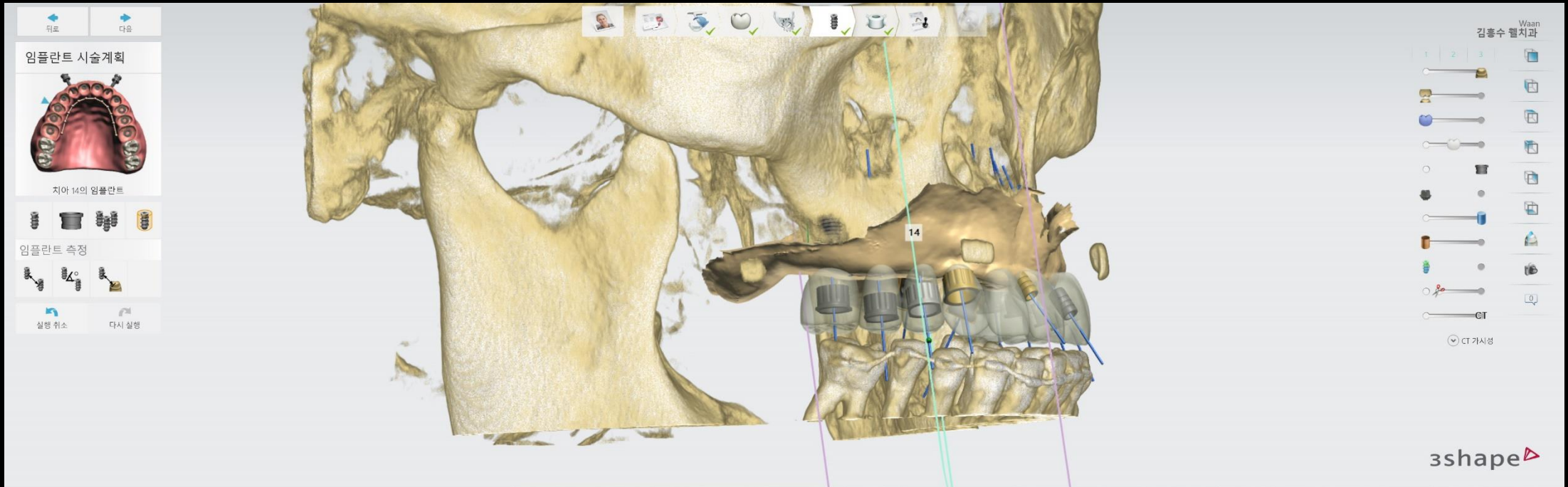
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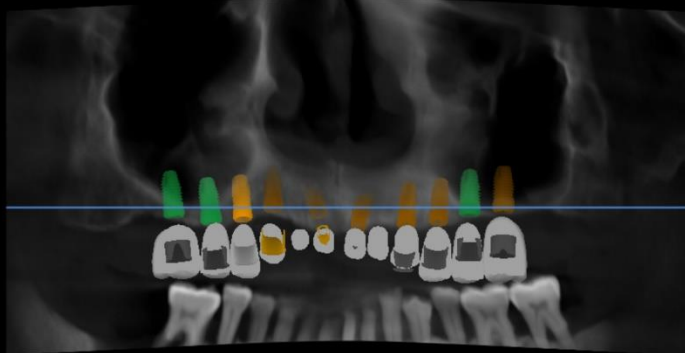
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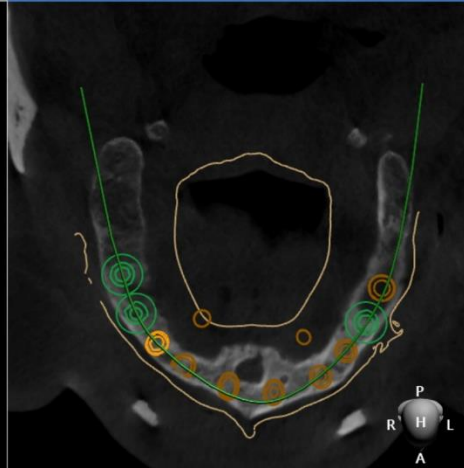
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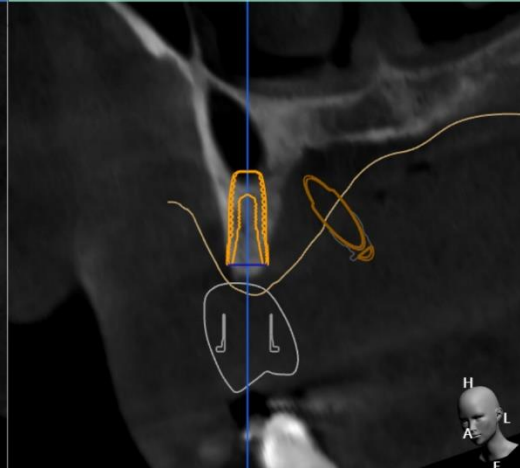
파노라마 보기



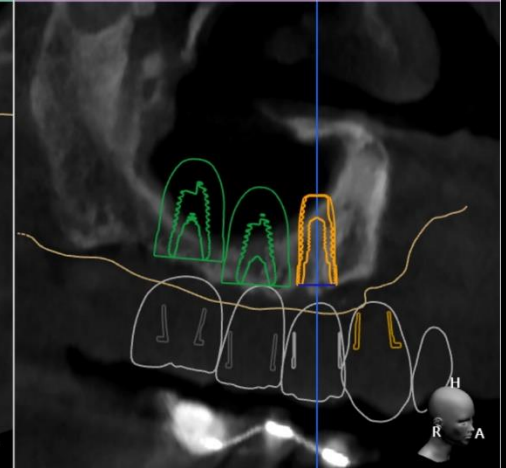
측 보기



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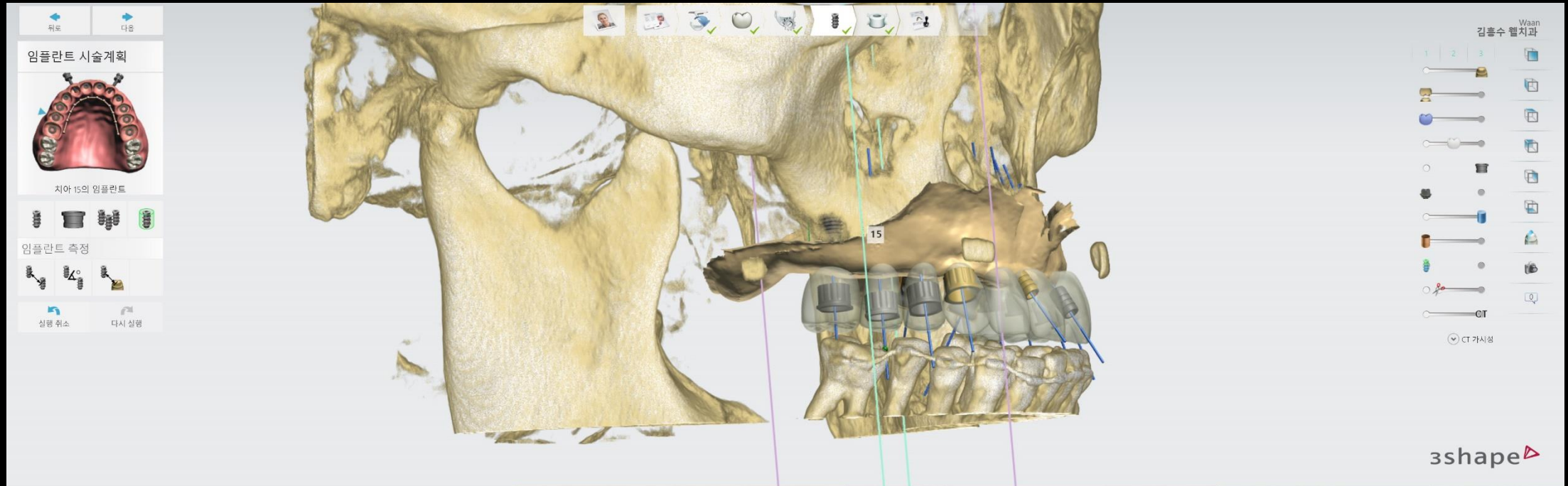


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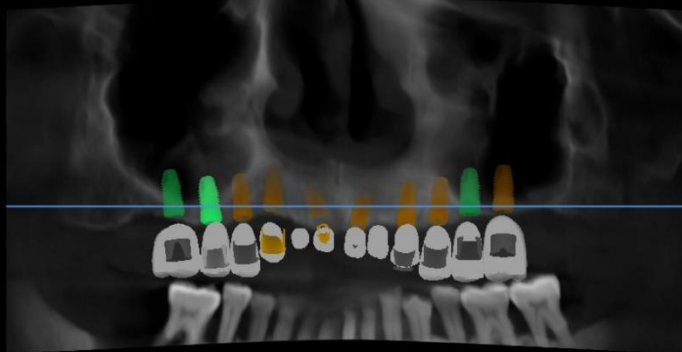




