

SURGICAL-ORTHODONTIC TREATMENTS

Dr. Juhász Fanni

Klinikai szakorvos



SEMMELWEIS EGYETEM

Fogorvostudományi Kar

Gyermekefogászati és Fogszabályozási Klinika

<http://semmelweis.hu>

INDICATIONS

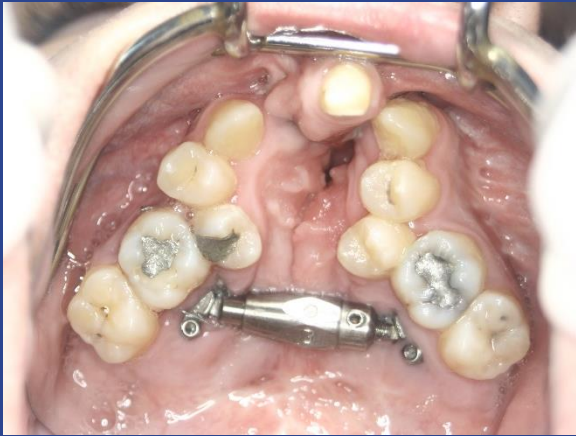


FACIAL DEFORMITIES

- 20% of population
- Europe/USA - Angle II



CLEFT LIP PALATE PATIENTS



INDICATIONS

- 1. Restoration of masticatory function** in cases of maxillary and/or mandibular base discrepancy
- 2. Prevention of functional problems**
- 3. Oral hygiene, healthy periodontal tissues**
- 4. Harmonious face proportions**

1. MASTICATORY FUNCTION



2. FUNCTIONAL PROBLEMS



2 FUNCTIONAL PROBLEMS



Treatment Simulation (VTO)

COCR TxPlan Goals

	A-P	Vert
Maxilla		
ANS	+6.1	0.0
PNS	+6.1	-2.0
Mx1 tip	+6.1	0.0
Molar MB cusp tip	+6.1	-2.0
Mandible		
Md1 tip	+3.5	-3.4
Molar MB cusp tip	+5.4	-3.5
B point	+6.5	-4.1
Pog	+12.6	-4.4
Genioplasty	+5.3	-0.4

Model Block Surgery

Soft Tissue Profile

Profile touch-up Lip reposturing

Auto lip adjustment:
 V: < [] >
 A-P: < [] >

Undo List Prev Notes Delete Rest

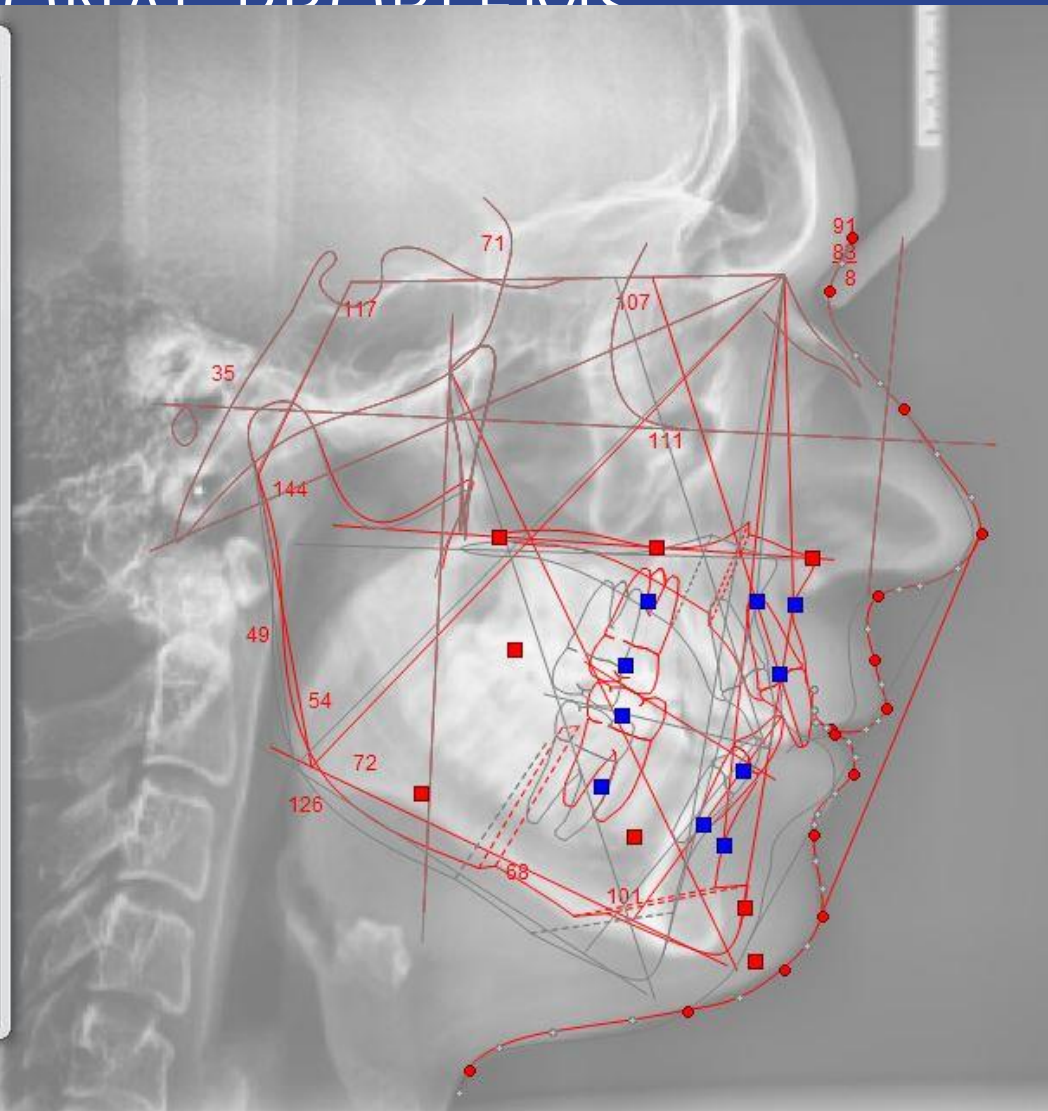
- 2: Post Mx Ost: V: -3.0 mm
- 3: Auto-rotate Md: +3.1 Deg
- 4: Post Mx Ost: V: +1.0 mm
- 5: Soft-tissue profile adj
- 6: BSSD: (H:+1.5 mm V:+0.2 mm)
- 7: Md1 Repos: (H:-1.7 mm V:+1.3 mm)
- 8: LeFort Ost: H: +2.0 mm
- 9: BSSD: (H:+1.2 mm V:-0.5 mm)
- 10: Soft-tissue profile adj
- 11: Genioplasty: (H:+5.3 mm V:-0.4 mm)
- 12: Soft-tissue profile adj

Upper 1: 0.0 0.0 0.0
 Lower 1: -1.8 1.3 0.0
 Upper 6: 0.0 0.0 0.0
 Lower 6: 0.0 0.0 0.0
 A Point: 0.0
 B Point: 0.0
 Mx (LeFort): 6.1 -0.1 0.0
 Ant. Mx: 0.0 0.0 0.0
 Post. Mx: 0.0 -2.0 0.0
 Mx+Md: 0.0 0.0 0.0
 Md (BSSD): 2.8 -0.3 0.0
 Rotate Md @ Hinge Axis: 3.1
 Rotate Mx+Md @ Hinge Axis: 0.0
 Genioplasty: 5.4 -0.5
 Others: Post Md Rotate@Hinge

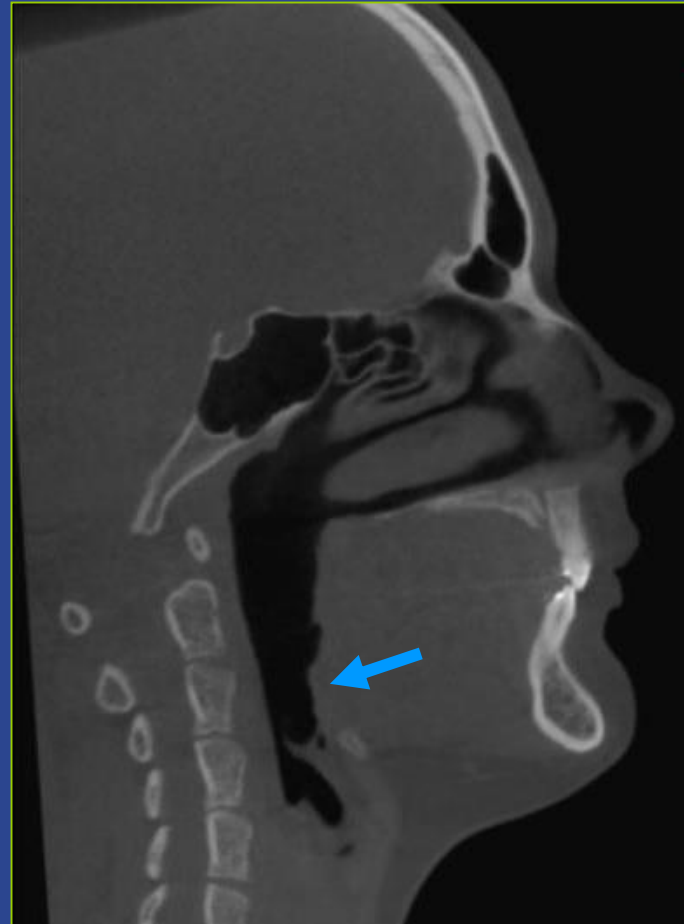
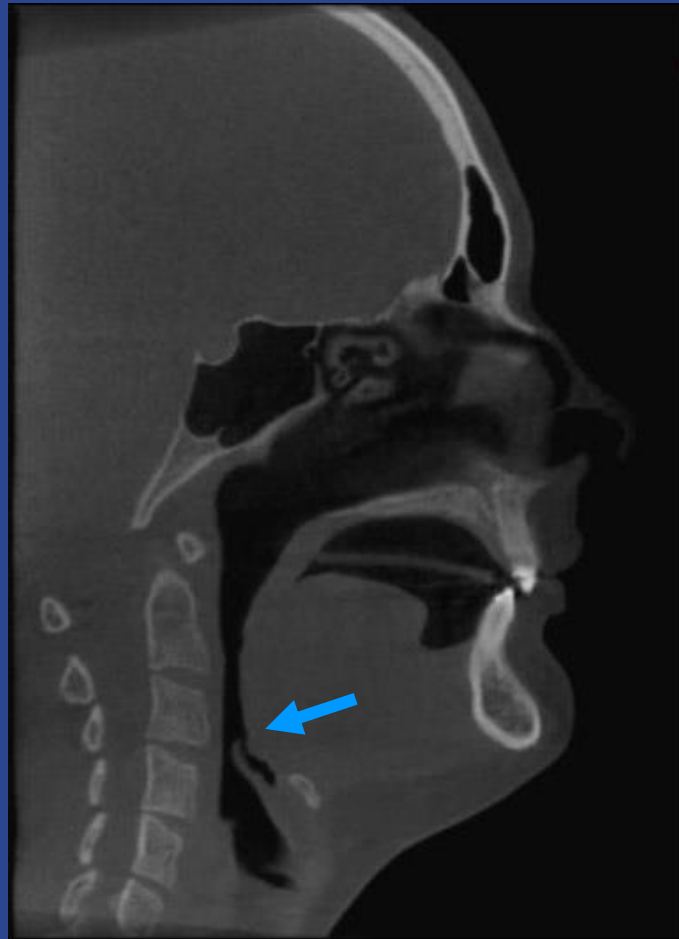
Autorotate mandible

Arch Length Discrepancy
 Mx: 0.0 mm
 Md: 3.6 mm Crowding

Extract... Expand... Strip...



