University “G. d’Annunzio” Chieti – Pescara
Department of Medical , Oral and Biotechnological Science
Director Prof. Sergio Caputi

Orthodontics Specialty School
Director Prof. Felice Festa

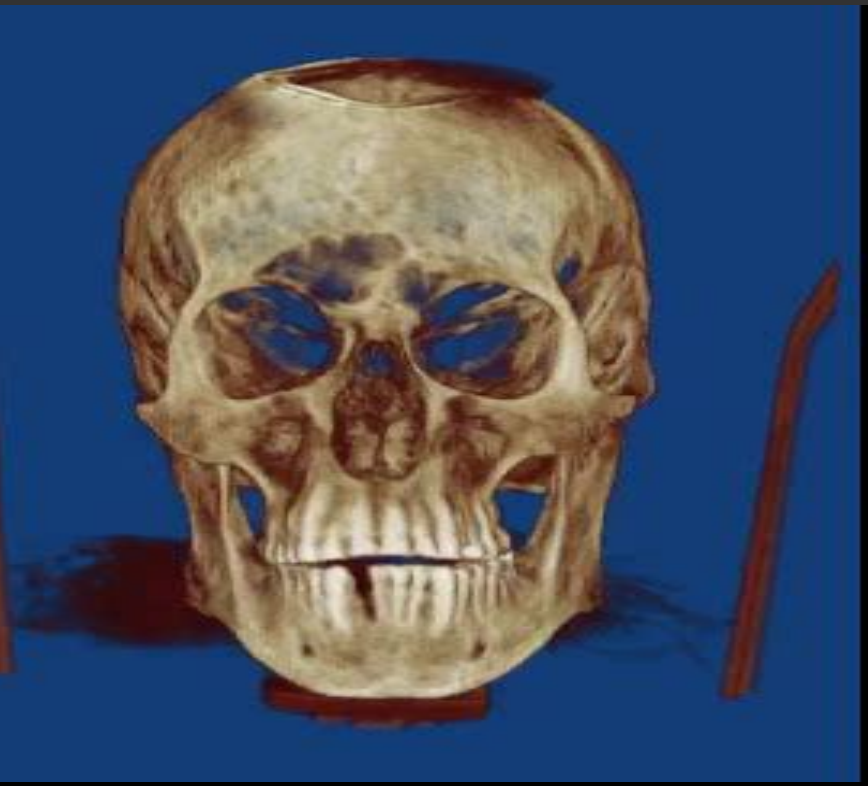
Dalla diagnosi clinica alla diagnosi 3D (Dolphin 3D e scanner intraorali)

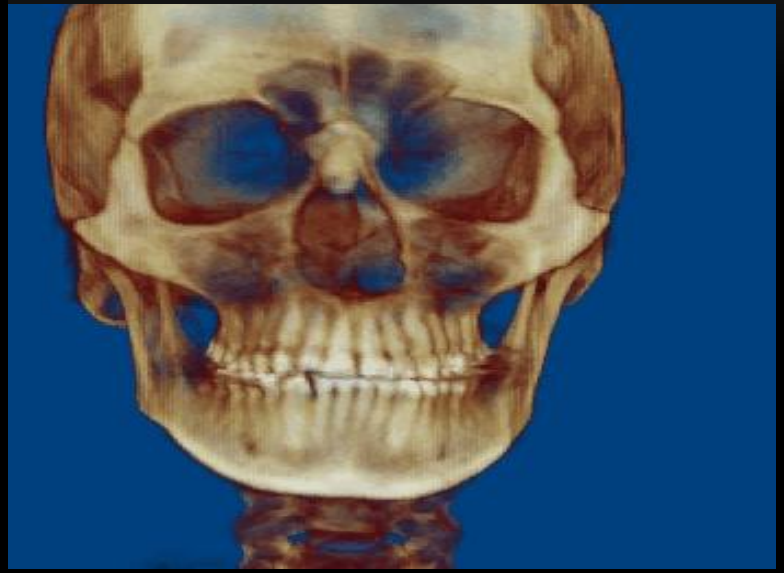
Prof. Felice Festa

47th SIDO International Congress

“Patient-important outcomes in Orthodontics”