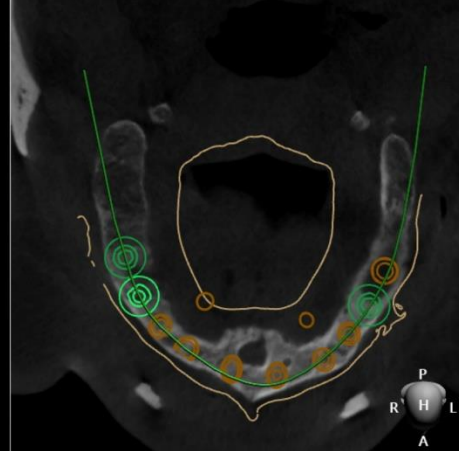
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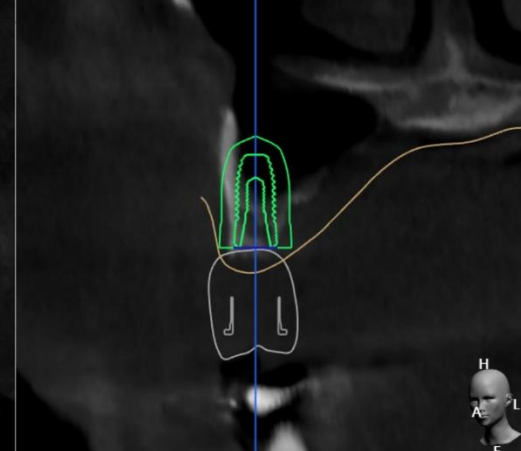
파노라마 보기



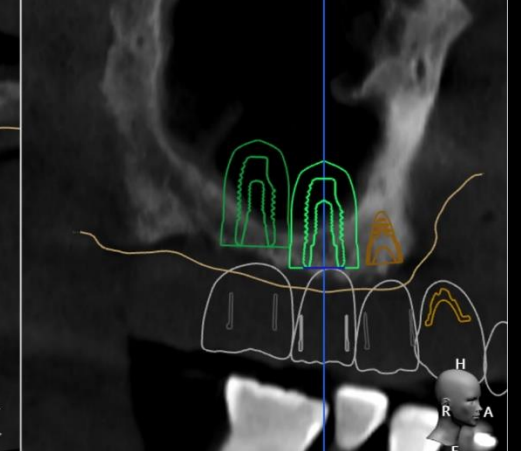
측 보기



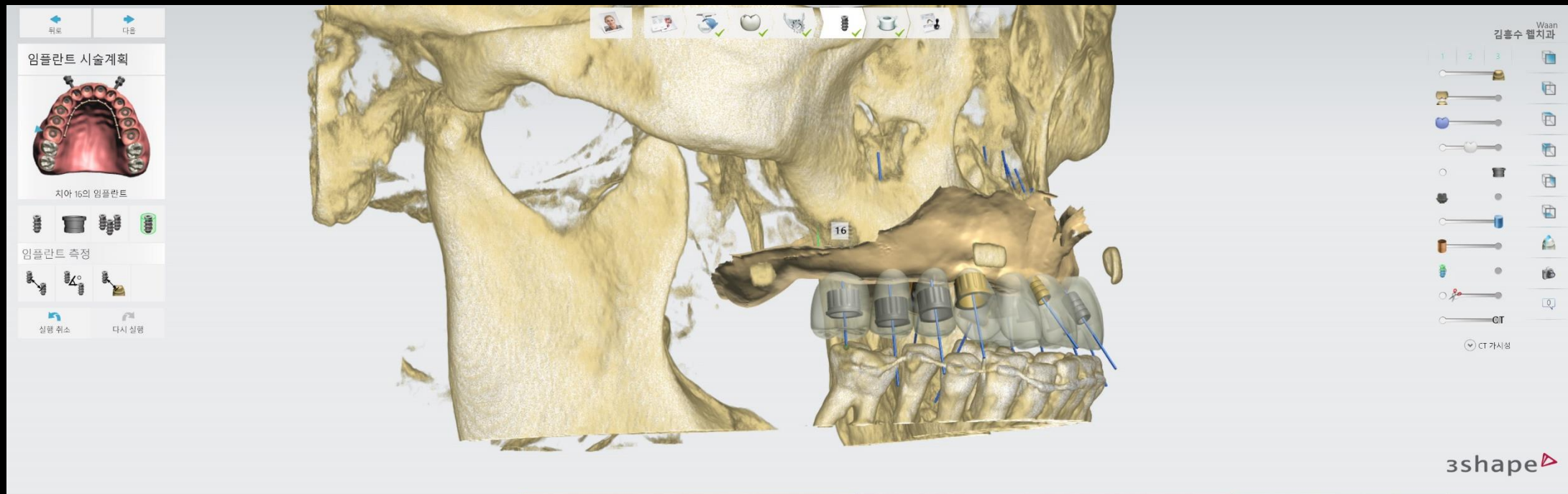
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임플란트 정렬됨: 0°



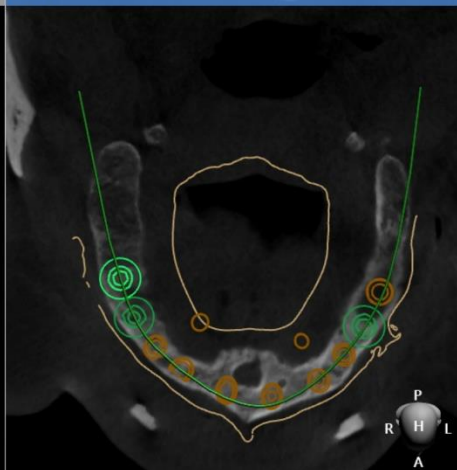
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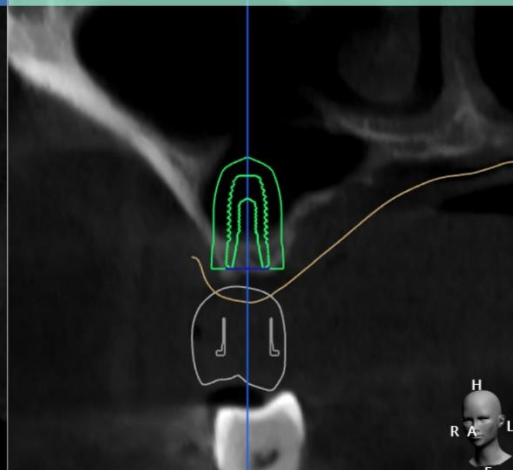
파노라마 보기



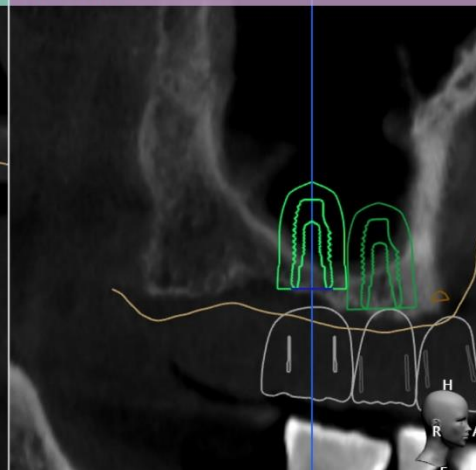
측 보기



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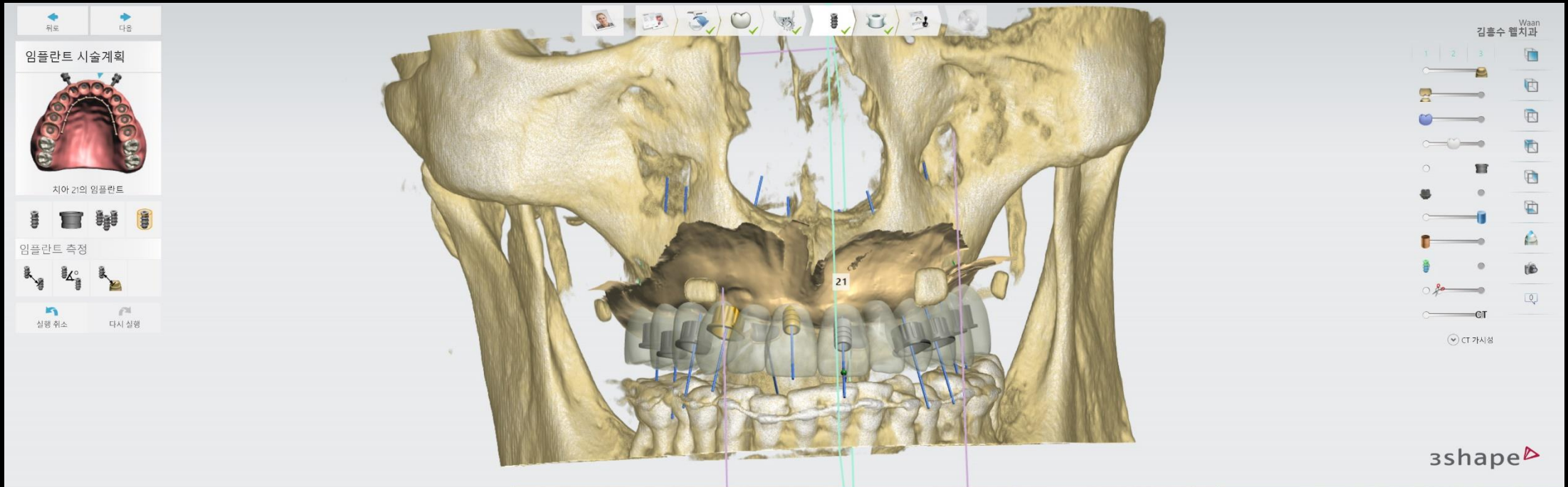


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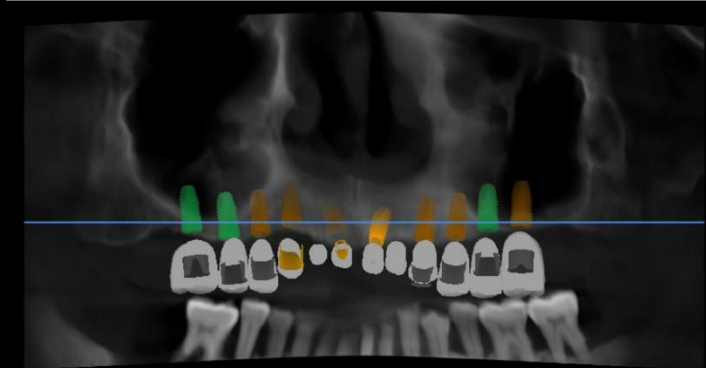