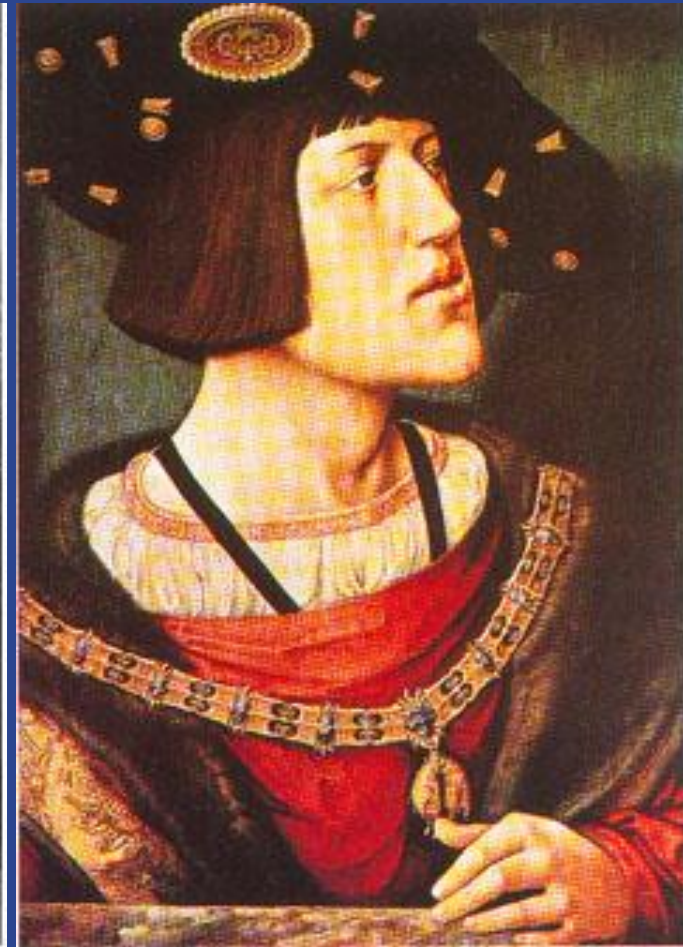
2. FUNCTIONAL PROBLEMS



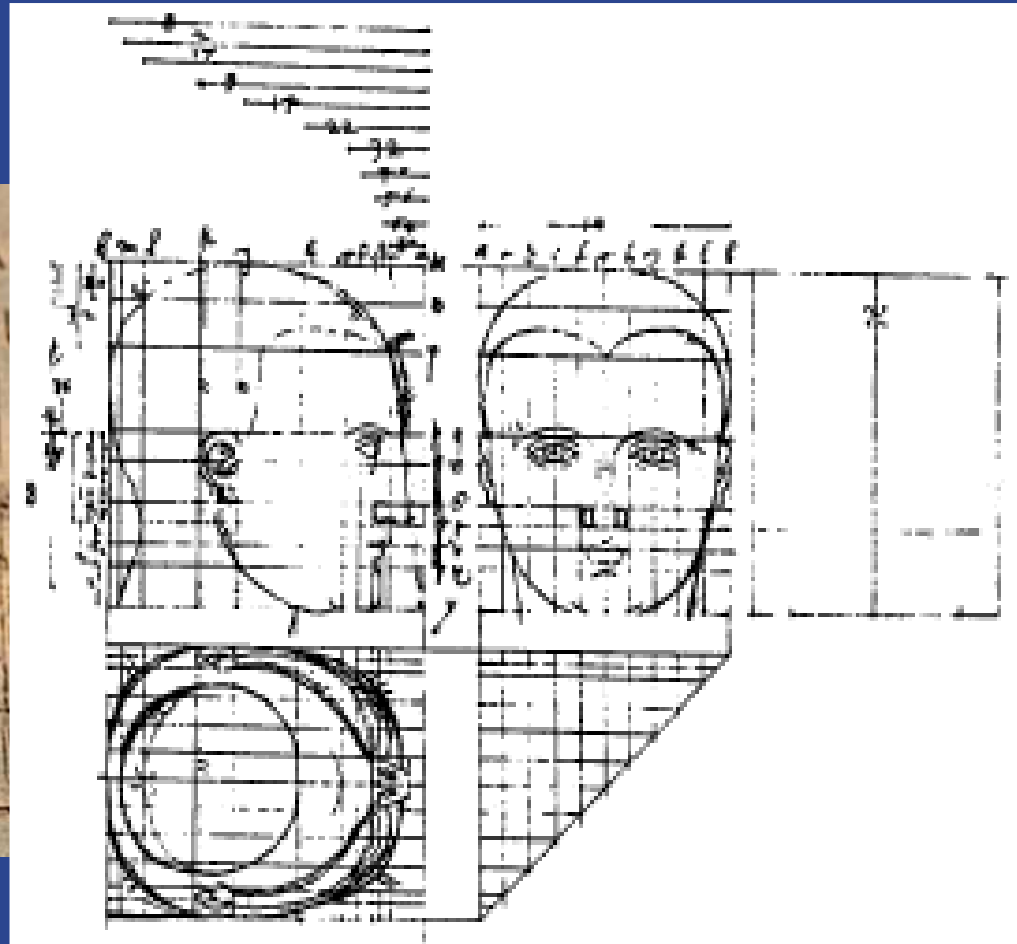
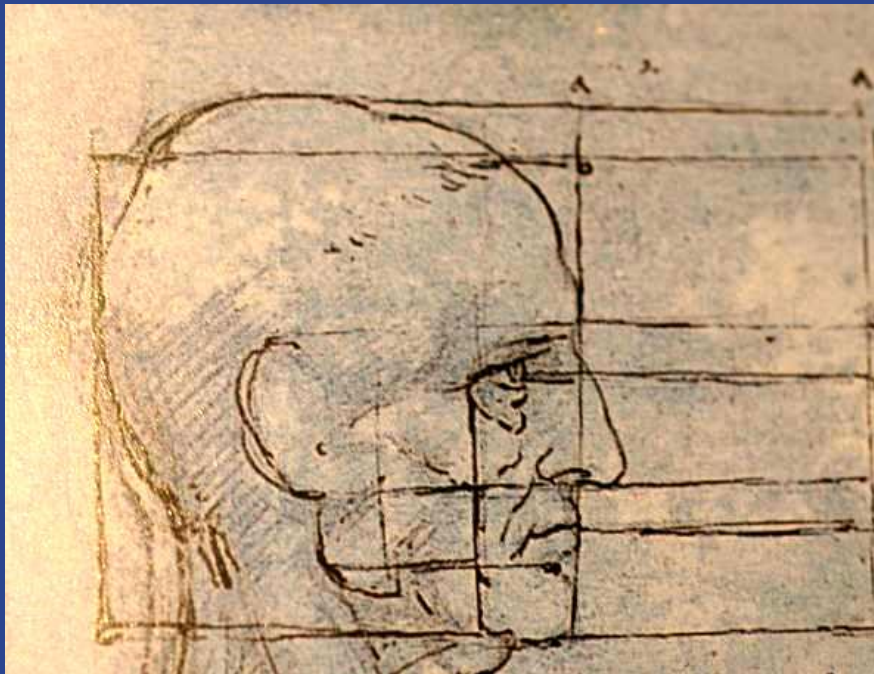
3. ORAL HYGIENE

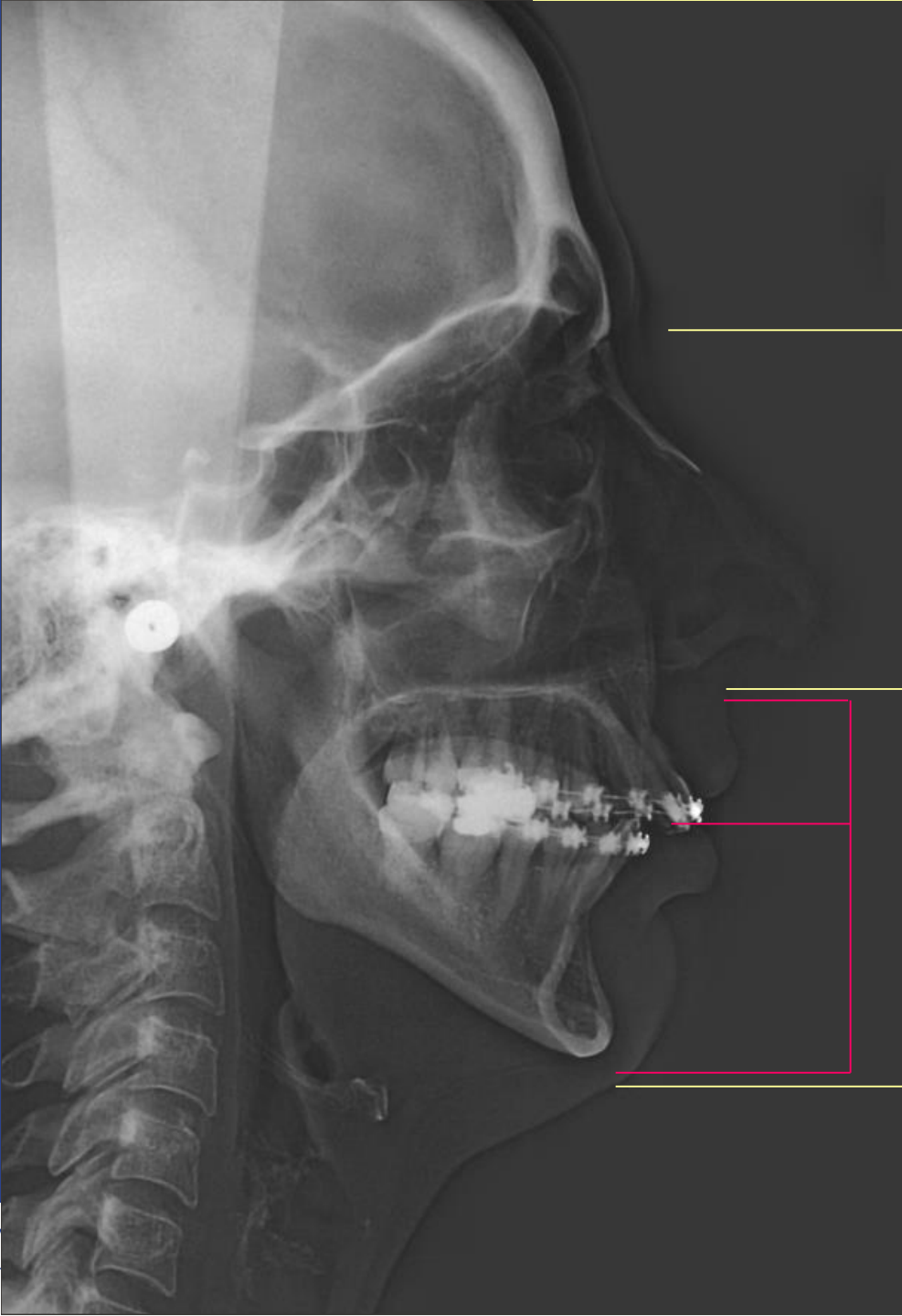


4. HARMONIOUS FACE



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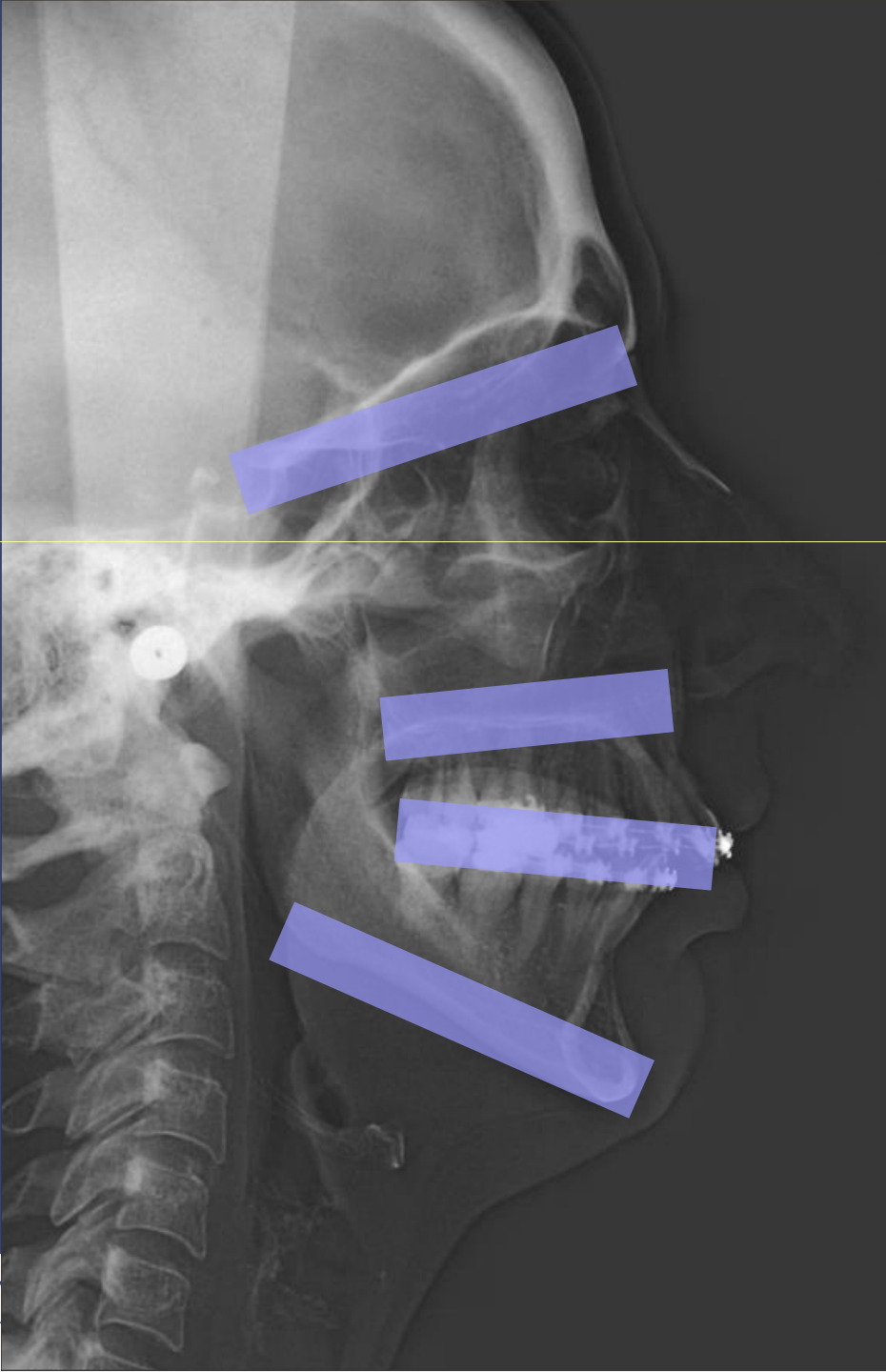