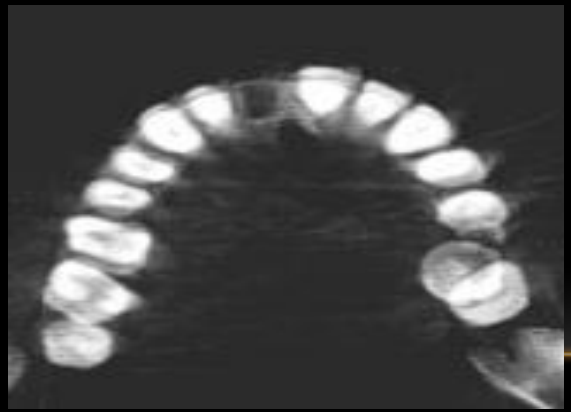
Florence 13-15 October 2016





Confronto fra crani in area con forte imbriding. La distanza fra il cranio del vivente (dx) e quello del probabile antenato è di 4000 anni

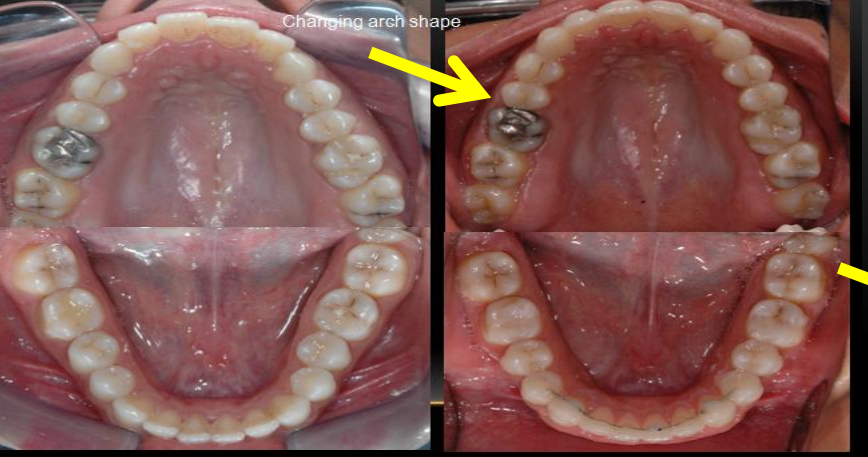
OPI ARCH FORM

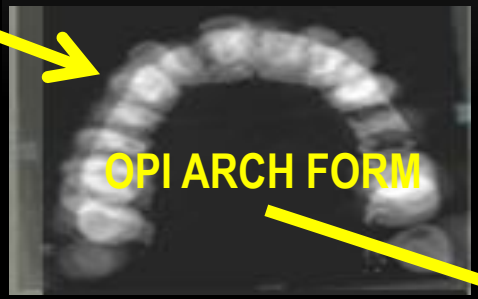


4000 YEARS

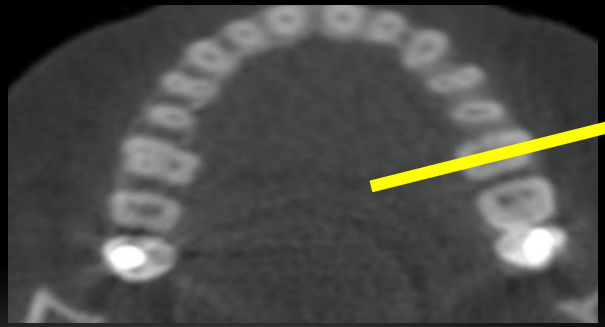
L’arcata superiore si è contratta soprattutto nella zona canina, premolare e del primo molare