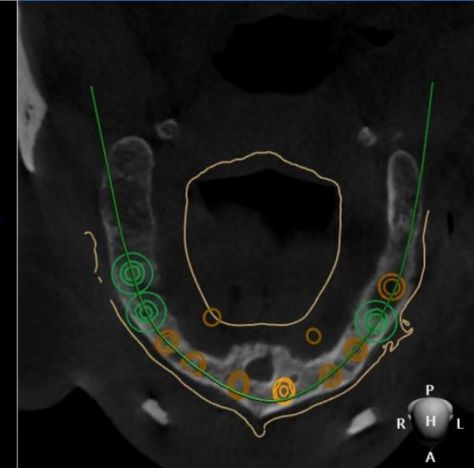
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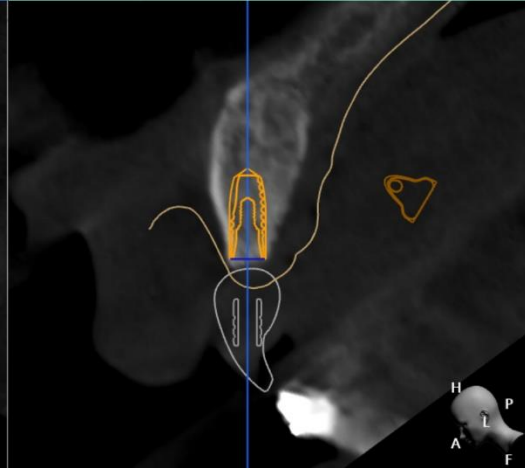
파노라마 보기



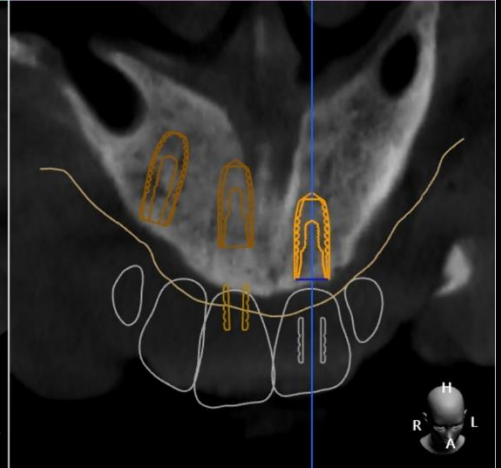
측 보기



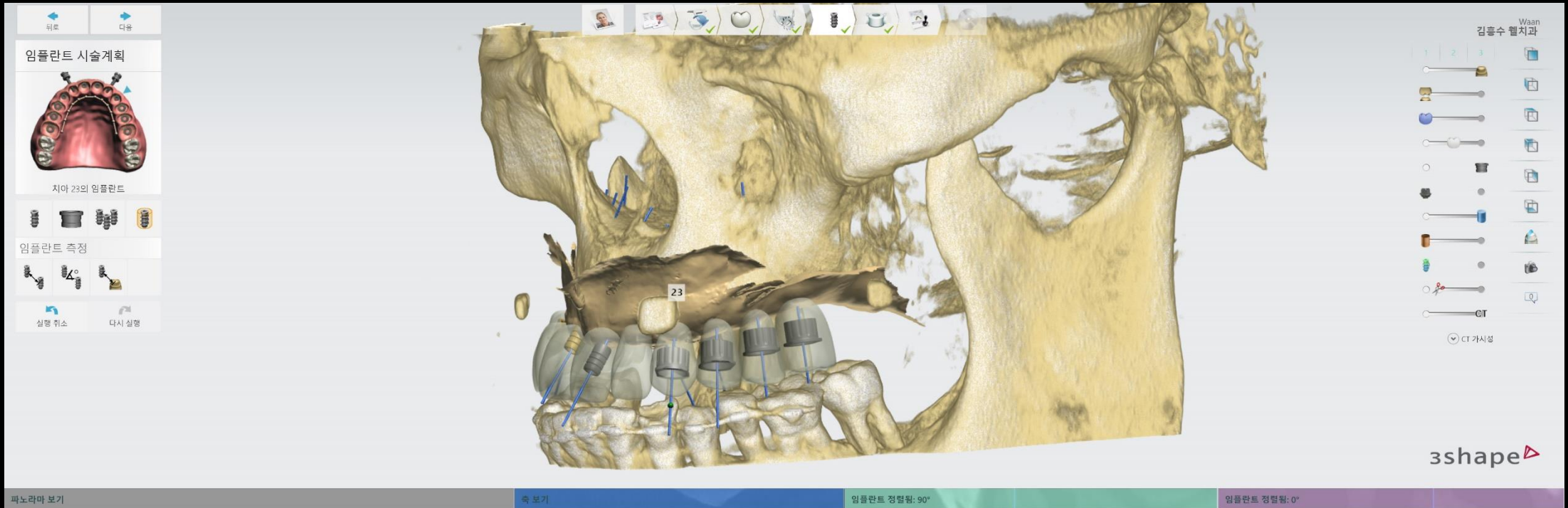
임플란트 정렬됨: 90°



임플란트 정렬됨: 0°



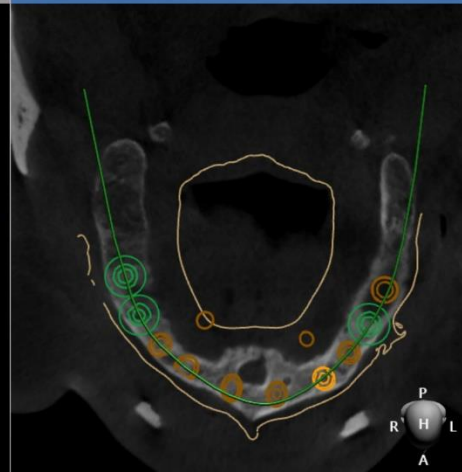
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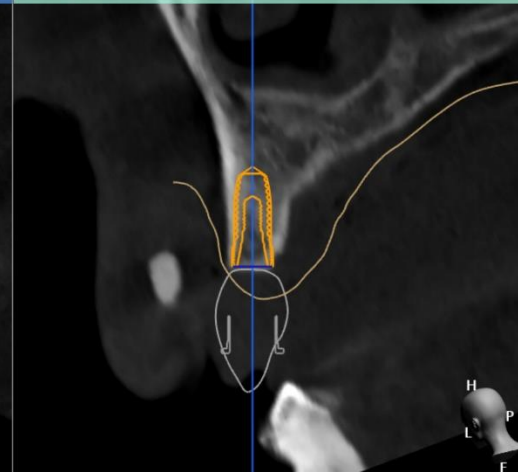
파노라마 보기



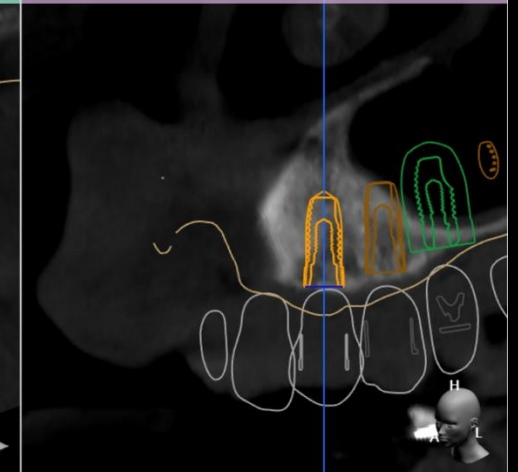
측 보기



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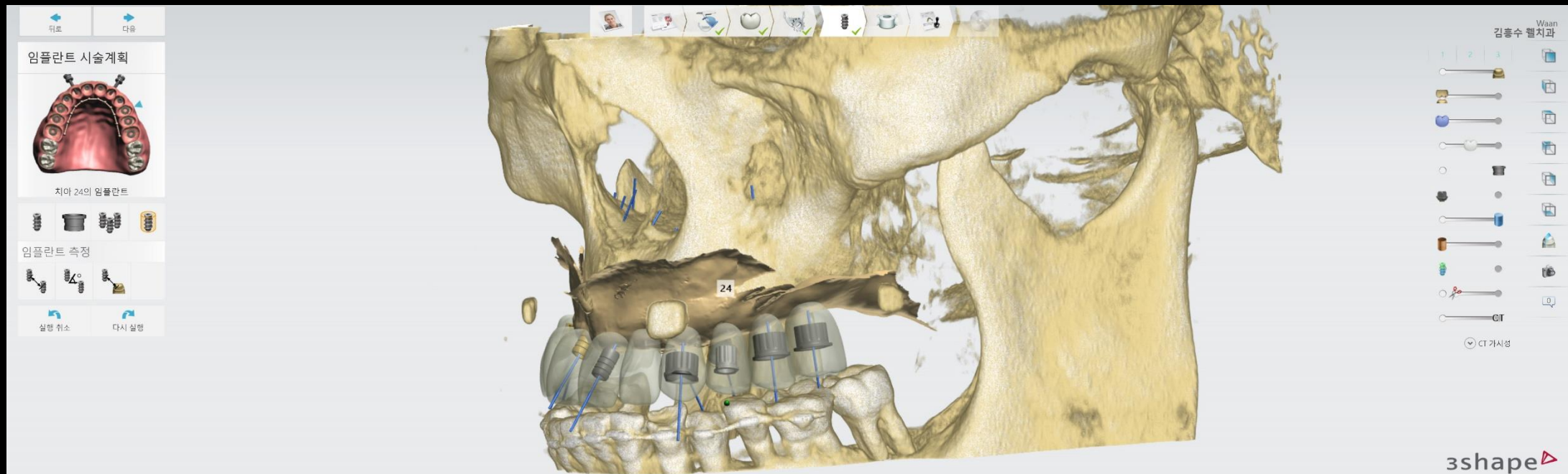