Classical canons

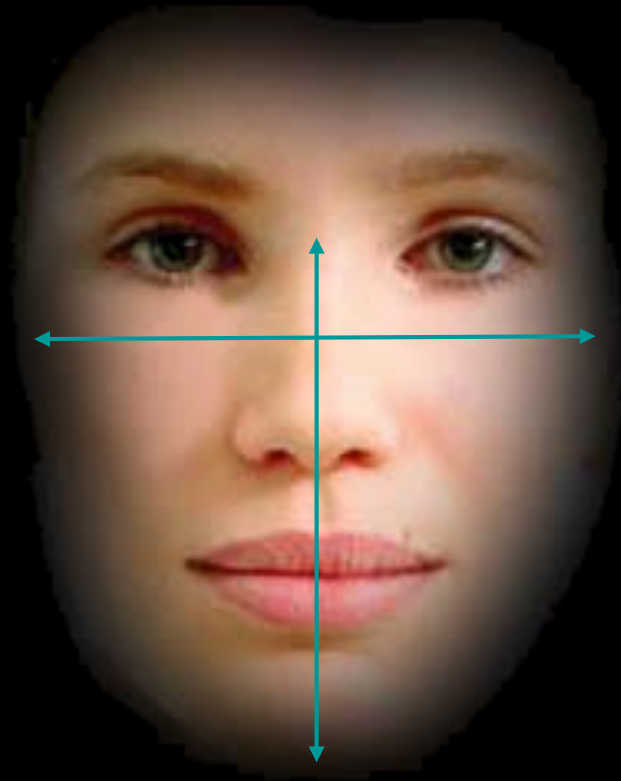
1/3

1/2



Segments & planes

Hugo Obwegeser



Facial Index

Width x 100/height

DECOMPENSATION



TYPES OF ORTHOGNATIC SURGERIES

1. Transversal discrepancies

Subtotal Le Fort I – surgically assisted maxillary expansion SARME or TPD

Transmandibular distraction

2. Le Fort I osteotomy

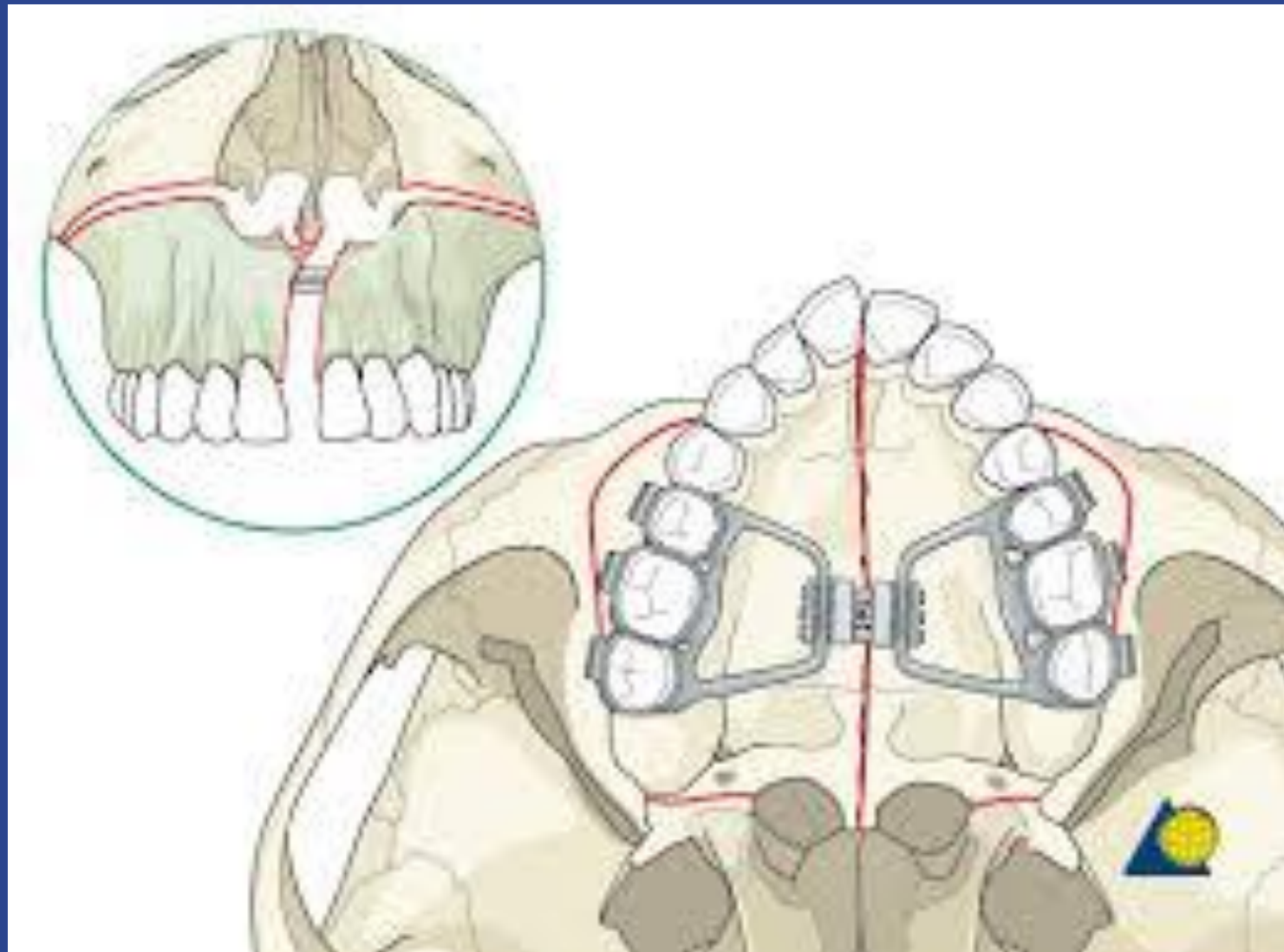
3. Bilateral Saggital Split Osteotomy (BSSO = Obwegeser–Dal Pont surgery)

4. Genioplasty

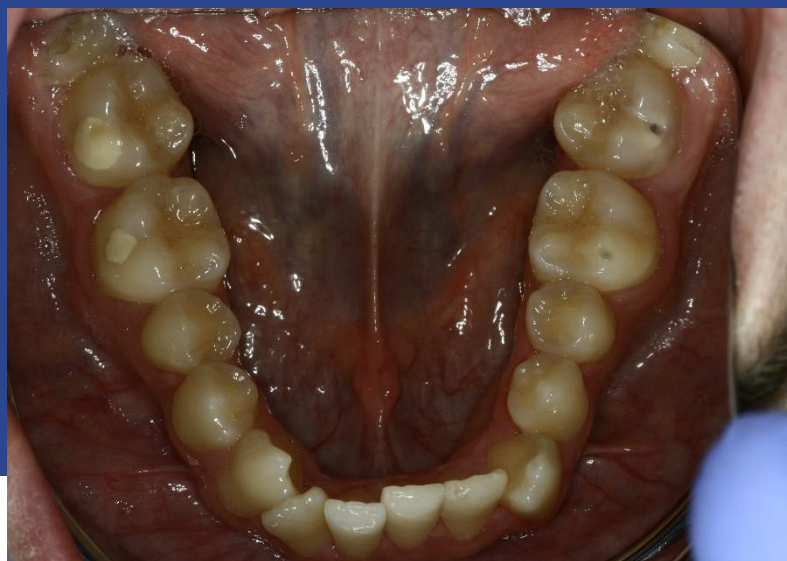
TRANSVERSAL DISCREPANCIES



TRANSVERSAL PROBLEMS – DISTRACTION OSTEOGENESIS - SARME



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TRANSPALATAL DISTRACTION (TPD)