An answer from human evolution





IN YELLOW POSITIVE PASSIVE MANDIBLE ADVANCEMENT



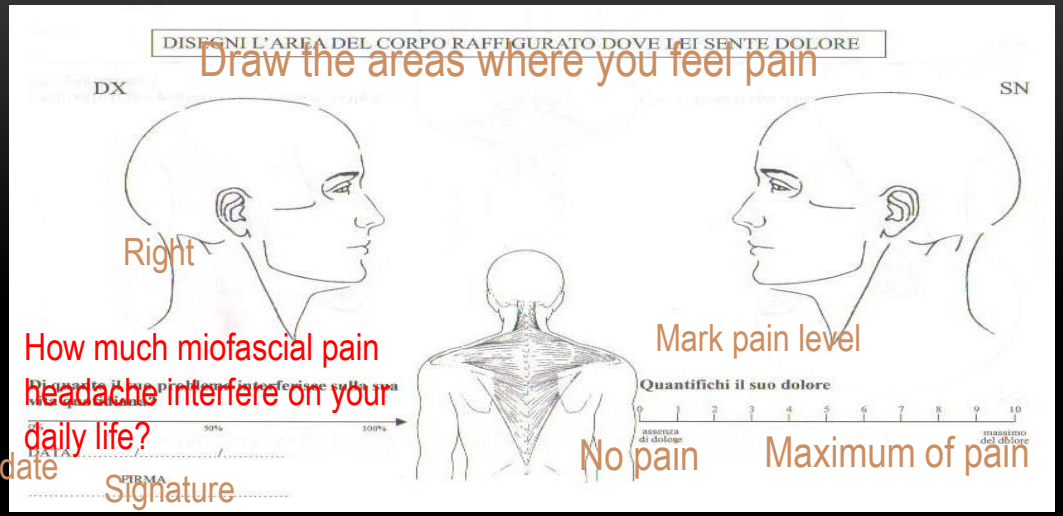
Straight-wire -- less gene adaptation

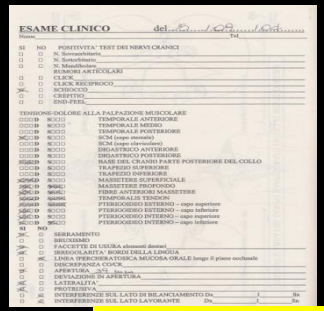
Self-ligating low friction ++ better gene adaptation

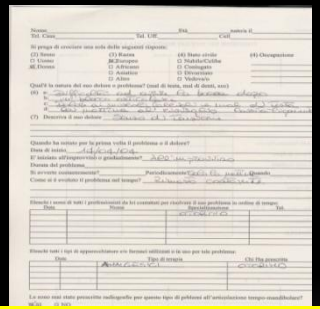
NETWORK>MANAGEMENT SOFTWARES>
>TMJ/ORTHODONTICS CLINICAL CHART>
>DOLPHIN 3D>

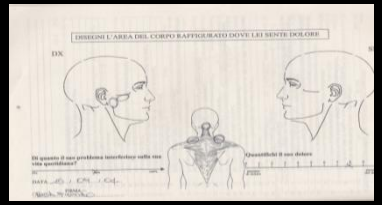
- Transition from 2D to 3D Orthodontics
- 1)Segmentation
- 2)Orientation
- 3)Virtual 2D X-Rays development (lateral>ortophantomography>TMJ>cross sections>postero-anterior>upper arch submento-vertex>lower arch submento-vertex
- 4)Virtual 2D Cephalometrics >Transition to 3D cehalometrics
- 5) Virtual 3D Muscles Dissections: Right Masseter>Left Masseter

>INTRAORAL SCANNERS









THE JOURNAL OF CRANIOMANDIBULAR PRACTICE
CRANIO

Article Title: **Reproducibility of Visual Analog Scale (VAS) Pain Scores to Mechanical Pressure**

Authors Greg Goddard, D.D.S.; Hiroyuki Karibe, D.D.S., Ph.D.; Charles McNeill, D.D.S.