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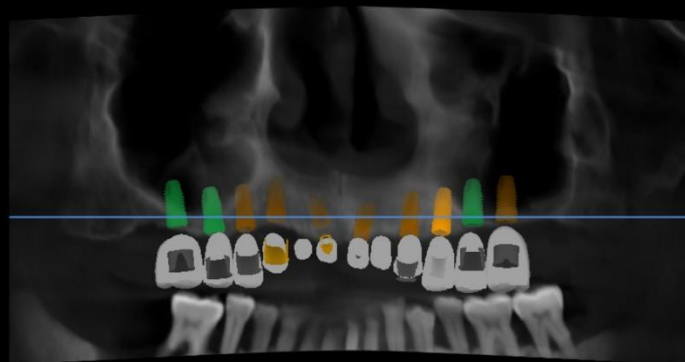




# Digital Guide (#24 Implant Planning)



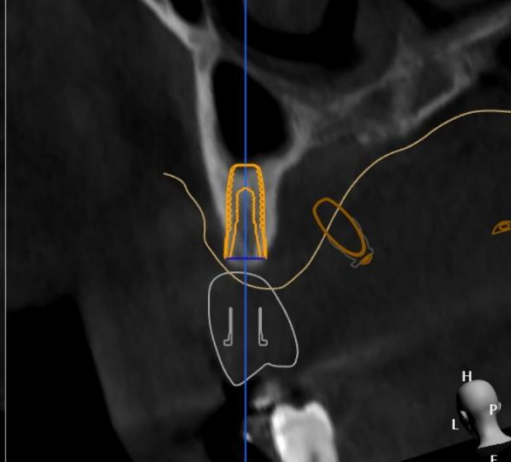
파노라마 보기



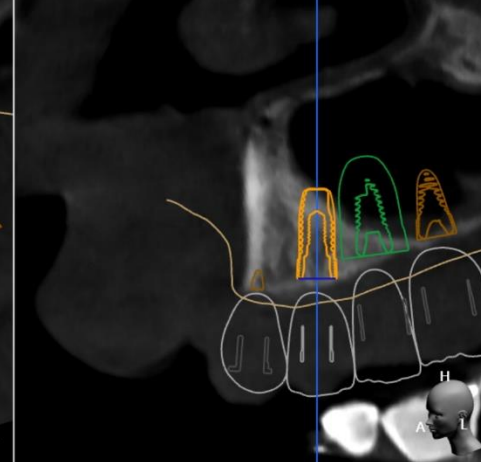
측면기



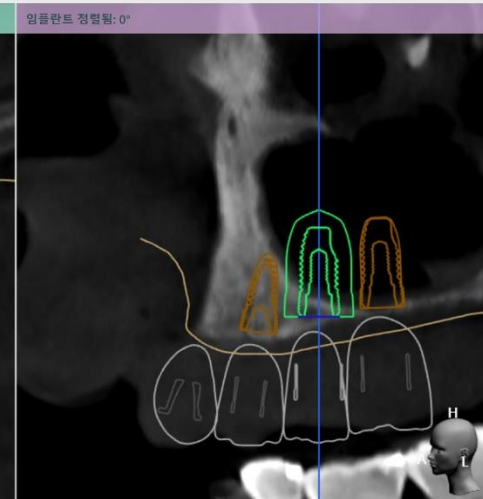
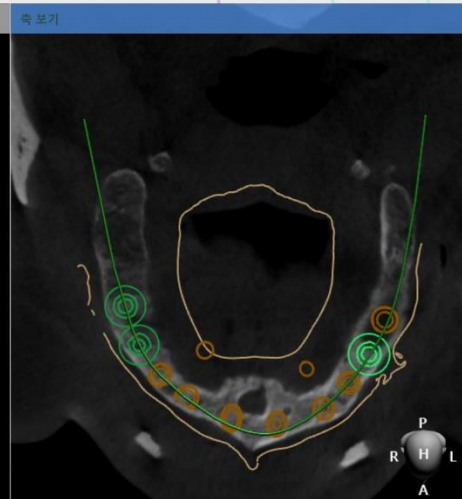
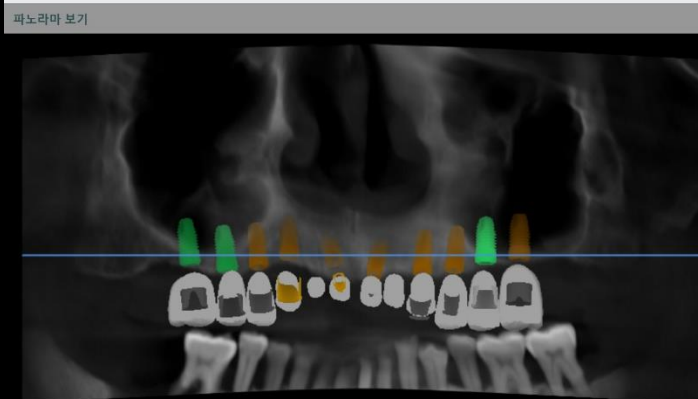
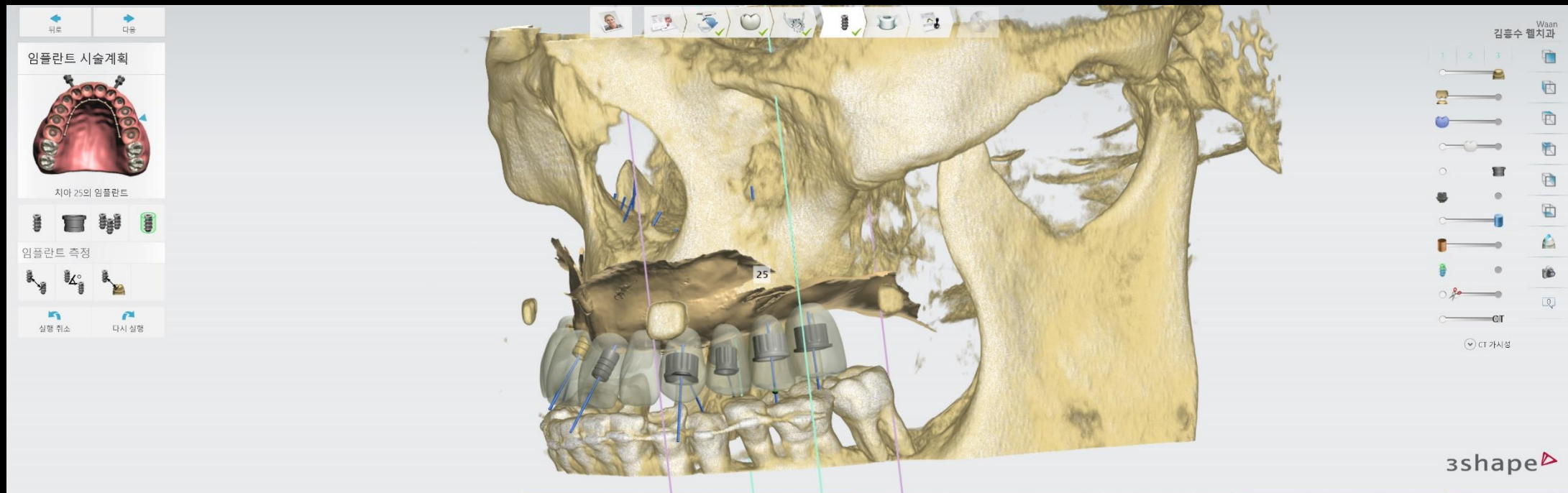
임플란트 정렬됨: 90°