SAGITTAL DISCREPANCIES



SAGITTAL DISCREPANCIES

Köle's Osteotomy

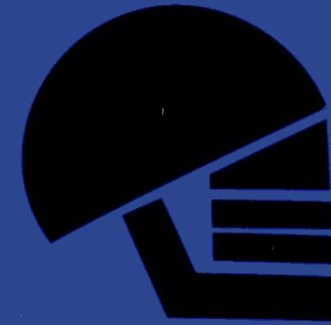
Le Fort I – Maxillary advancement

BSSO – Mandibular advancement or setback

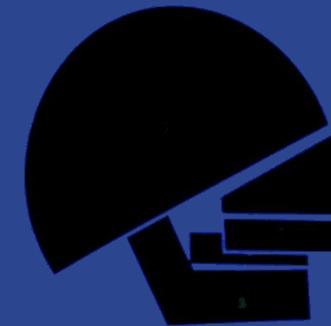
Genioplasty – advancement or setback

SAGITTAL RELATION

–Class I : normocclusion



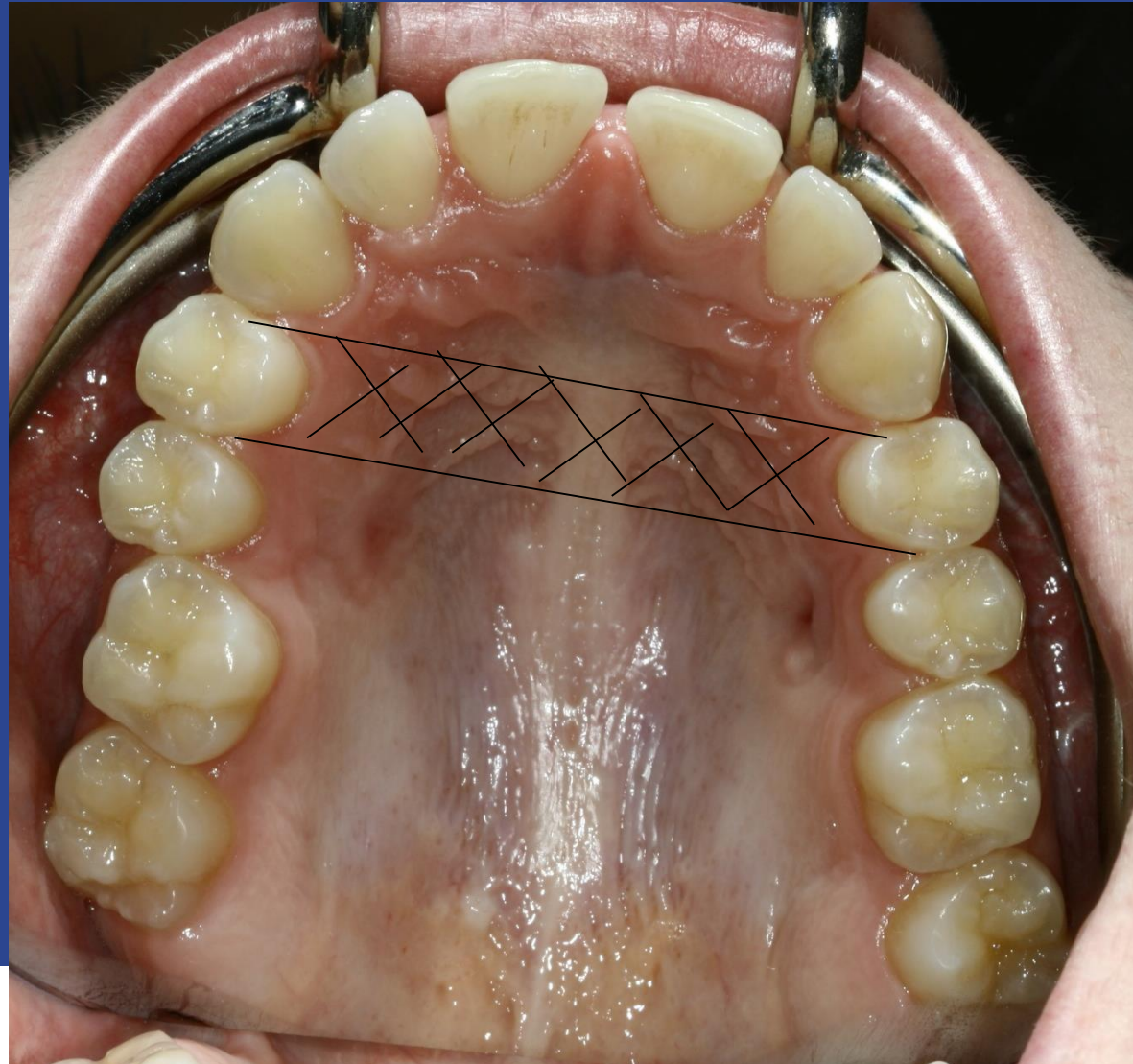
–Class II: distocclusion



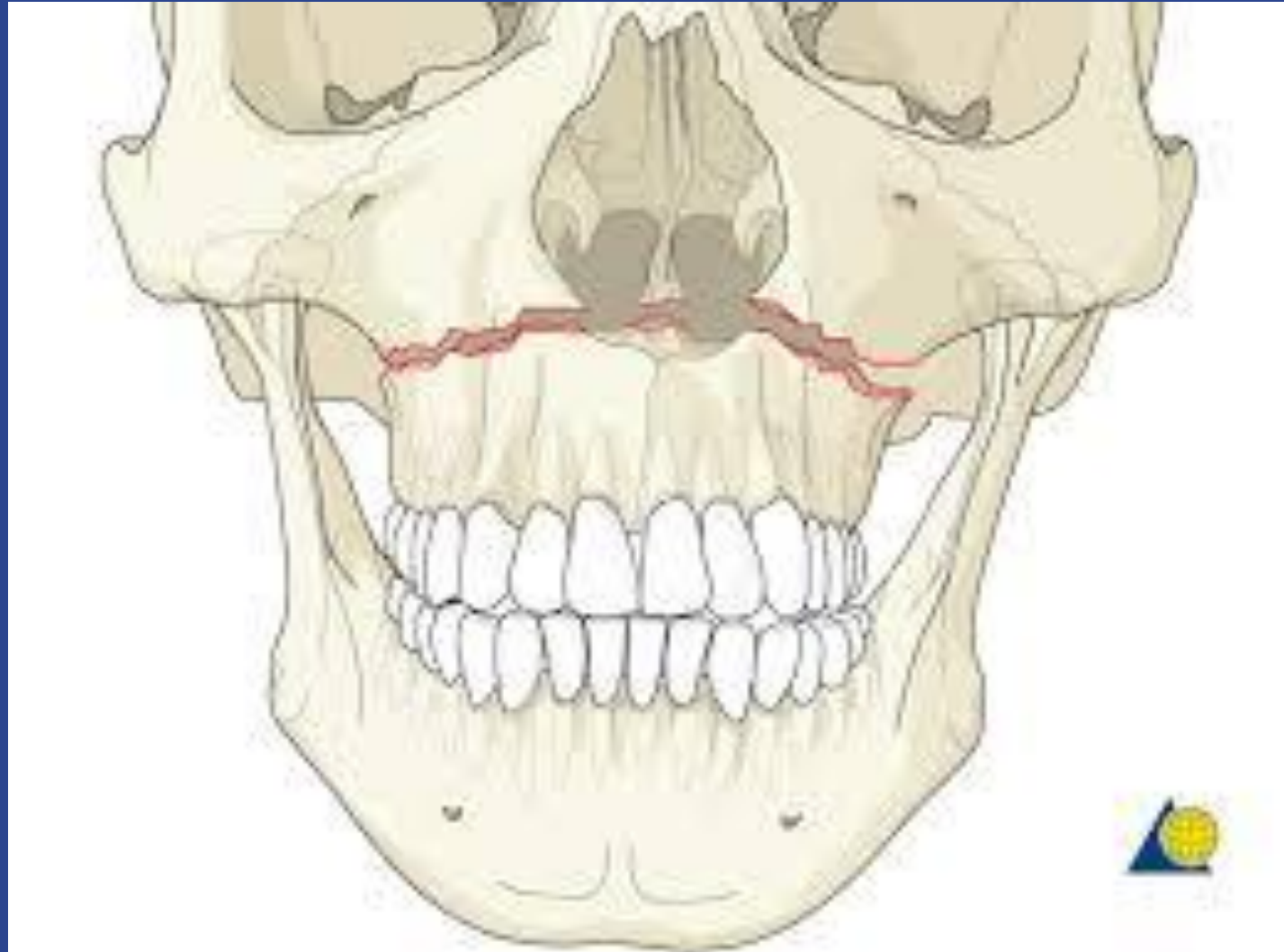
–Class III: mesiocclusion



KÖLE'S OSTEOTOMY



LE FORT I ADVANCEMENT







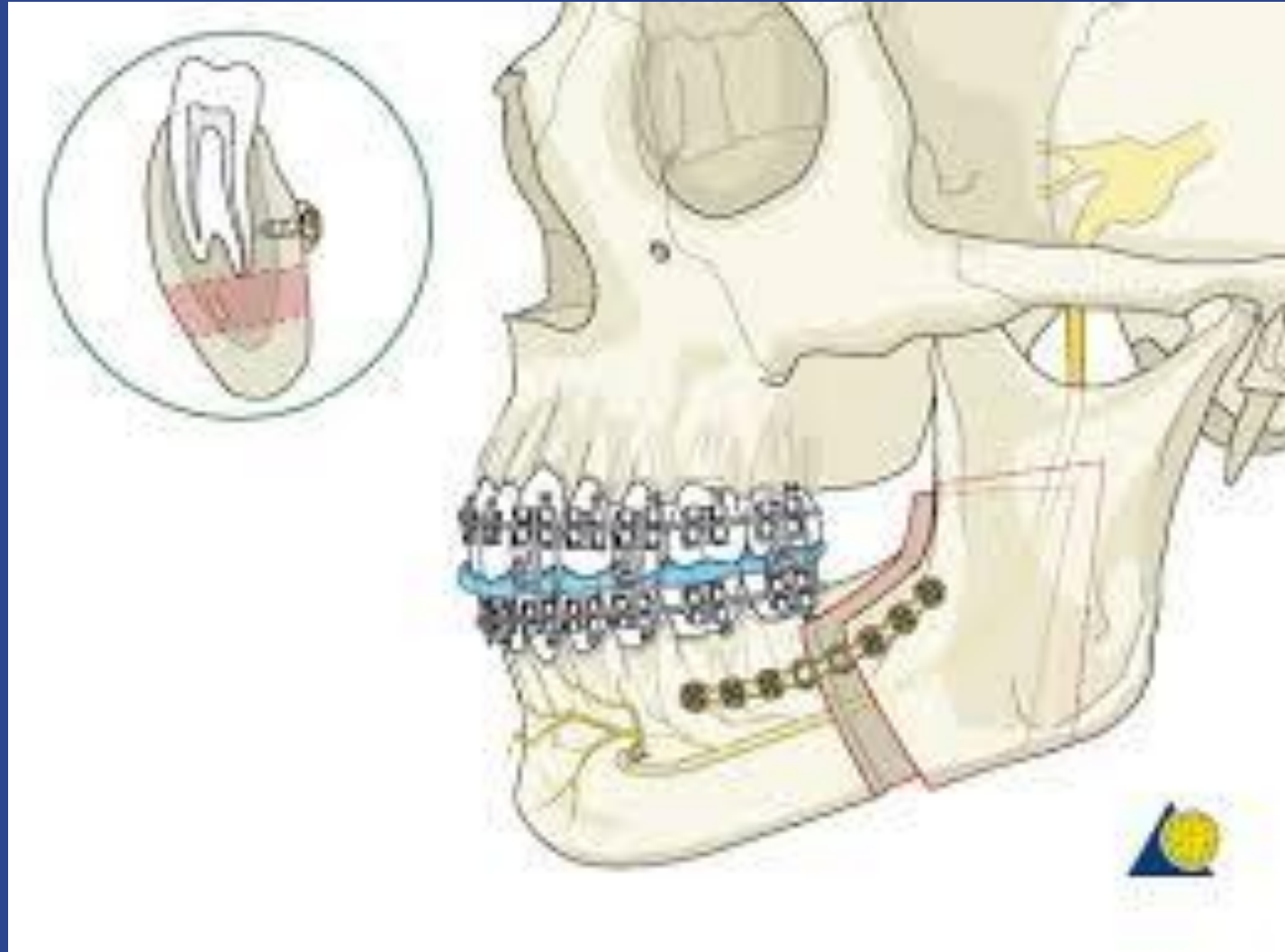
MŰTÉT UTÁNI ÁLLAPOT



AFTER SURGERY

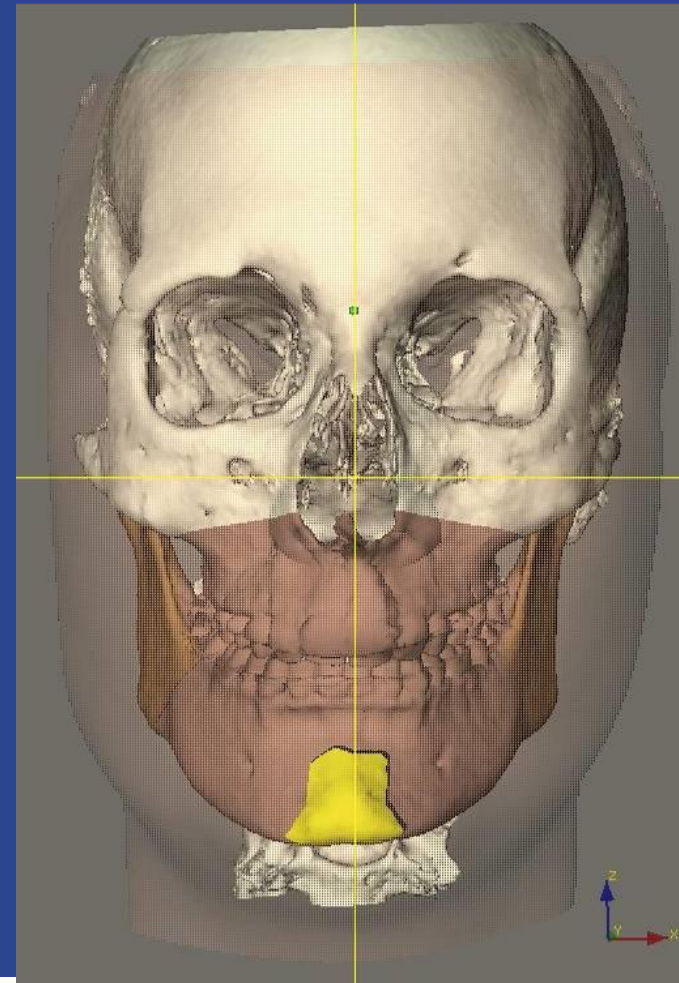
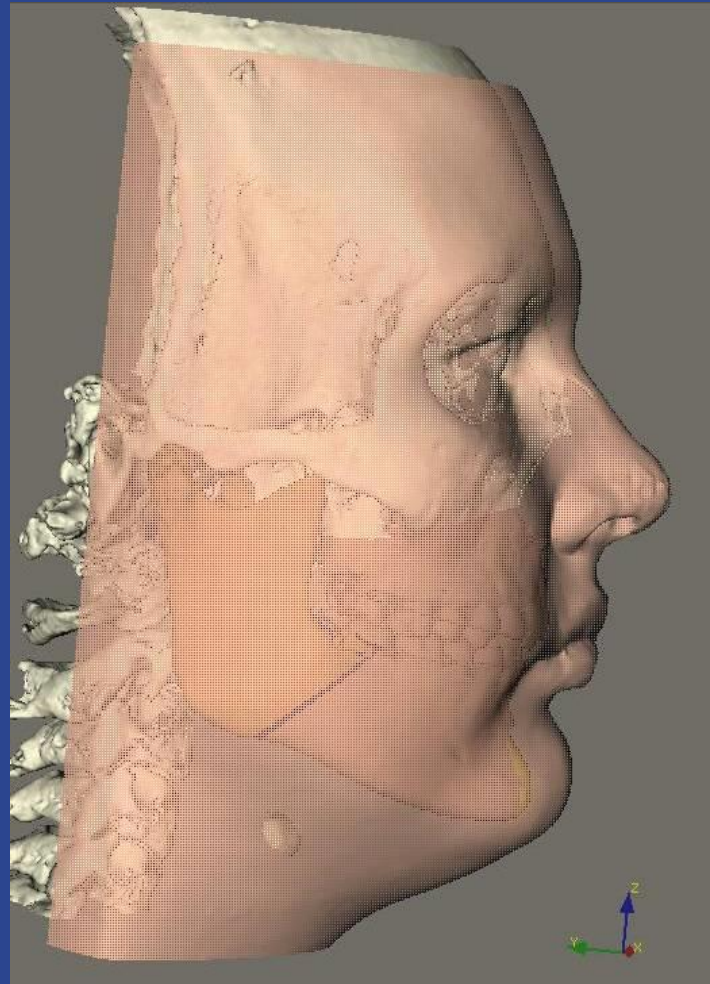


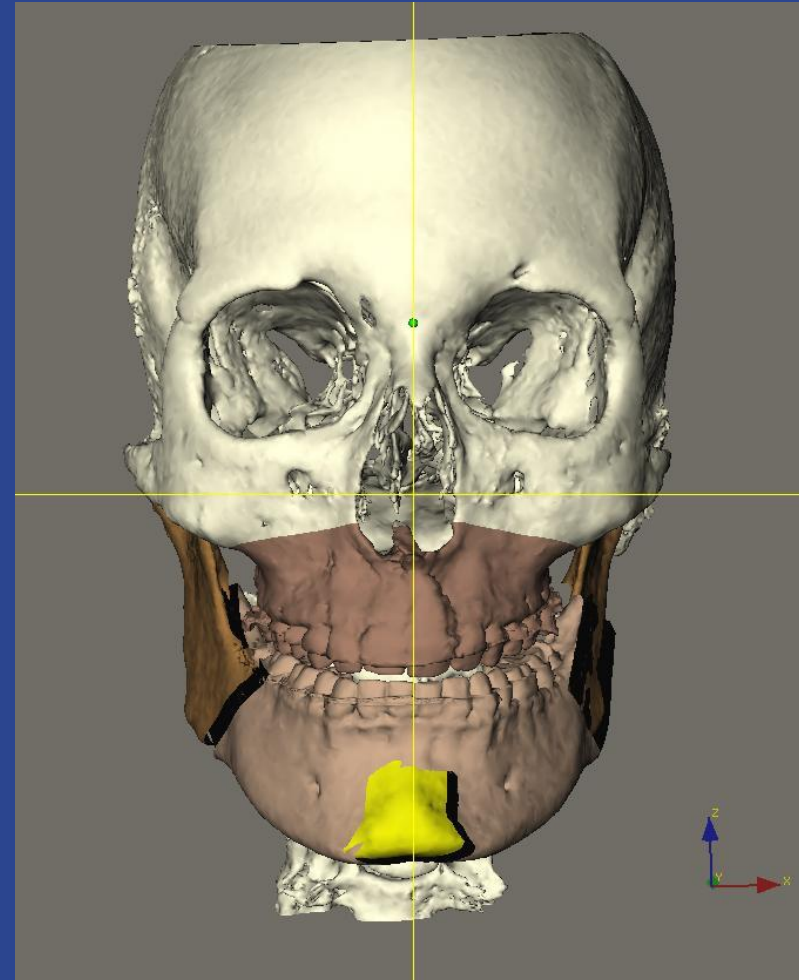
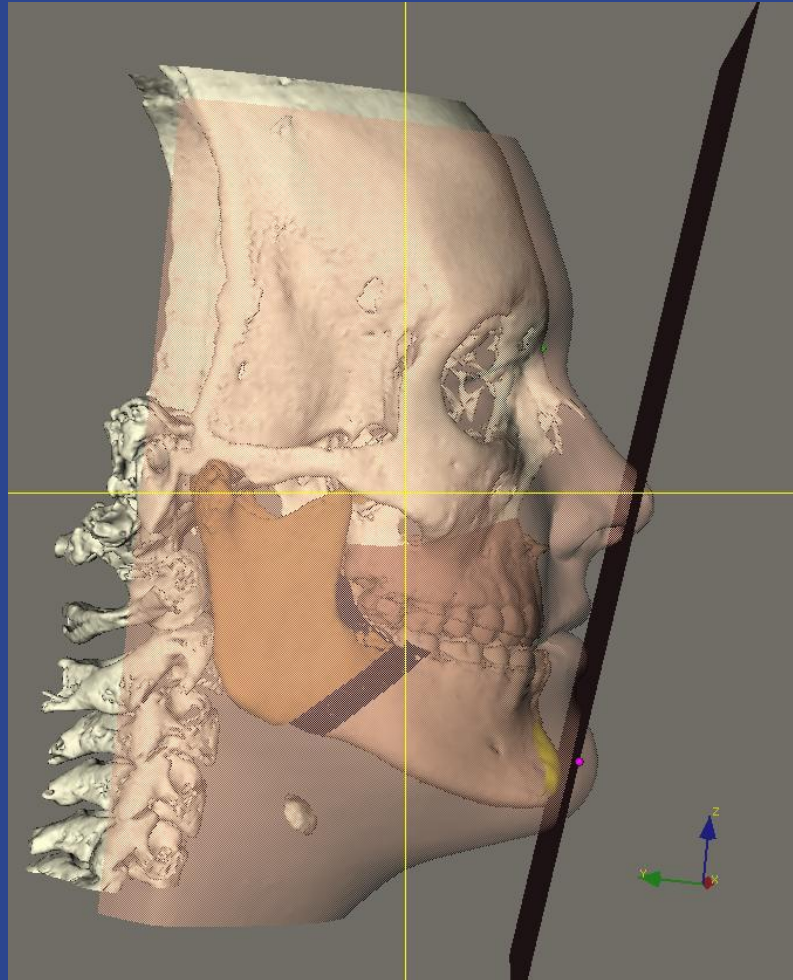
BSSO