Volume: 22 **Issue:**3 **Journal Date:** July 2004

Abstract: ABSTRACT: This study tested the reproducibility of visual analog scale (VAS) pain scores to measure changes in masseter muscle pain evoked by maximally tolerable mechanical stimulation over a short time period in healthy subjects. This study also evaluated gender differences in reproducibility of VAS scores to mechanical stimulation. Ten healthy female and eight healthy male individuals participated in this study. The recordings of VAS pain scores to an identical mechanical pressure on the masseter muscle were performed at three different sessions (T1, T2, and T3). The subjects rated their pain on a VAS to a maximally tolerable stimulus that was recorded on an algometer at the first session. The algometer pressure reading was recorded for each subject and then used to duplicate the same identical mechanical stimulus at each of the three sessions. This identical pressure was repeated in the same marked spot at six minutes and after 30 minutes. The subjects rated the pain on a VAS to this identical stimulus at each session. There was no significant difference in VAS pain scores of all subjects at T1, T2, and T3. There was no significant difference in reproducibility of VAS pain scores in females compared to males. Intraclass correlation coefficients were 0.811 on the right masseter and 0.844 on the left masseter.
VAS pain scores to mechanical stimulation were reproducible over a short

The Tanaka-Chieti Clinical Chart

TMJ CLINICAL DIAGNOSIS: INTRAARTICULAR

EXTRAARTICULAR

ESAME CLINICO del. 10/09/04

Nome _____ Tel _____

SI	NO	POSITIVITA' TEST DEI NERVI CRANICI
☐	☐	N. Sovraorbitario
☐	☐	N. Sottorbitario
☐	☐	N. Mandibolare
		RUMORI ARTICOLARI
☐	☐	CLICK
☐	☐	CLICK RECIPROCO
☒	☐	SCHIOCCO
☐	☐	CREPITIO
☐	☐	END-FEEL

TENSIONE-DOLORE ALLA PALPAZIONE MUSCOLARE

☐☐☐D	S☐☐☐	TEMPORALE ANTERIORE
☐☐☐D	S☐☐☐	TEMPORALE MEDIO
☐☐☐D	S☐☐☐	TEMPORALE POSTERIORE
☒☐☐D	S☐☐☐	SCM (capo sternale)
☐☐☐D	S☐☐☐	SCM (capo clavicolare)
☐☐☐D	S☐☐☐	DIGASTRICO ANTERIORE
☐☐☐D	S☐☐☐	DIGASTRICO POSTERIORE
☒☒☒D	S☐☐☐	BASE DEL CRANIO PARTE POSTERIORE DEL COLLO
☐☐☐D	S☐☐☐	TRAPEZIO SUPERIORE
☐☐☐D	S☐☐☐	TRAPEZIO INFERIORE
☒☒☒D	S☐☐☐	MASSETERE SUPERFICIALE
☒☒☒D	S☒☒☐	MASSETERE PROFONDO
☒☒☐D	S☒☒☐	FIBRE ANTERIORI MASSETERE
☒☒☒D	S☒☒☒	TEMPORALIS TENDON
☒☒☒D	S☒☒☒	PTERIGOIDEO ESTERNO – capo superiore
☒☒☐D	S☐☐☐	PTERIGOIDEO ESTERNO – capo inferiore
☒☒☐D	S☐☐☐	PTERIGOIDEO INTERNO – capo superiore
☒☐☐D	S☒☐☐	PTERIGOIDEO INTERNO – capo inferiore

SI	NO	
☒	☐	SERRAMENTO
☐	☐	BRUXISMO
☒	☐	FACCETTE DI USURA elementi dentari
☒	☐	IRREGOLARITA' BORDI DELLA LINGUA
☐	☒	LINEA IPERCHERATOSICA MUCOSA ORALE lungo il piano occlusale
☐	☐	DISCREPANZA CO/CR
☒	☐	APERTURA 39 mm mm
☐	☐	DEVIAZIONE IN APERTURA
☒	☐	LATERALITA'
☒	☐	PROTRUSIVA
☐	☒	INTERFERENZE SUL LATO DI BILANCIAMENTO Dx I Sn
☐	☒	INTERFERENZE SUL LATO LAVORANTE Dx I Sn