임플란트 정렬됨: 0°

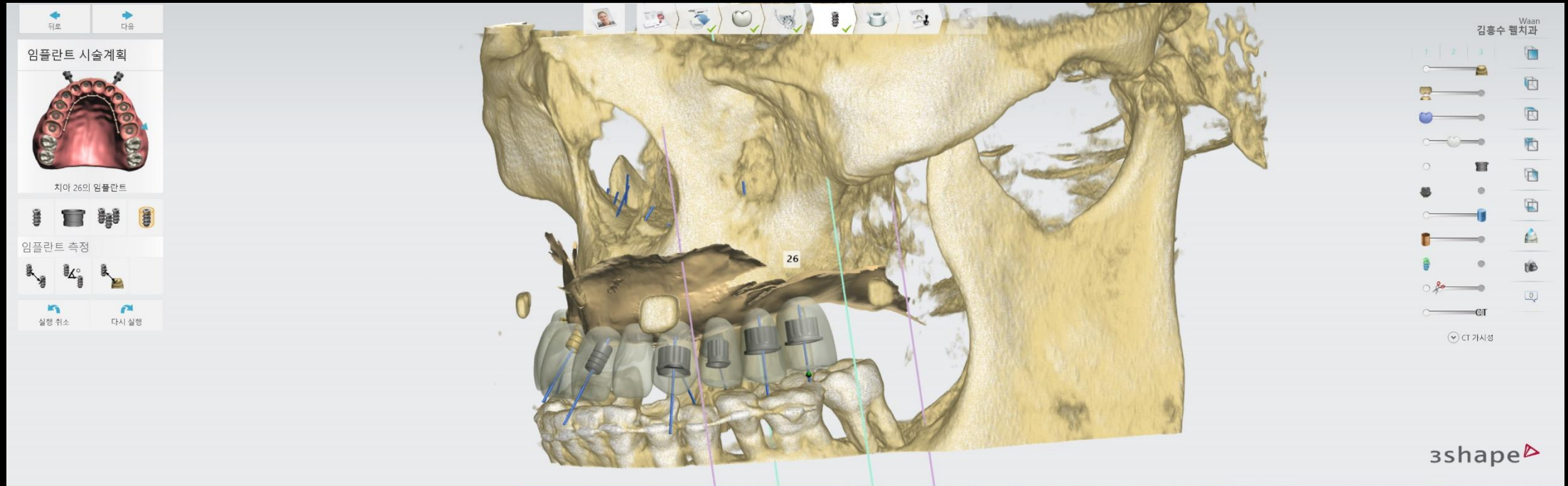


# Digital Guide (#25 Implant Planning)





# Digital Guide (#26 Implant Planning)



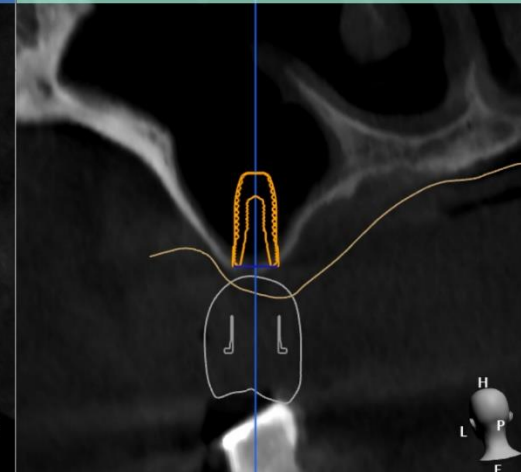
파노라마 보기



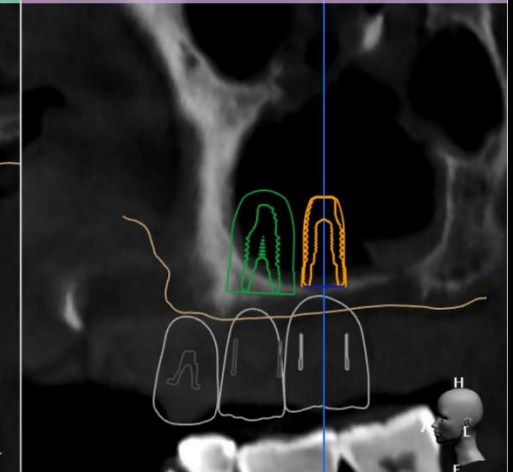
측 보기



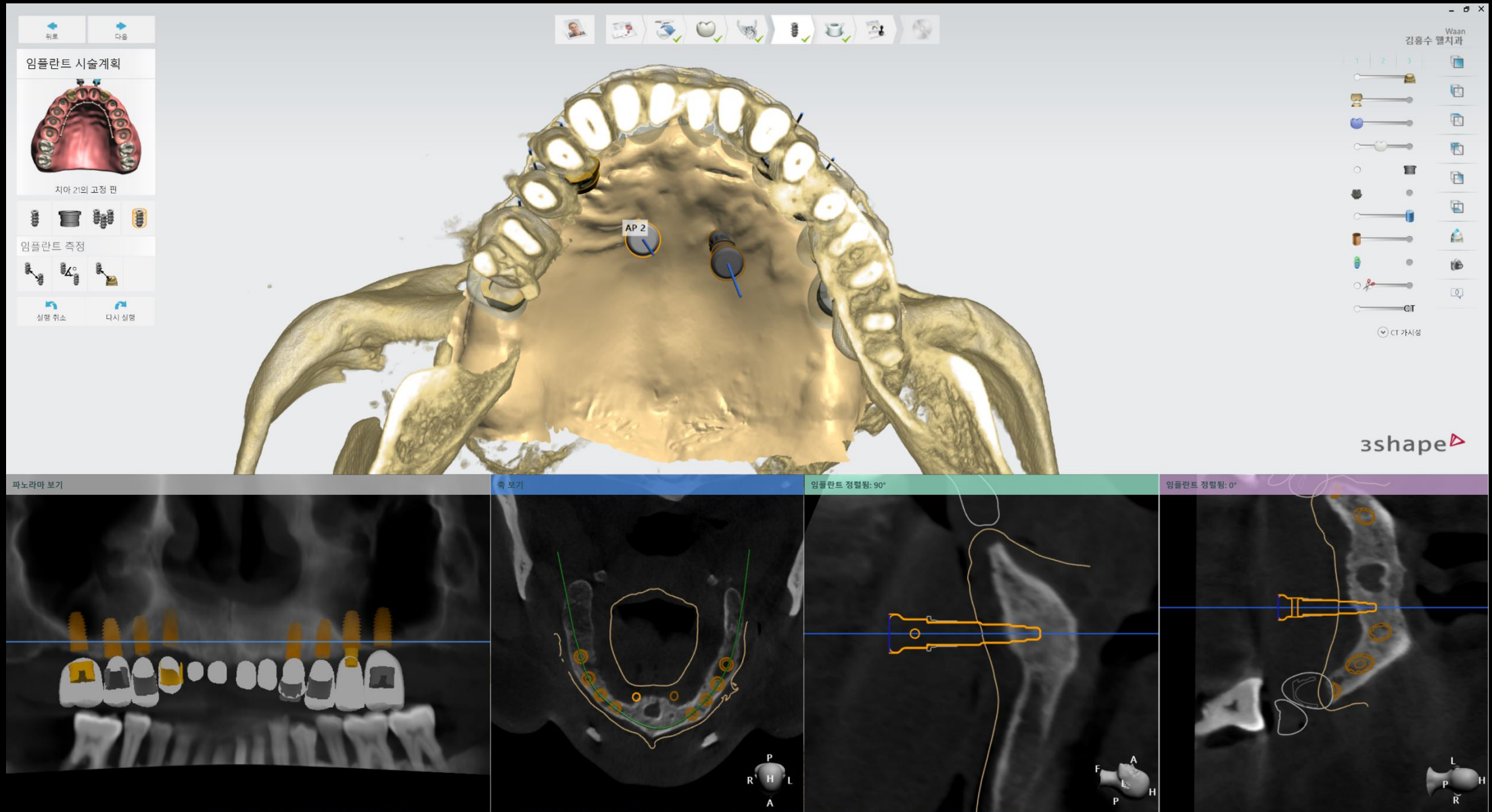
임플란트 정렬됨: 90°



임플란트 정렬됨: 0°

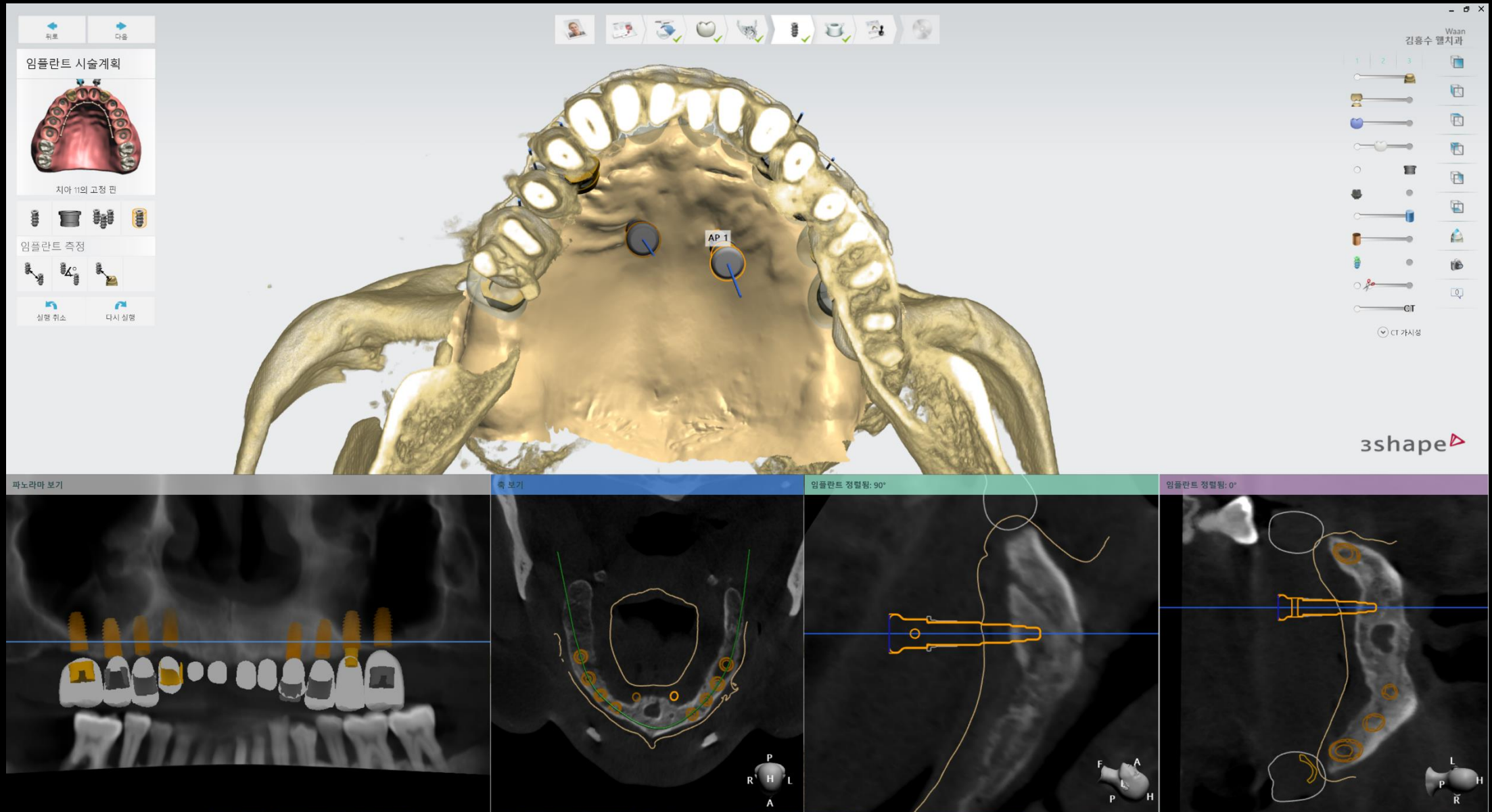


# Digital Guide (Anchor Planning)

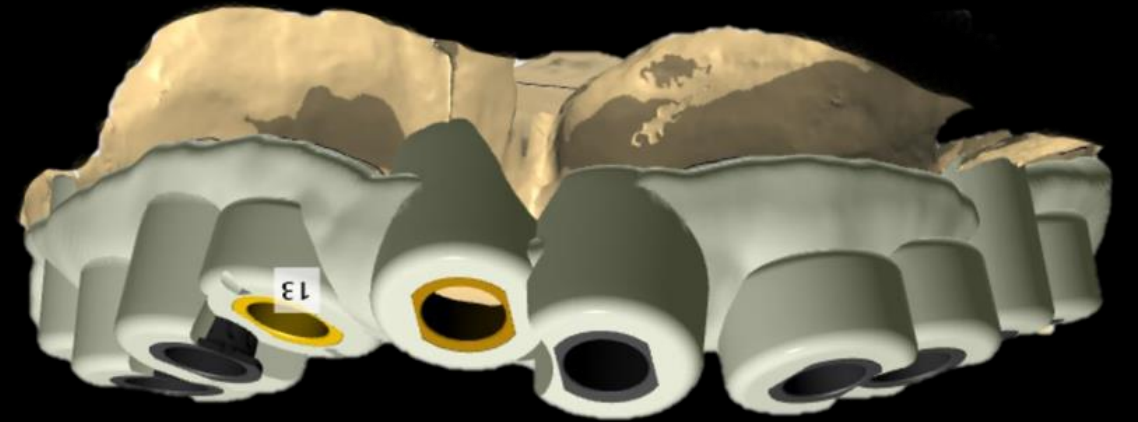