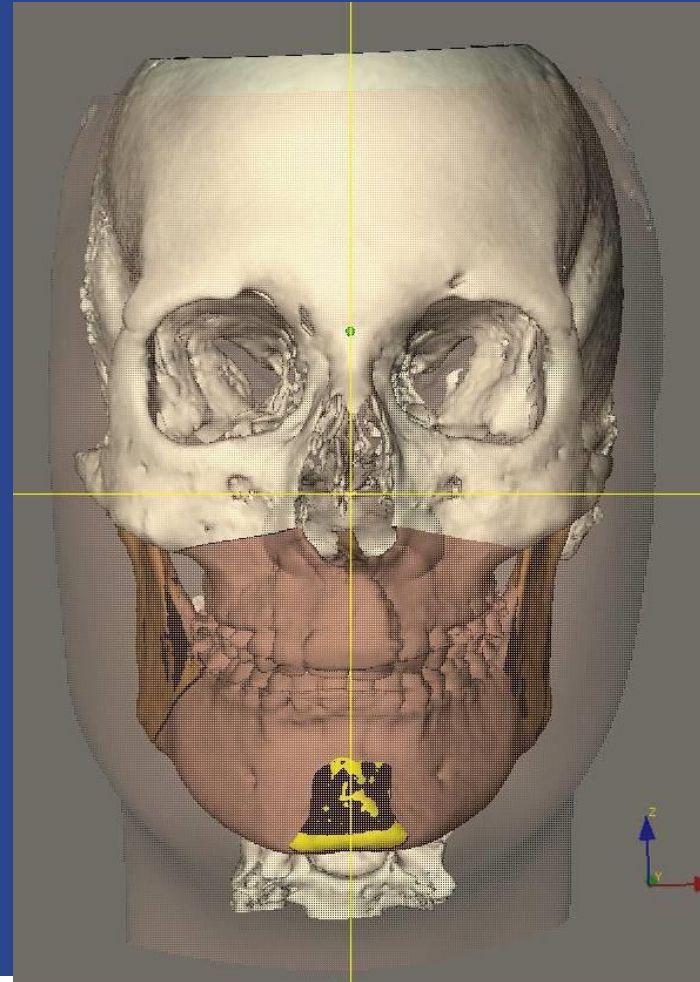
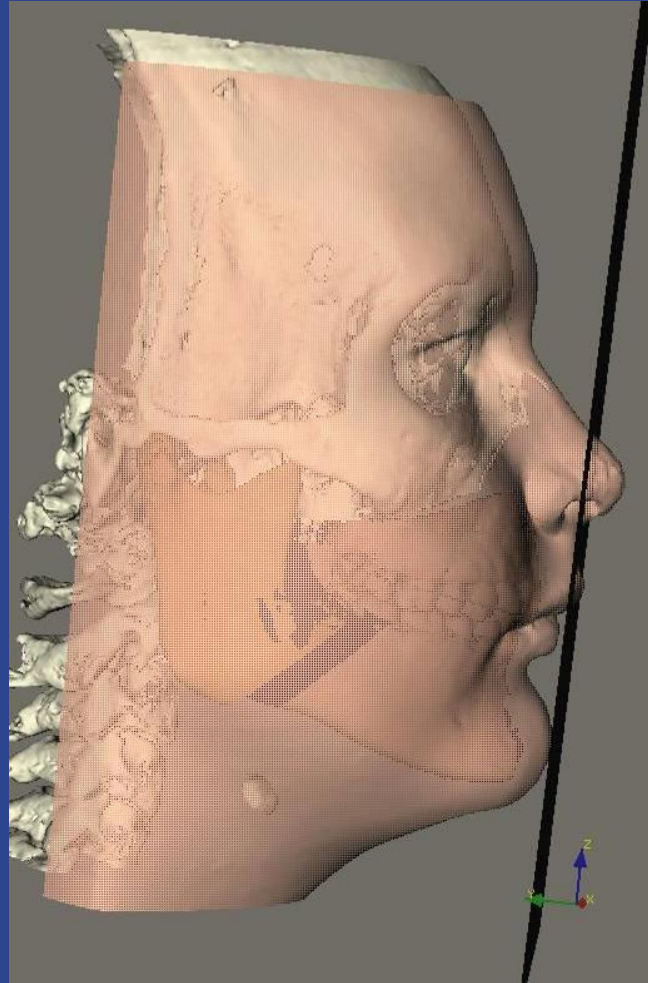




MAXILLARY ADVANCEMENT LE FORT I AND BSSO ADVANCEMENT

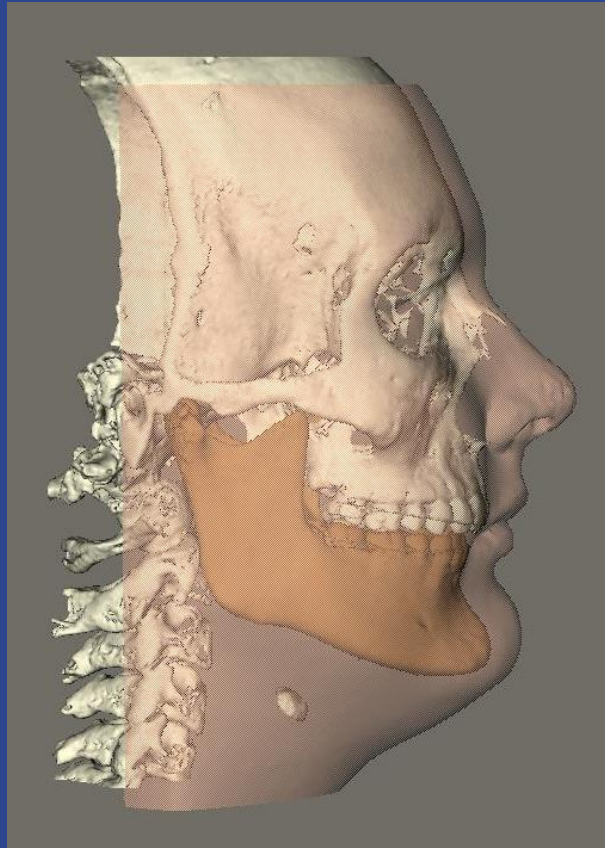




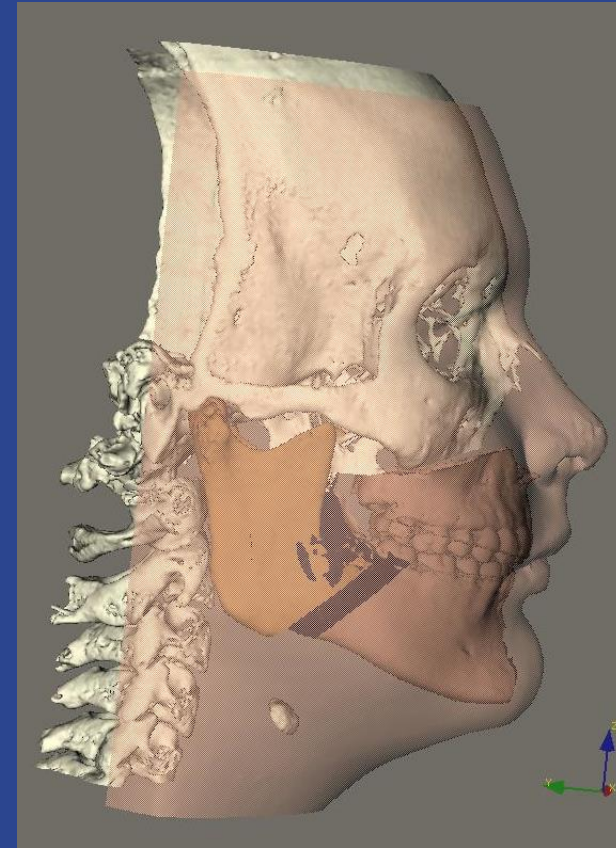


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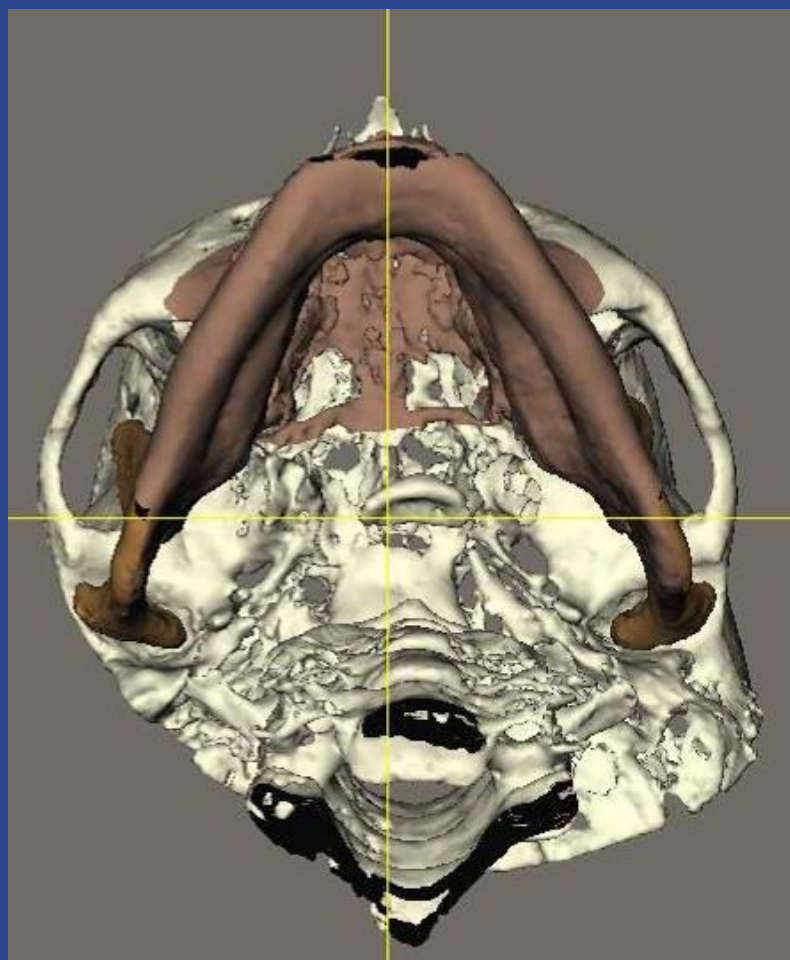
Surgical-Orthodontic Treatments



