

# INVISALIGN CLASS II-, CLASS III- SURGERY 3D-CT, -DVT, MRI,

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## CLINCHECK PLANNING AND TREATMENT CONTROL

ISTANBUL

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**Objectives:** Do 3D Imaging help to enhance the orthodontic surgery planning quality and increase the treatment certainty. Which advantages do have 3D images and 3D CAD-CAM techniques during treatment control?

**Materials and Methods:** Besides typical examples on orthodontic orthognatic surgery cases with angle class II and III, treated only with Invisalign aligners, the application of 3D radiographics and 3D clincheck will be demonstrated. The treatment objective will be compared to the final results. CT, DVT and MRI -Data set are pictured with Simplant and Osirix software.

BEFORE TREATMENT	IMAGES	CLINCHECK	MRI, 3D - DVT, 3D - CT,	AFTER TREATMENT
<b>CLASS II DEVITION 1</b> BIPROTRUSIV FRONT NARROW DENTAL ARCHES 	<b>BEFORE</b> 	<b>AFTER</b> 	<b>MRI-DISC-REPLACEMENT</b>  <b>OSIRIX 3D-MRI-IMAGE</b>	<b>BIMAXILLARY SURGERY WITH</b> HYRAX , DISTRACT-OSSEOGEN 
<b>CLASS II DEVITION 1</b> SHORT MIDFACE 	<b>BEFORE</b> 	<b>AFTER</b> 	 <b>3D-DVT</b> SURGERY FIXATION	<b>BIMAXILLARY SURGERY WITH</b> ANTERIOR CAUDAL MAXILLA ROTATION CHIN REDUCTION 
<b>CLASS III RETROGNATHY</b> 	<b>BEFORE</b> 	<b>AFTER</b> 	<b>3D DVT AIRWAY CONTROL</b> BEFORE SURGERY 	<b>BIMAXILLARY SURGERY</b> 
<b>CLASS III PROGENY</b> SHORT MIDFACE 	<b>BEFORE</b> 	<b>AFTER</b> 	<b>3D CT SIMPLANT SURGERY STUDY</b> 	<b>BIMAXILLARY SURGERY WITH</b> ANTERIOR CAUDAL ROTATION 
<b>CLASS III PROMINENT CHIN</b> 	<b>BEFORE</b> 	<b>AFTER</b> 	<b>AFTER HYRAX EXPANSION WITH 3D DVT CHECK</b> 	<b>HYRAX, BIMAX SURG, CHIN RED</b> 

**Results:** 3D Imaging gives new perspectives to the treatment planning process. The predicted effect of the clincheck compared to the final clinical result match with high incidence. 3D radiographic and magnetic resonance investigation enhance the quality of the initial findings and give better process during treatment control.

**Discussion:** Whereas the X-ray exposure increases with digital 3D-radiographic imaging, we get better proposal to the result of combined orthognatic surgery treatment, and lower the rate of complication. 3D clincheck predictions are very helpful to achieve a good coordination to the postsurgical occlusion, which means better stability and less refinement work after the surgical intervention. 3D applications help to coordinate interdisciplinary work and hep the patient to understand the medical treatment. Ignored facts and underdiagnosed findings are alleviated.

**Conclusion:**To enhance the treatment-control and give more certainty in the treatment-planning of combined orthognatic surgery cases it is achieved to applicate 3D images regularly.