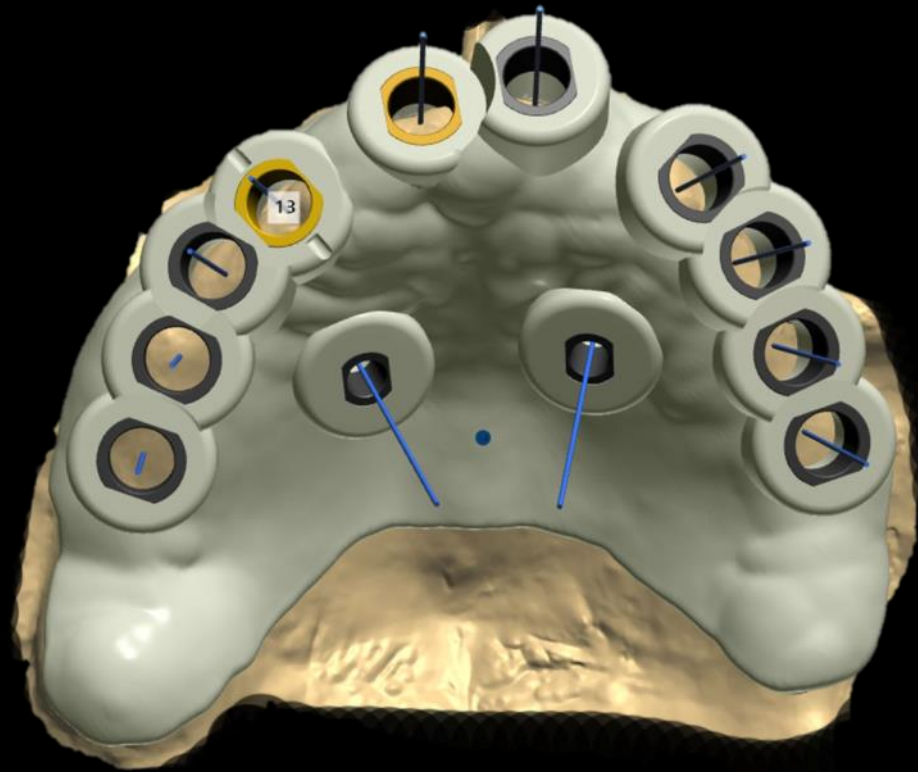




# Digital Guide (Anchor Planning)



# Digital Guide (Stent Design)

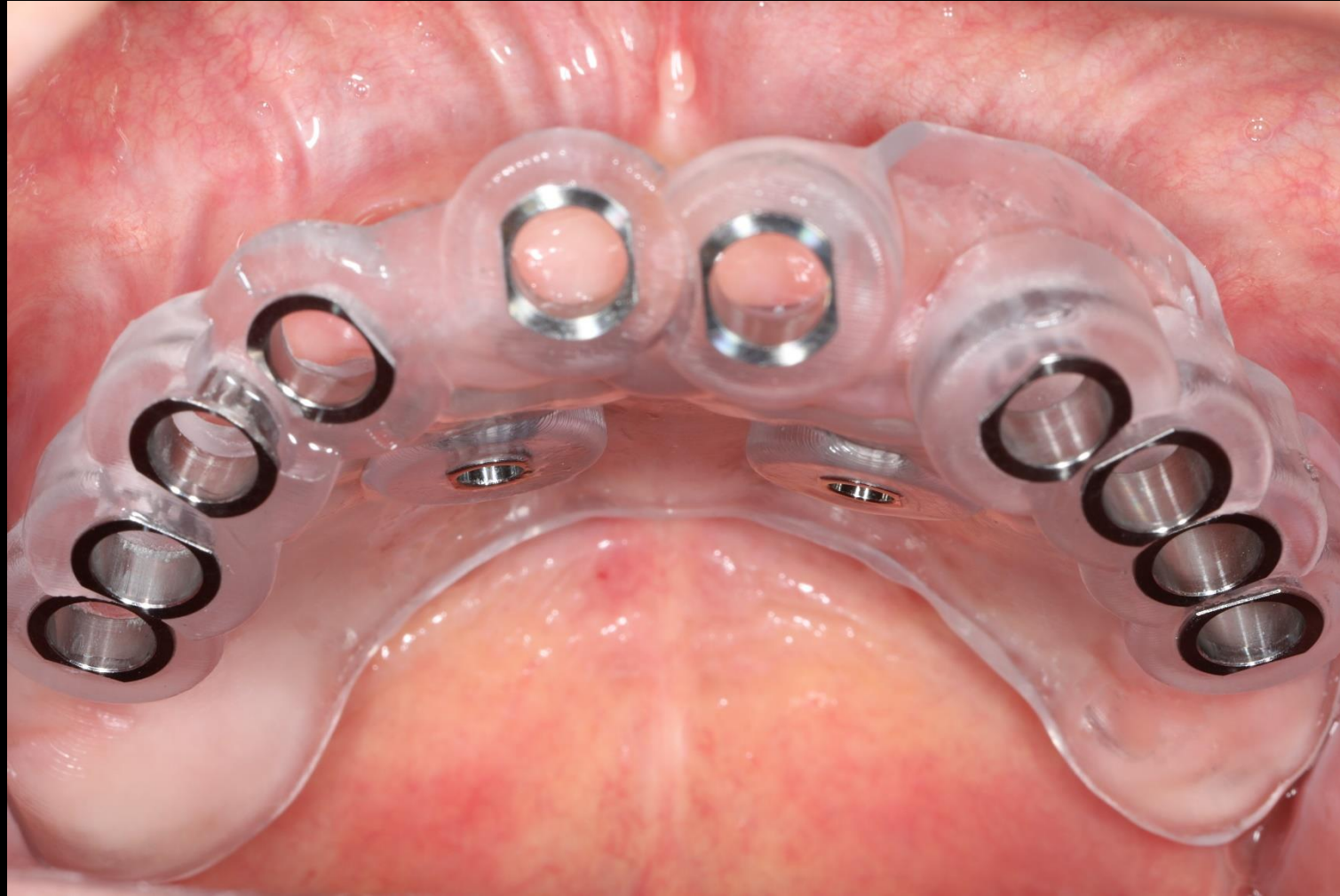




# Stent



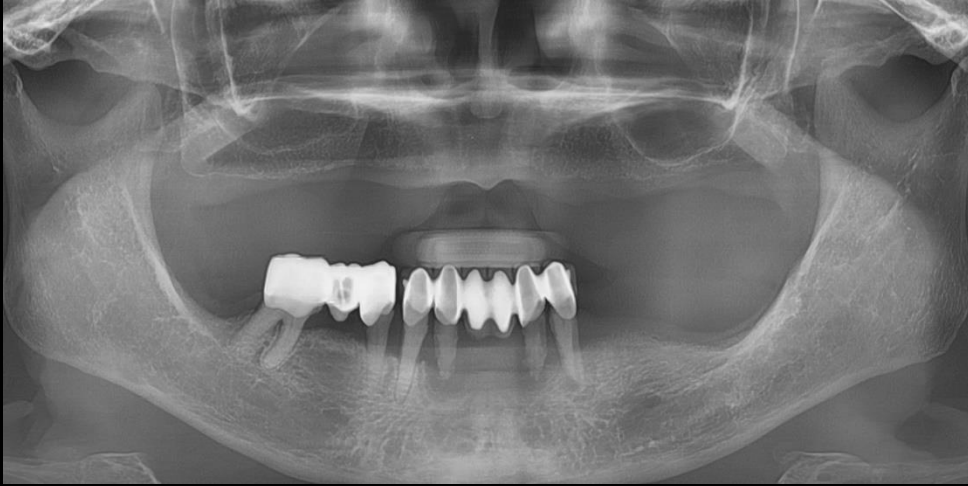
# Stent adaptation





## Similar case presentation

- Implantation using Stent on Full mouth case (Maxillofacial implant for Temporary Denture)