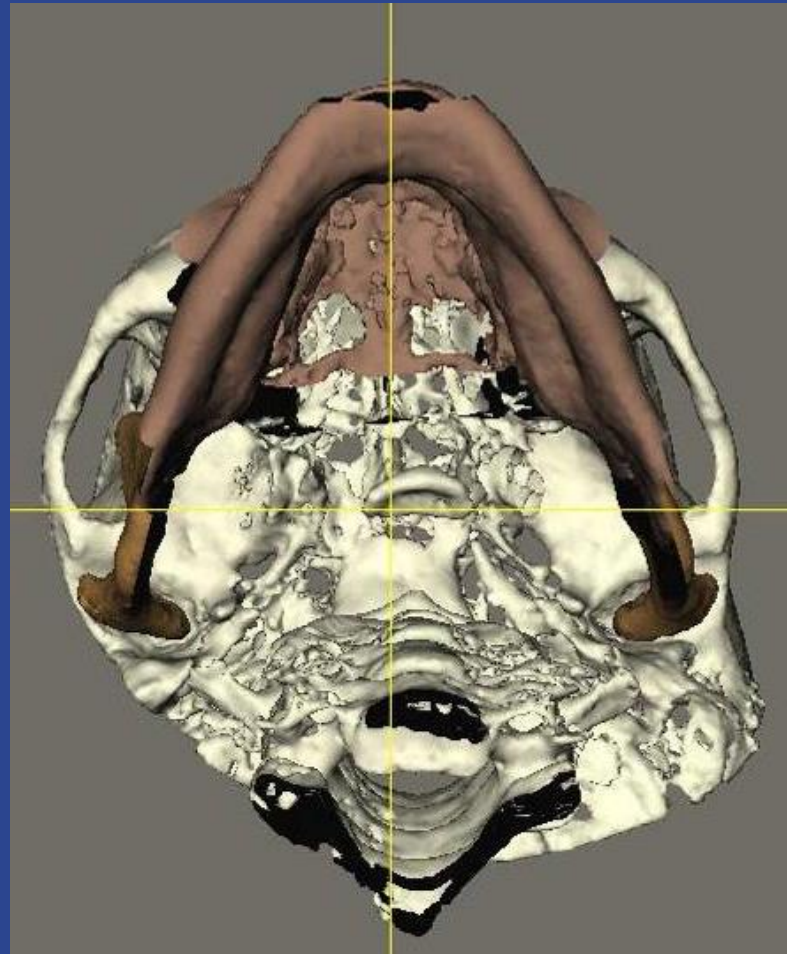
Pre surgery



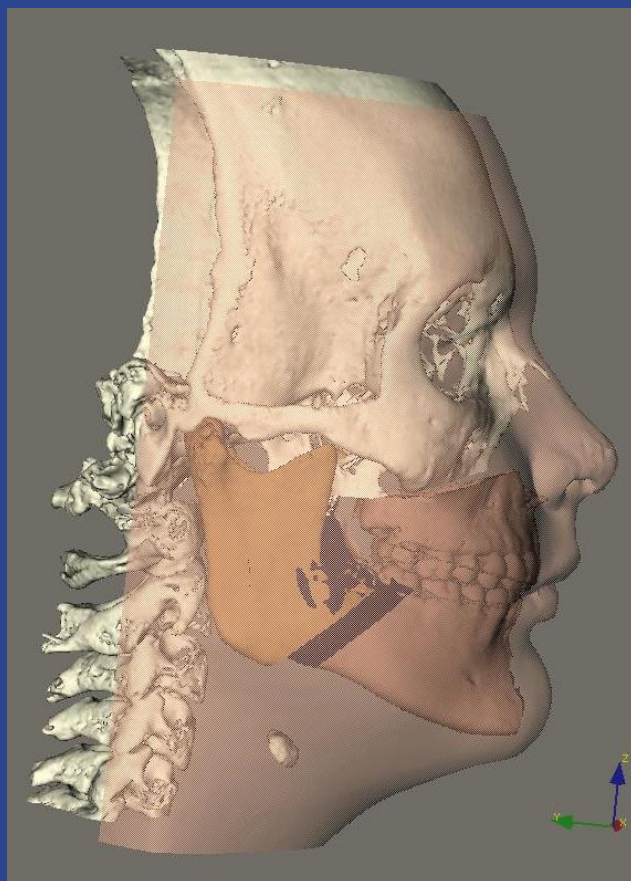
Post surgery planned



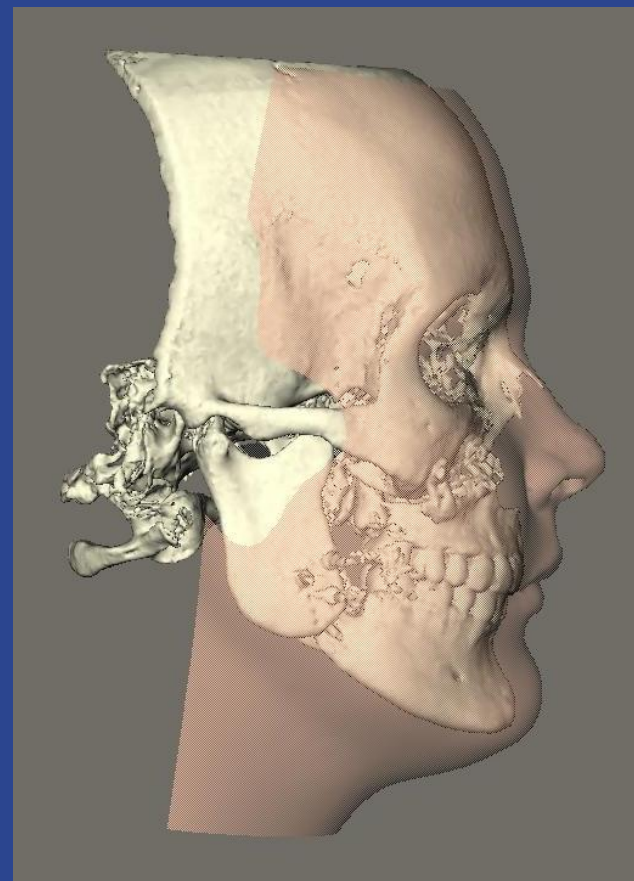
ALULSÓ NÉZET



AFTER SURGERY

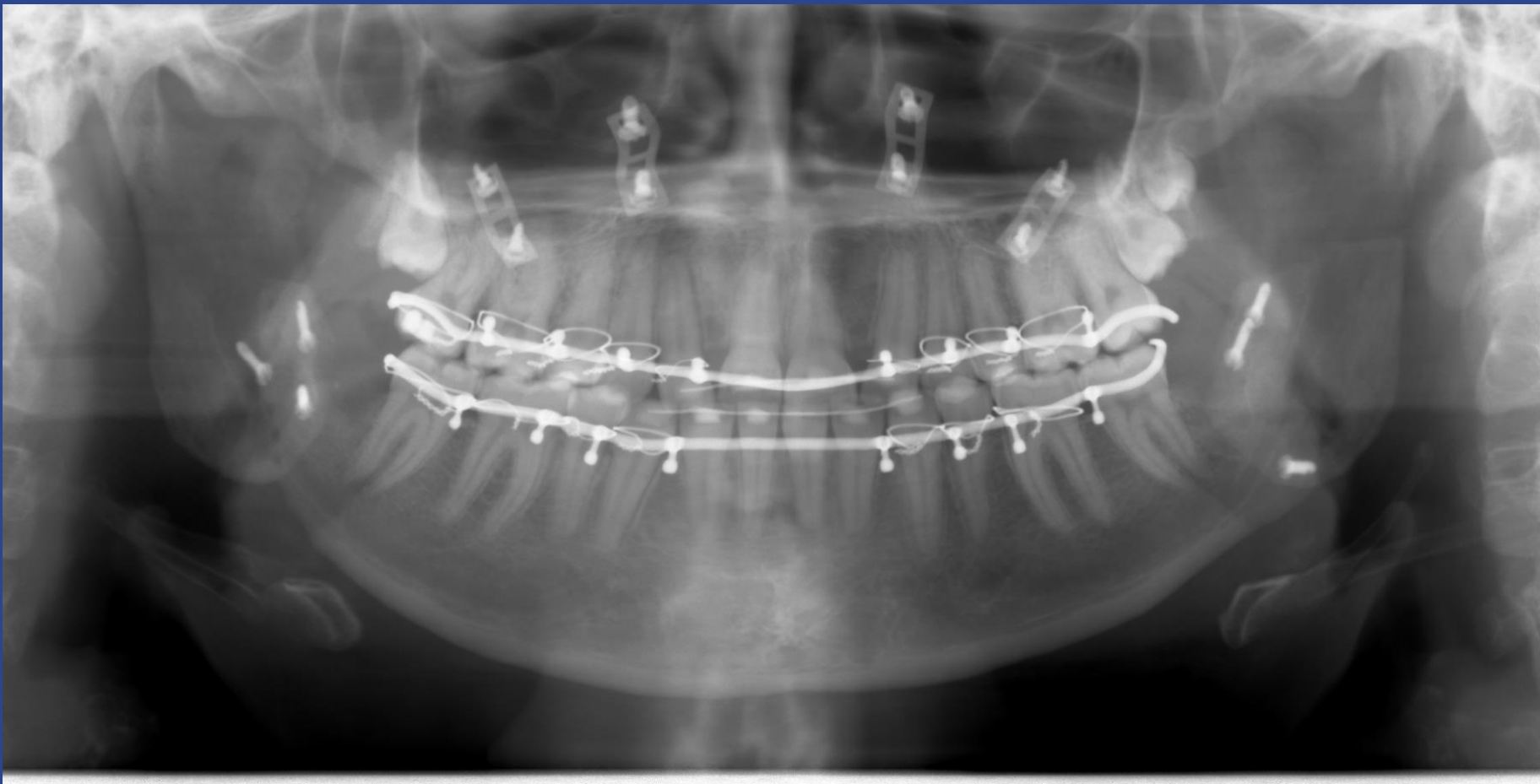


planned

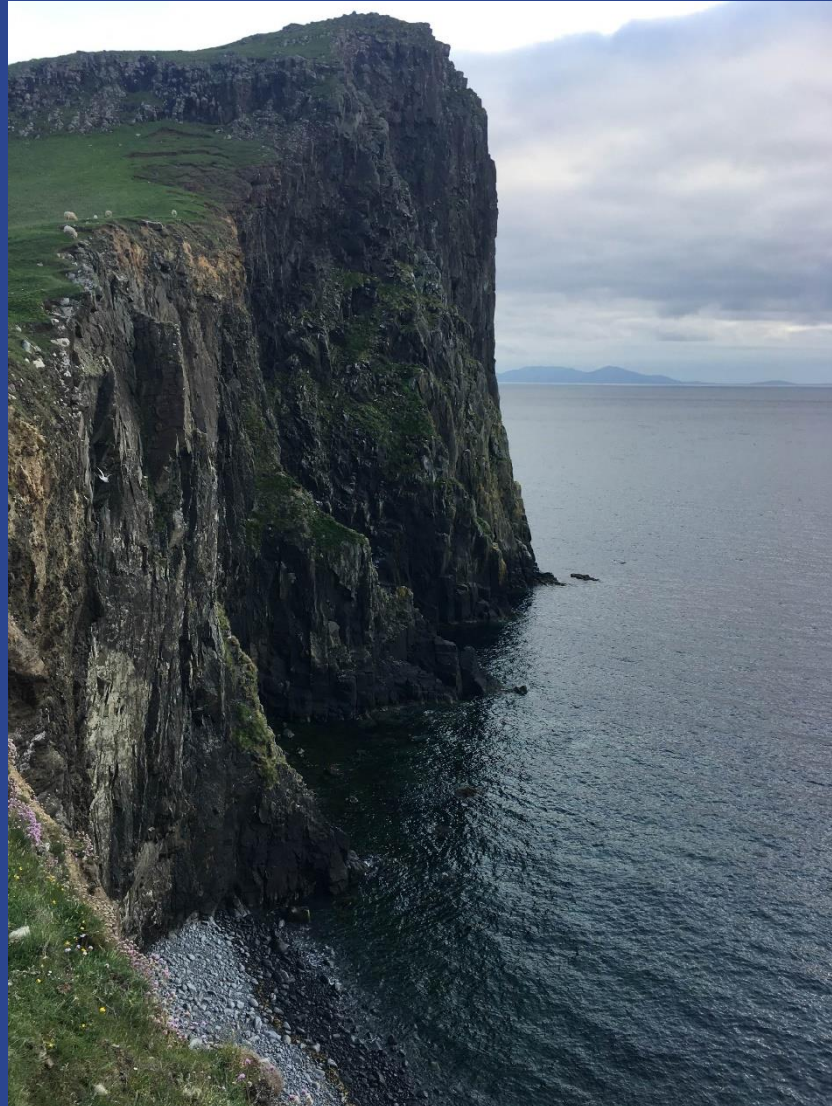


real

AFTER SURGERY

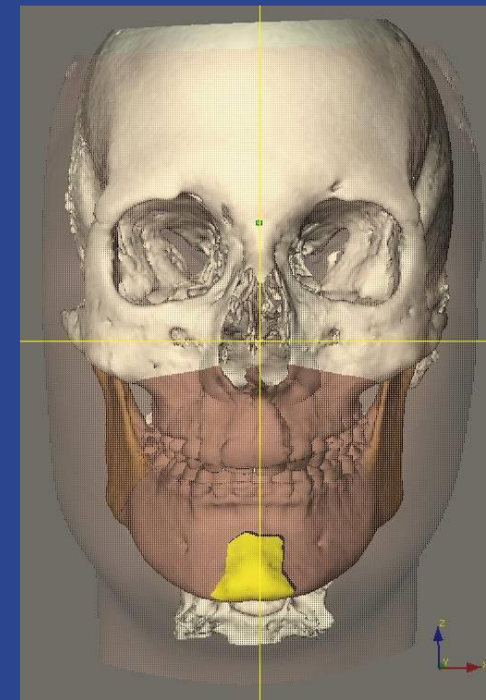
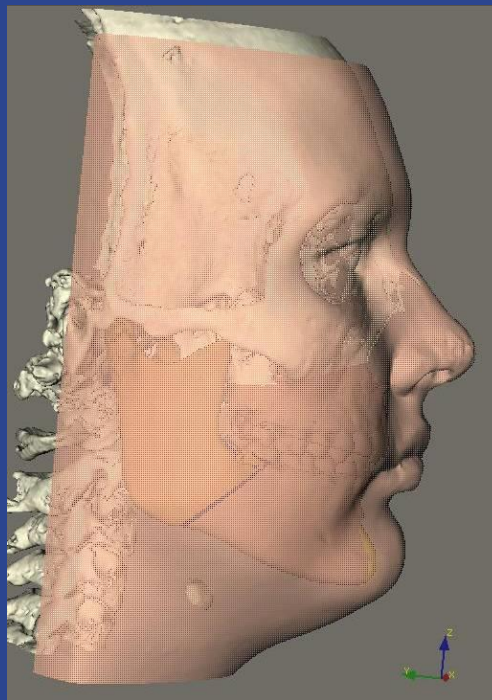