→ **TMJ CLICKING** **20%**

LOCKING

the splint therapy. *These splints force the mandible to an anterior position for 24 hours a day. This therapy is associated to physical therapy, spray and stretch technique and biofeedback. Once the symptoms are reduced the clinician can go on to the second step.*

Phisical therapy. Tongue exercises+ spine exercises . 6 months

TMJ CLINICAL DIAGNOSIS: INTRAARTICULAR

EXTRAARTICULAR

TMJ TPs/OCCLUSAL SENSE → **80%**

Upper passive aligner night wear

Lower passive aligner day wear

ESAME CLINICO del 10/09/04

Nome _____ Tel _____

SI	NO	POSITIVITA' TEST DEI NERVI CRANICI
☐	☐	N. Sovraorbitario
☐	☐	N. Sottorbitario
☐	☐	N. Mandibolare
		RUMORI ARTICOLARI
☐	☐	CLICK
☐	☐	CLICK RECIPROCO
☒	☐	SCHIOCCO
☐	☐	CREPITIO
☐	☐	END-FEEL

TENSIONE-DOLORE ALLA PALPAZIONE MUSCOLARE

☐☐☐D	S☐☐☐	TEMPORALE ANTERIORE
☐☐☐D	S☐☐☐	TEMPORALE MEDIO
☐☐☐D	S☐☐☐	TEMPORALE POSTERIORE
☒☐☐D	S☐☐☐	SCM (capo sternale)
☐☐☐D	S☐☐☐	SCM (capo clavicolare)
☐☐☐D	S☐☐☐	DIGASTRICO ANTERIORE
☐☐☐D	S☐☐☐	DIGASTRICO POSTERIORE
☒☒☒D	S☐☐☐	BASE DEL CRANIO PARTE POSTERIORE DEL COLLO
☐☐☐D	S☐☐☐	TRAPEZIO SUPERIORE
☐☐☐D	S☐☐☐	TRAPEZIO INFERIORE
☒☒☒D	S☐☐☐	MASSETERE SUPERFICIALE
☒☒☐D	S☒☒☐	MASSETERE PROFONDO
☒☒☐D	S☒☒☐	FIBRE ANTERIORI MASSETERE
☒☒☒D	S☒☒☒	TEMPORALIS TENDON
☒☒☒D	S☒☒☒	PTERIGOIDEO ESTERNO – capo superiore
☒☒☐D	S☐☐☐	PTERIGOIDEO ESTERNO – capo inferiore
☒☐☐D	S☐☐☐	PTERIGOIDEO INTERNO – capo superiore
☒☐☐D	S☐☐☐	PTERIGOIDEO INTERNO – capo inferiore

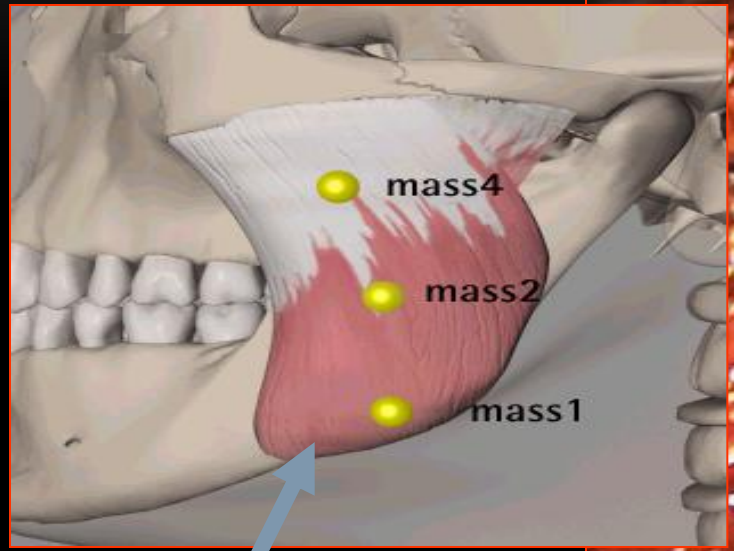
SI	NO	
☒	☐	SERRAMENTO
☐	☐	BRUXISMO
☒	☐	FACCETTE DI USURA elementi dentari
☒	☐	IRREGOLARITA' BORDI DELLA LINGUA
☐	☒	LINEA IPERCHERATOSICA MUCOSA ORALE lungo il piano occlusale
☐	☐	DISCREPANZA CO/CR
☒	☐	APERTURA 39 mm mm
☐	☐	DEVIAZIONE IN APERTURA
☒	☐	LATERALITA'
☒	☐	PROTRUSIVA
☐	☒	INTERFERENZE SUL LATO DI BILANCIAMENTO Dx I Sn
☐	☒	INTERFERENZE SUL LATO LAVORANTE Dx I Sn