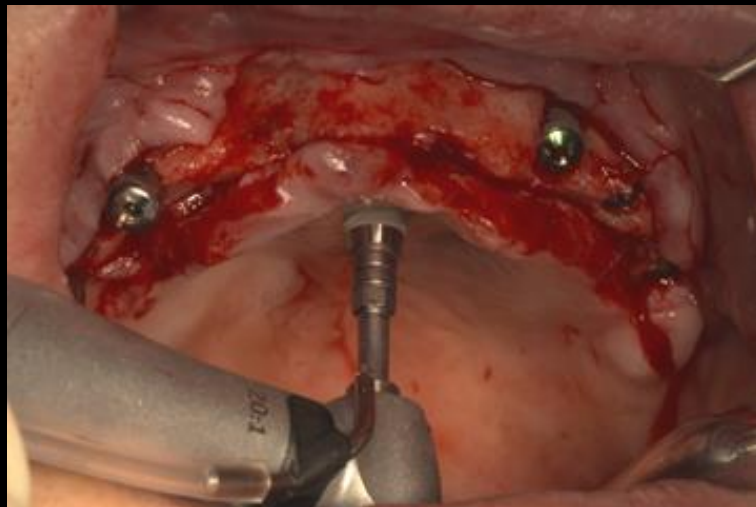
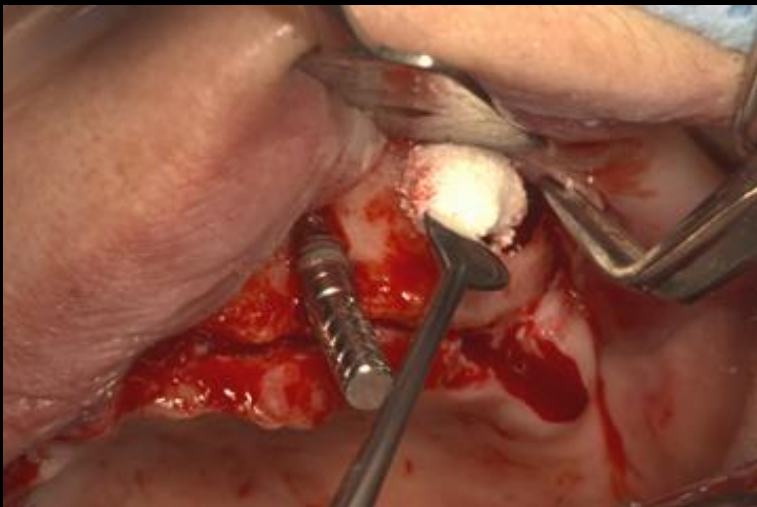
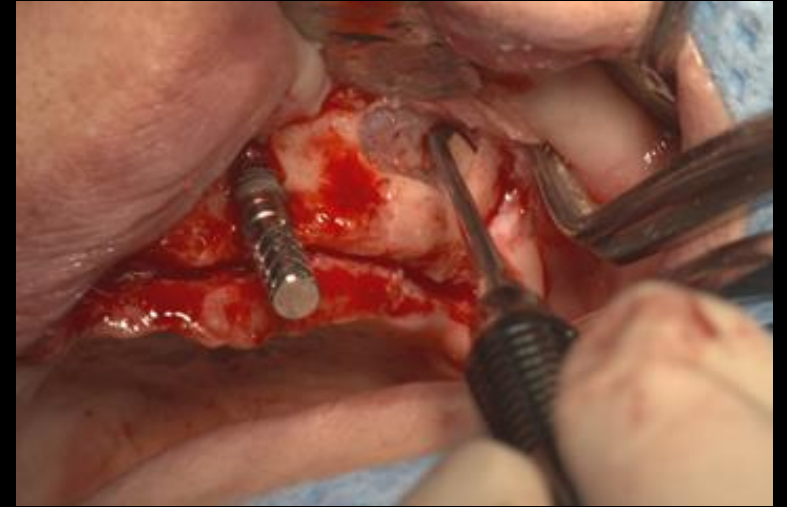
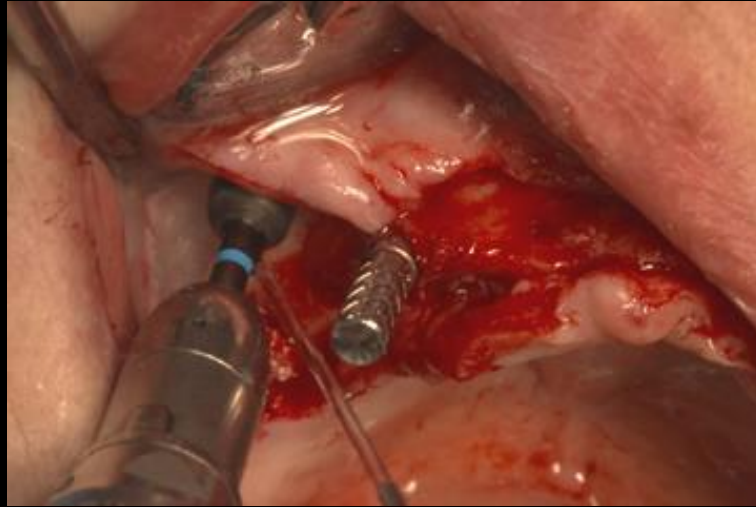
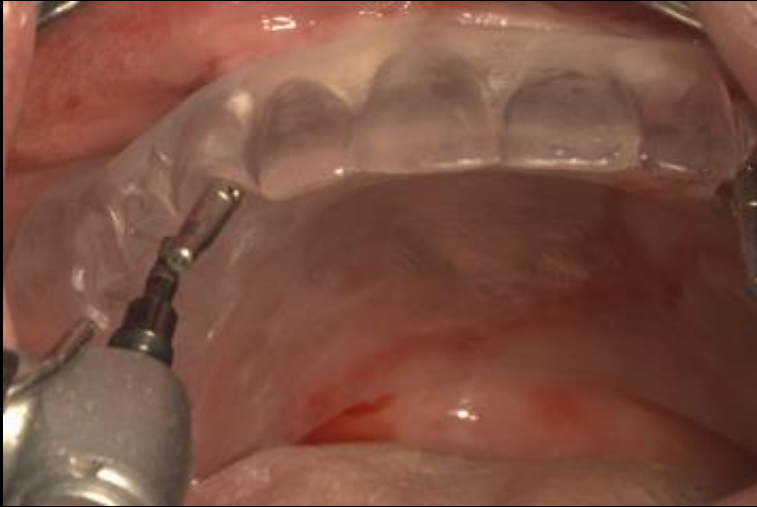
Pre-op (2017-02-10)



Final prosthesis (2018-07-20)

## Similar case presentation

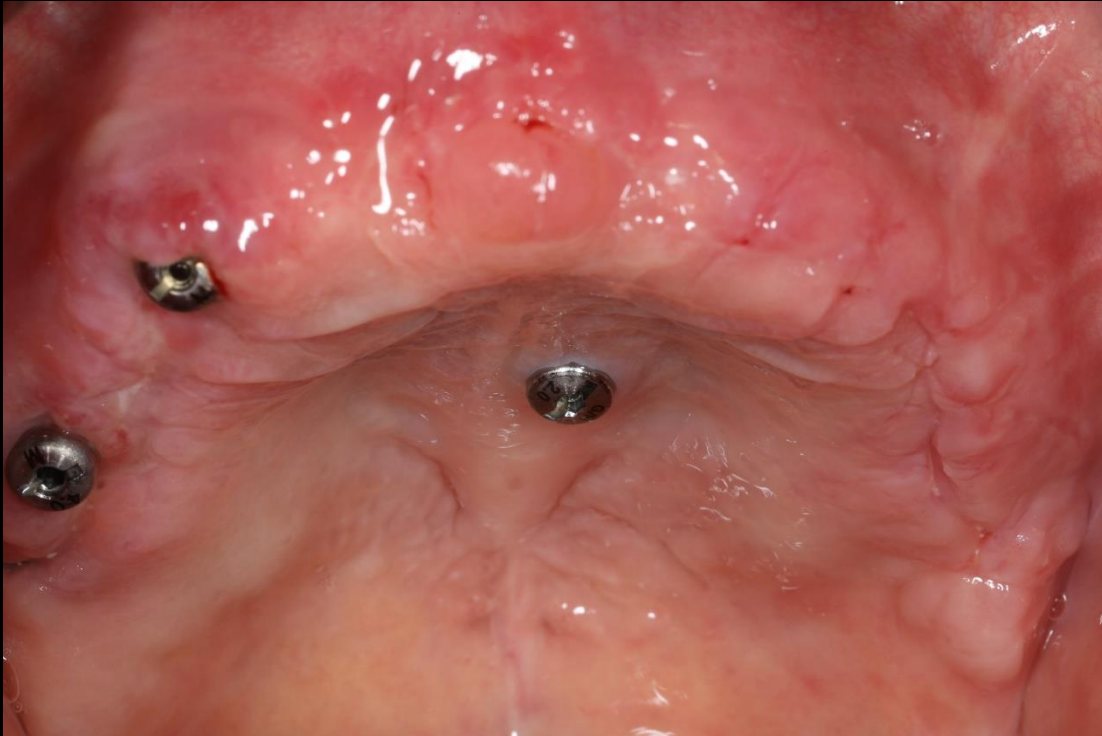
- Implantation using Stent on Full mouth case (Maxillofacial implant for Temporary Denture)





## Similar case presentation

- Implantation using Stent on Full mouth case (Maxillofacial implant for Temporary Denture)