VERTICAL DISCREPANCIES



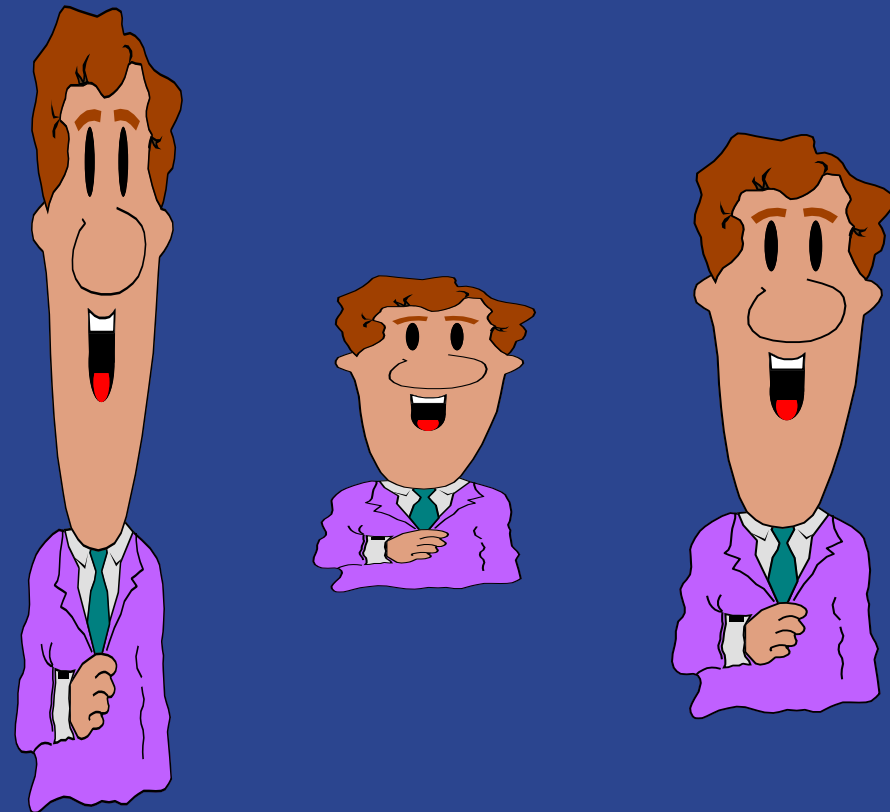
VERTICAL DISCREPANCIES

- Le Fort I Maxillary impaction or downgraft
- Genioplasty



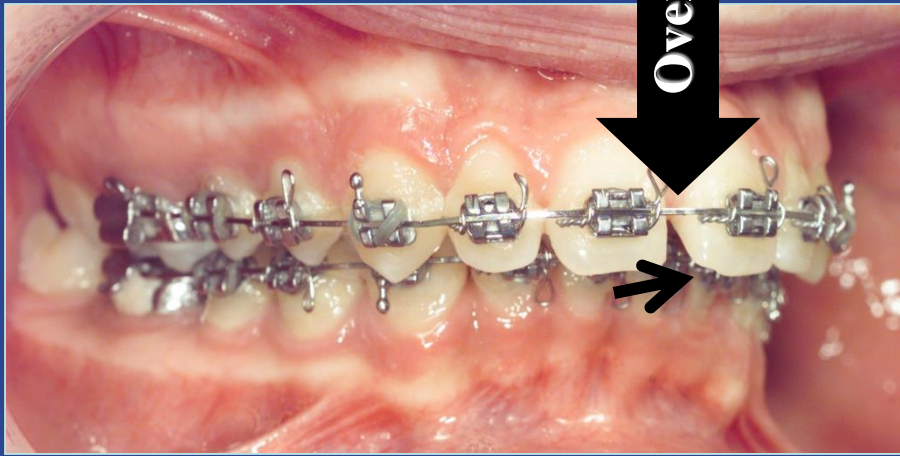
Vertical relation

- Long-face
- Short-face
- Apertognathia

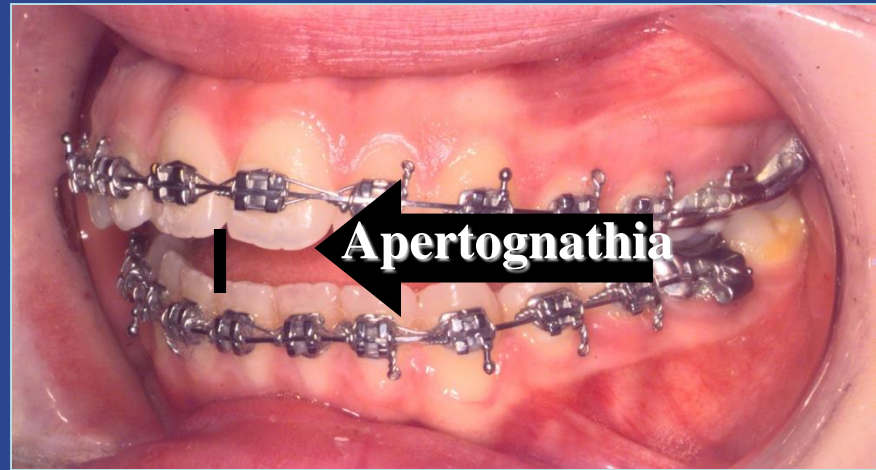




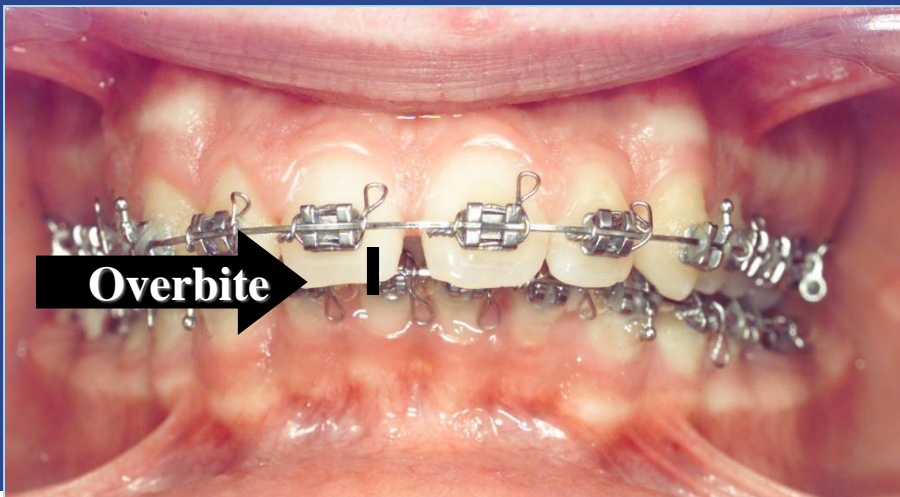
Surgical-Orthodontic Treatments



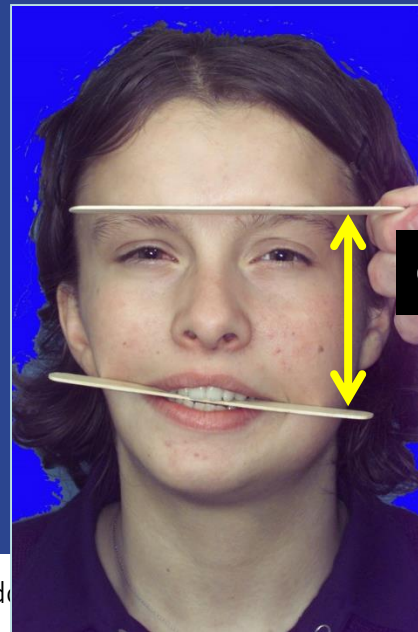
Overjet



Apertognathia



Overbite



Occlusal level

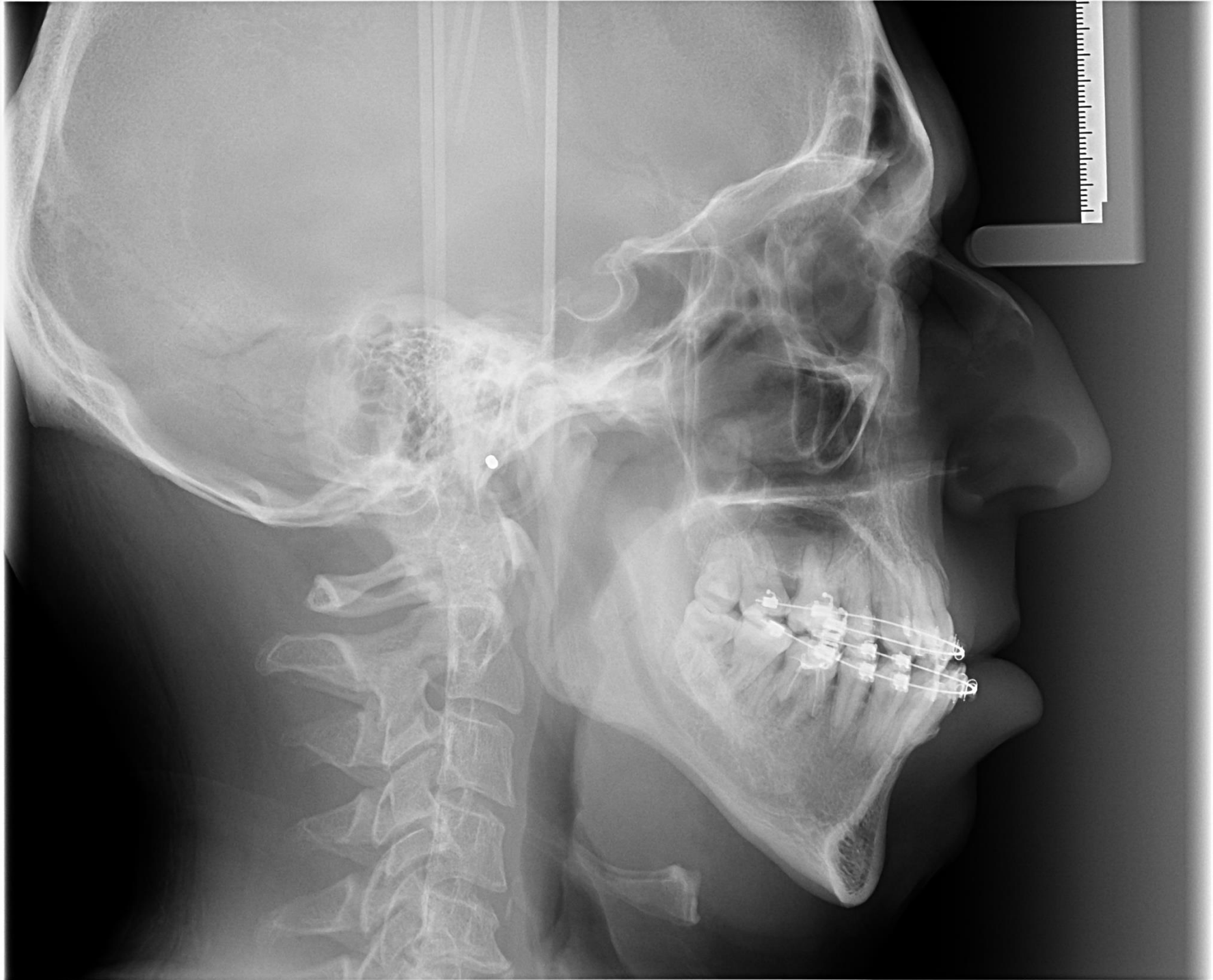


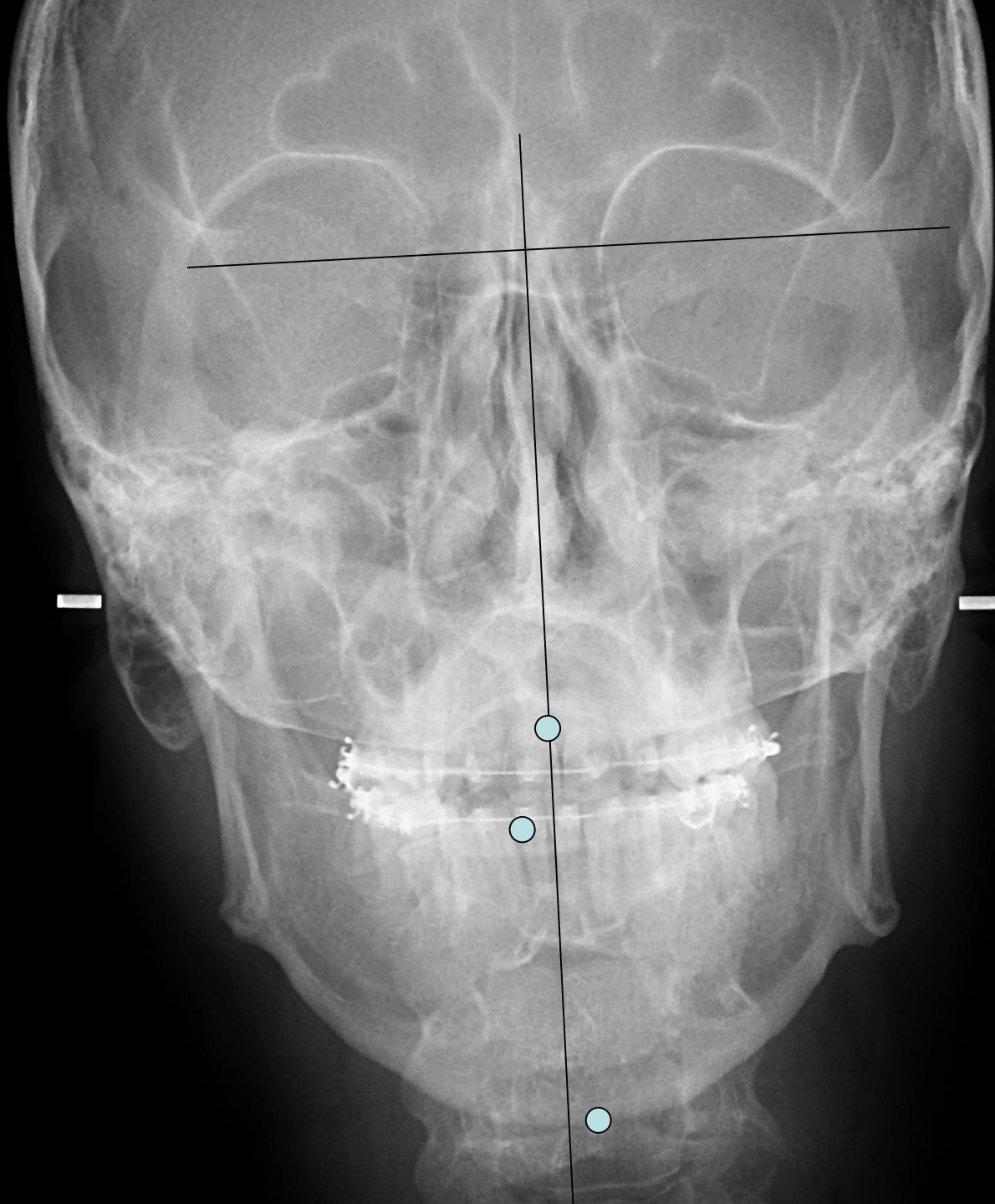














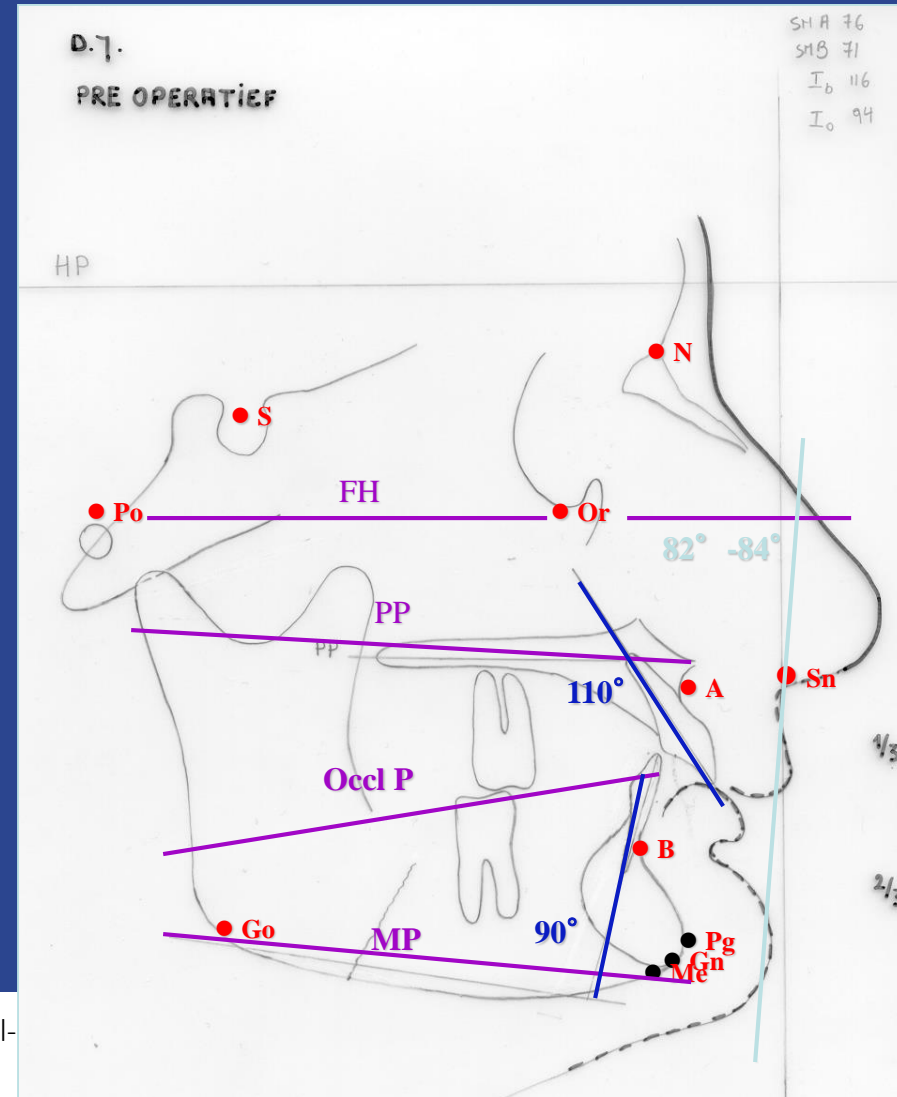
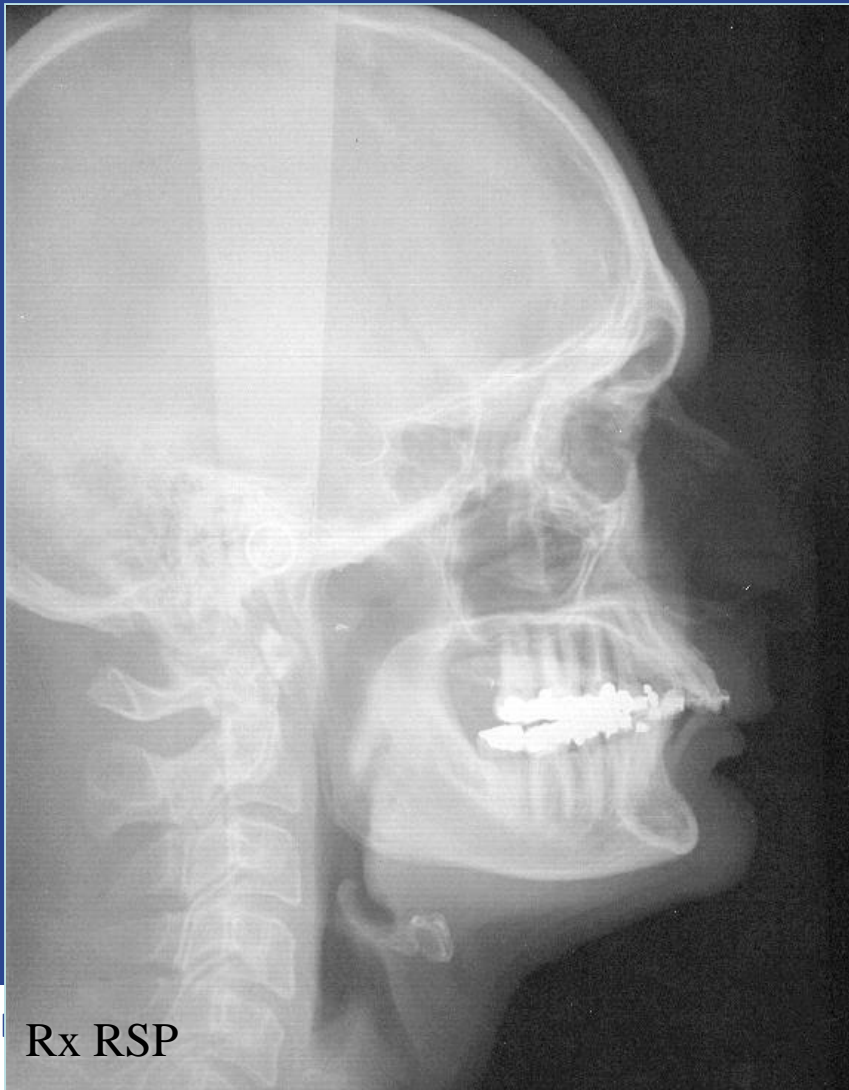
SURGICAL PLANNING

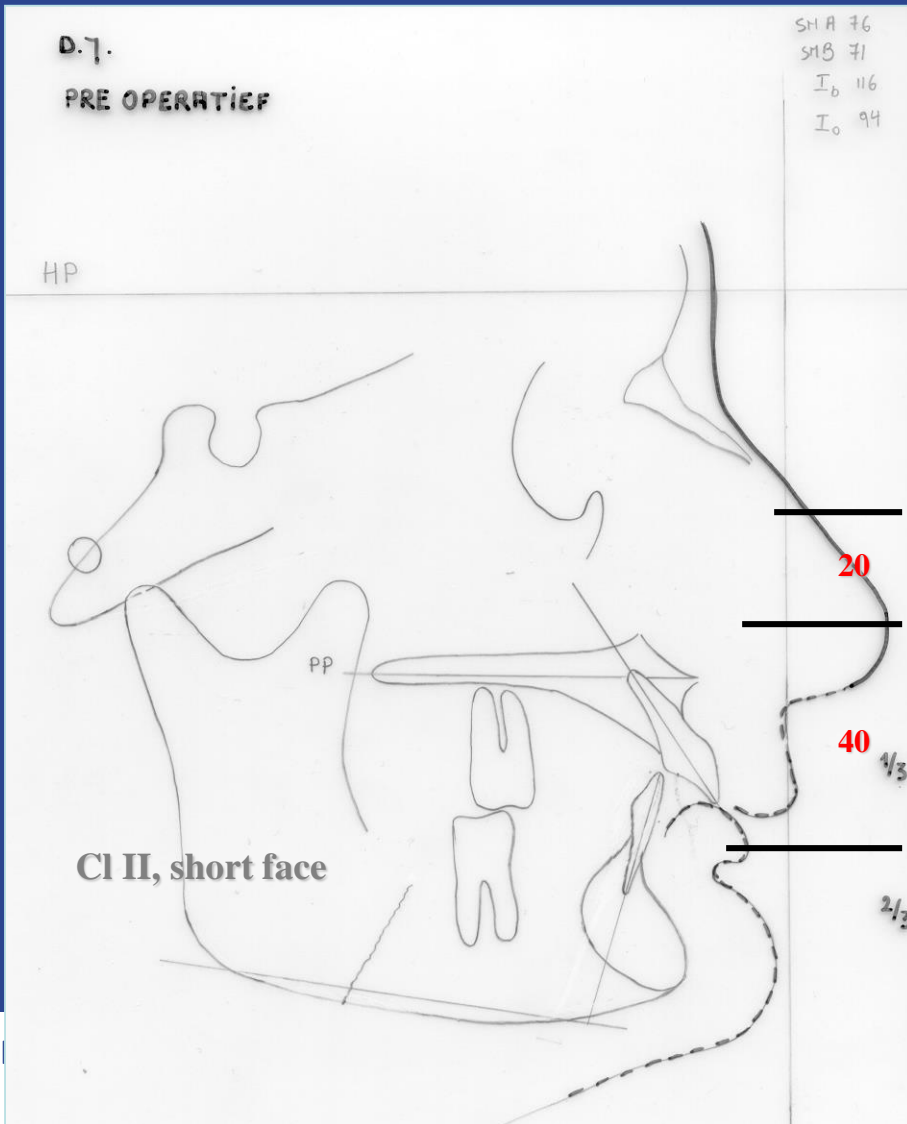


DOCUMENTATIONS NEEDED

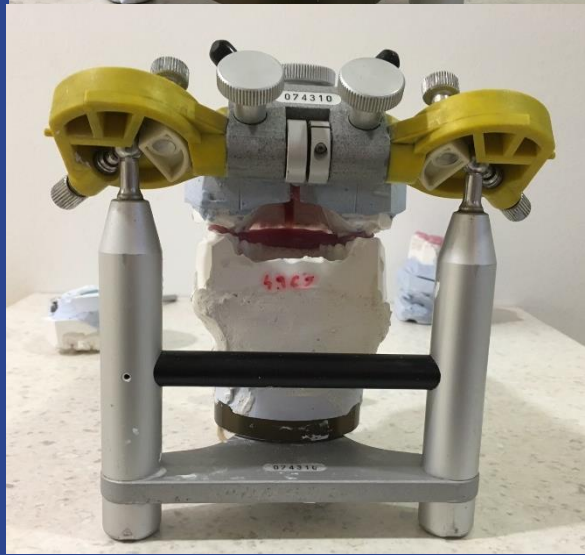
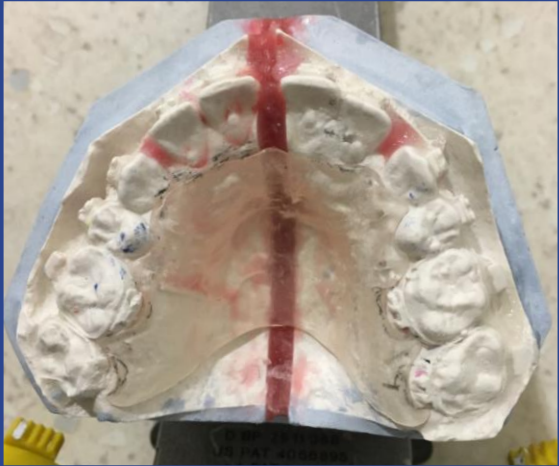
1. Anthropometry – history taking –demographic data
2. Models - Face bow registration
3. Intra and extraoral photos
4. X-ray, CT

CEPHALOMETRY – PAPER SURGERY

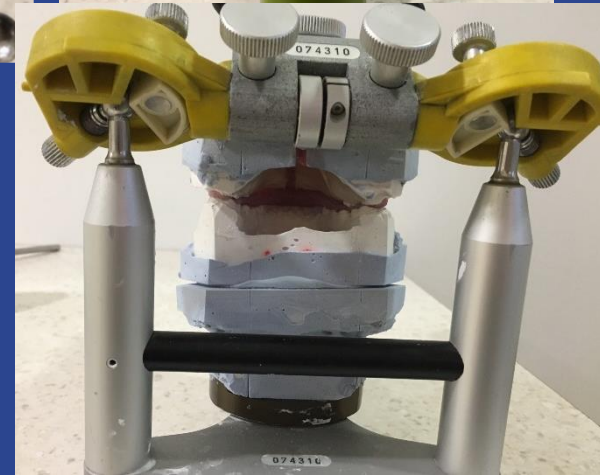
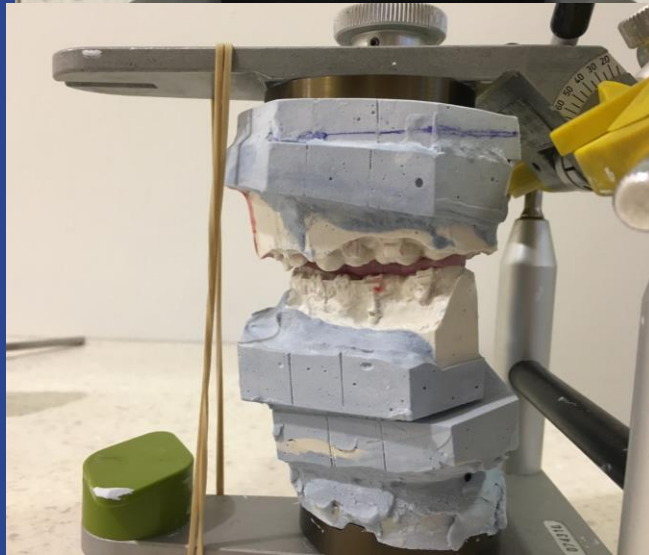
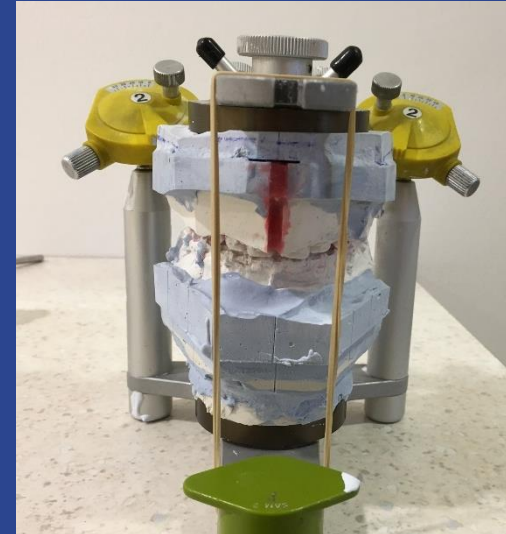
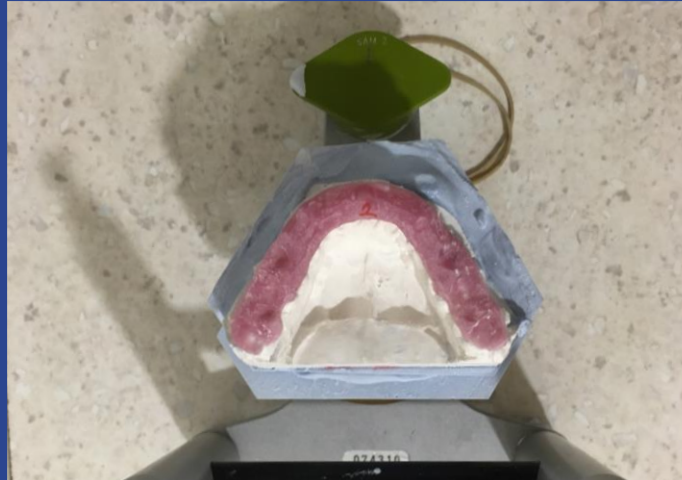




MOCK SURGERY



MOCK SURGERY



A wide-angle landscape photograph of a mountain valley. In the foreground, a person wearing a dark jacket and a backpack is walking away from the camera on a dirt path. The path leads into a lush green valley filled with grass and small white flowers. In the background, several jagged, rocky mountain peaks rise against a thick, grey fog or mist. The overall atmosphere is serene and somewhat somber due to the overcast weather.

THANK YOU FOR YOUR KIND
ATTENTION!