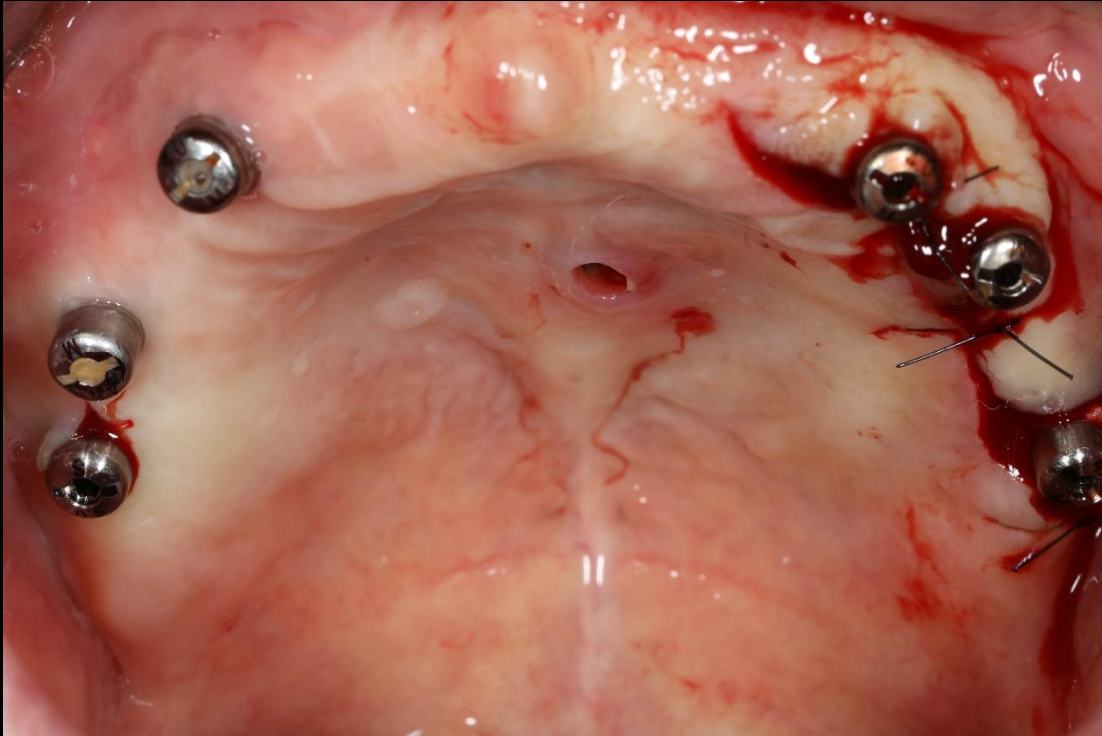
Healing : 3 weeks  
(2017-03-09)



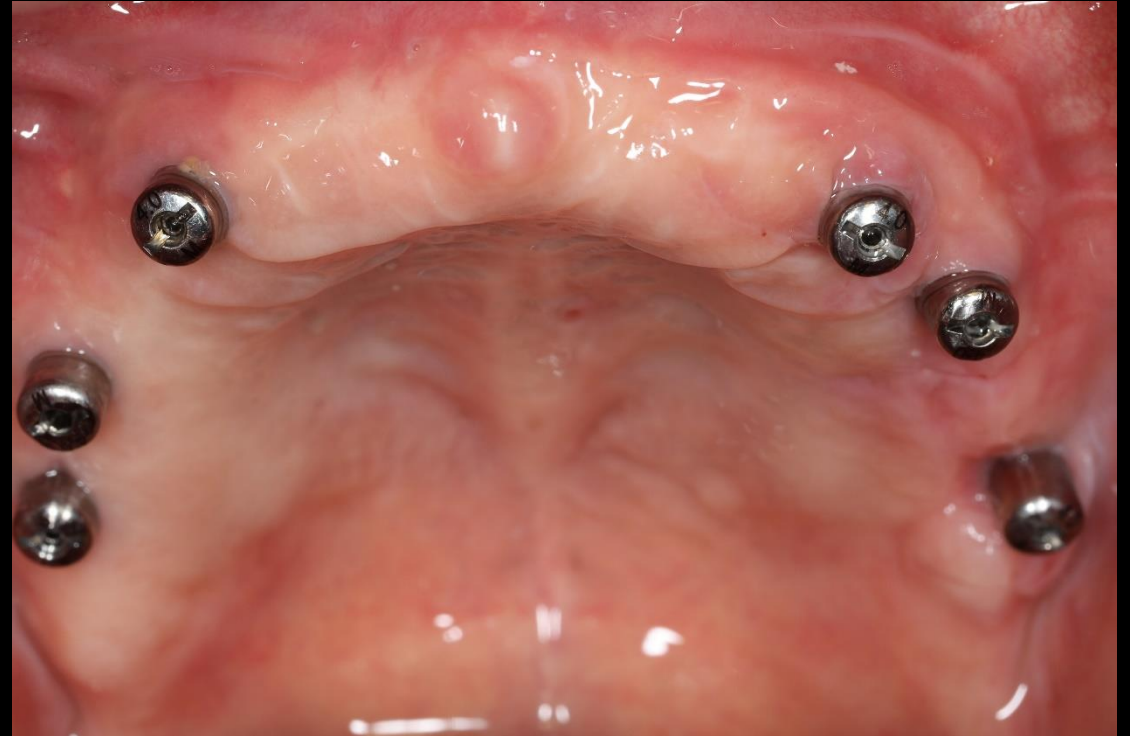
Temporary Denture  
(2017-04-12)

## Similar case presentation

- Implantation using Stent on Full mouth case  
(Maxillofacial implant for Temporary Denture)



Second stage surgery  
/ Removal of Maxilla implant  
(2017-12-07)



Healing : 2 weeks (After S.S.S.)  
(2017-12-21)



## Similar case presentation

- Implantation using Stent on Full mouth case  
(Maxillofacial implant for Temporary Denture)



Provisional restoration  
(2018-01-26)



Final prosthesis  
(2018-07-20)

**[Case Follow up]**

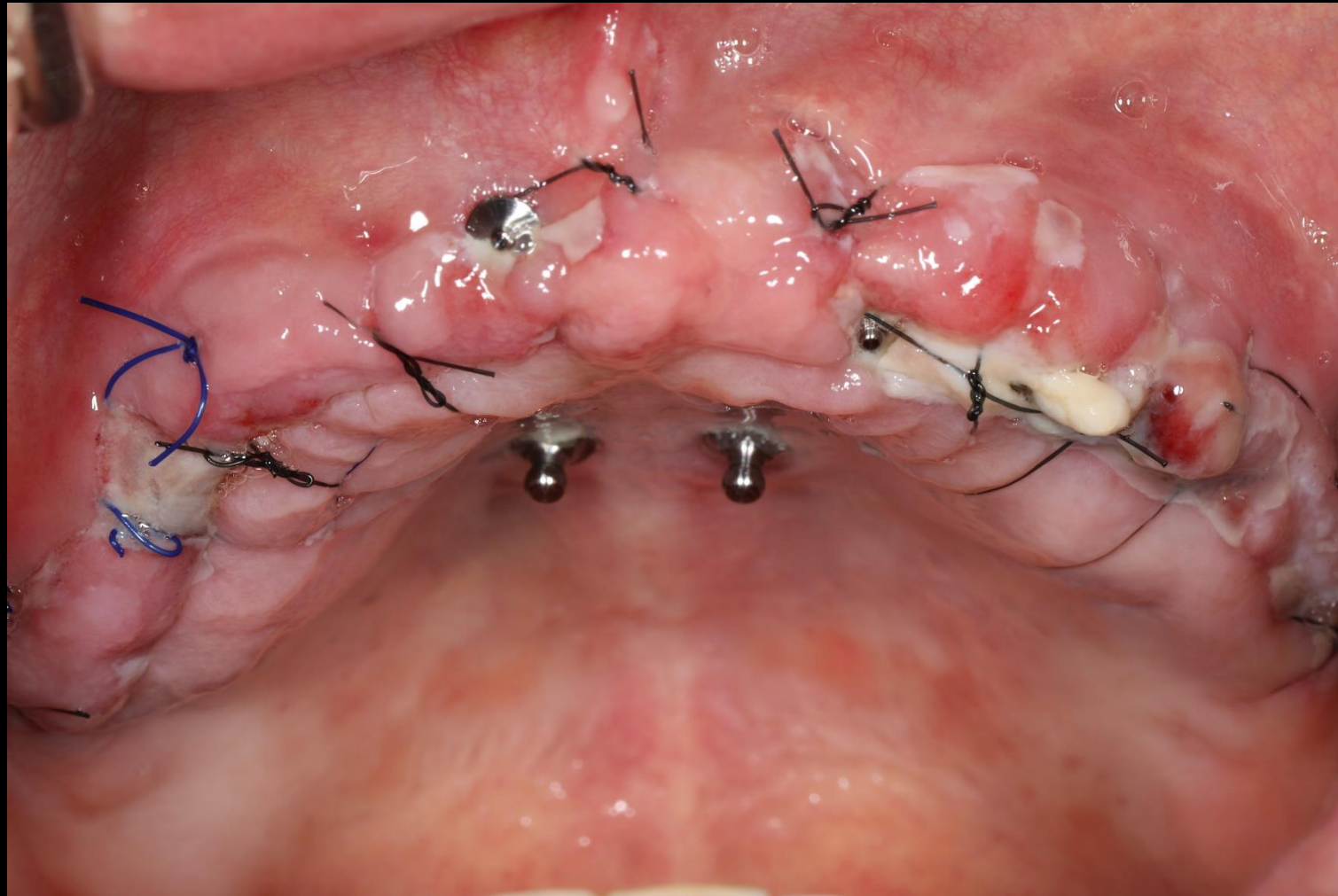




# Intra Oral Scanning



Healing : 3 days





# Temporary Denture (Healing : 3 days)



Healing : 1 week





Healing : 1 month