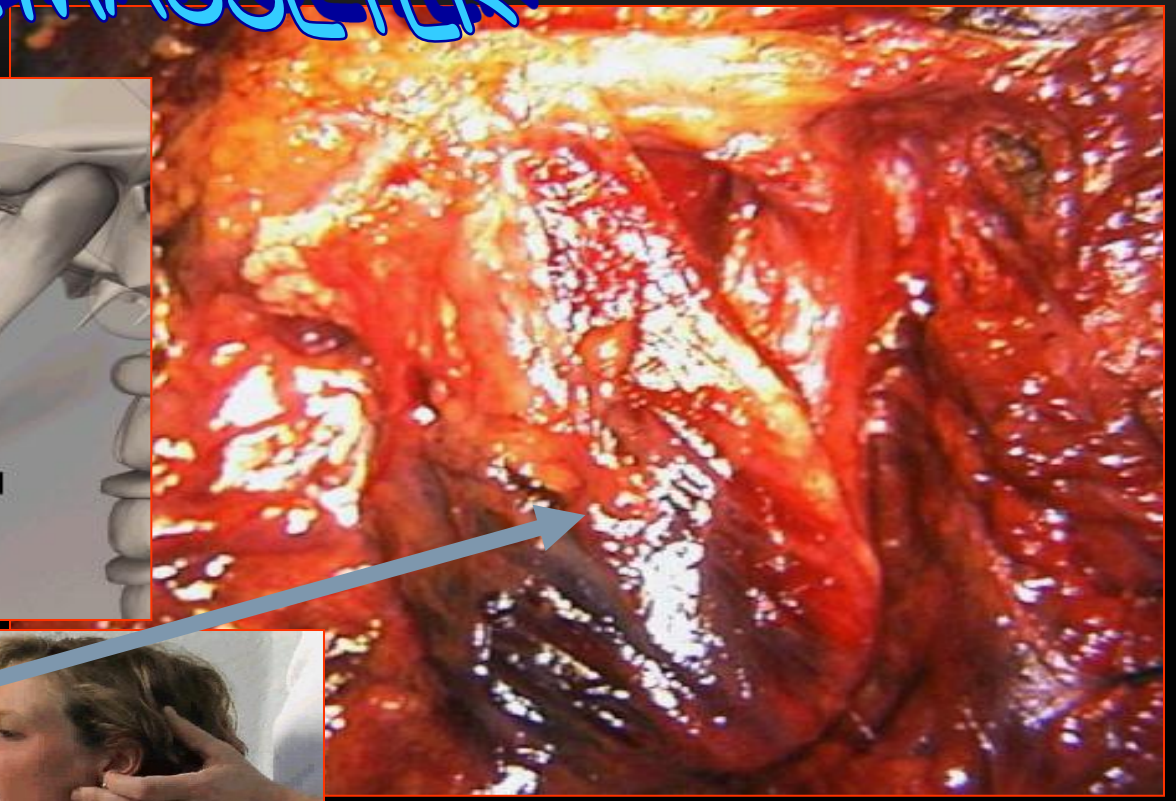
*the **aligners therapy**. These aligners don't force the mandible to an anterior position for 24 hours a day. This therapy is associated with tongue exercises. Once the symptoms are reduced (2 months) the clinician can go on to the second step.*

Phisical therapy. Tongue exercises+ spine exercises. 2 months.

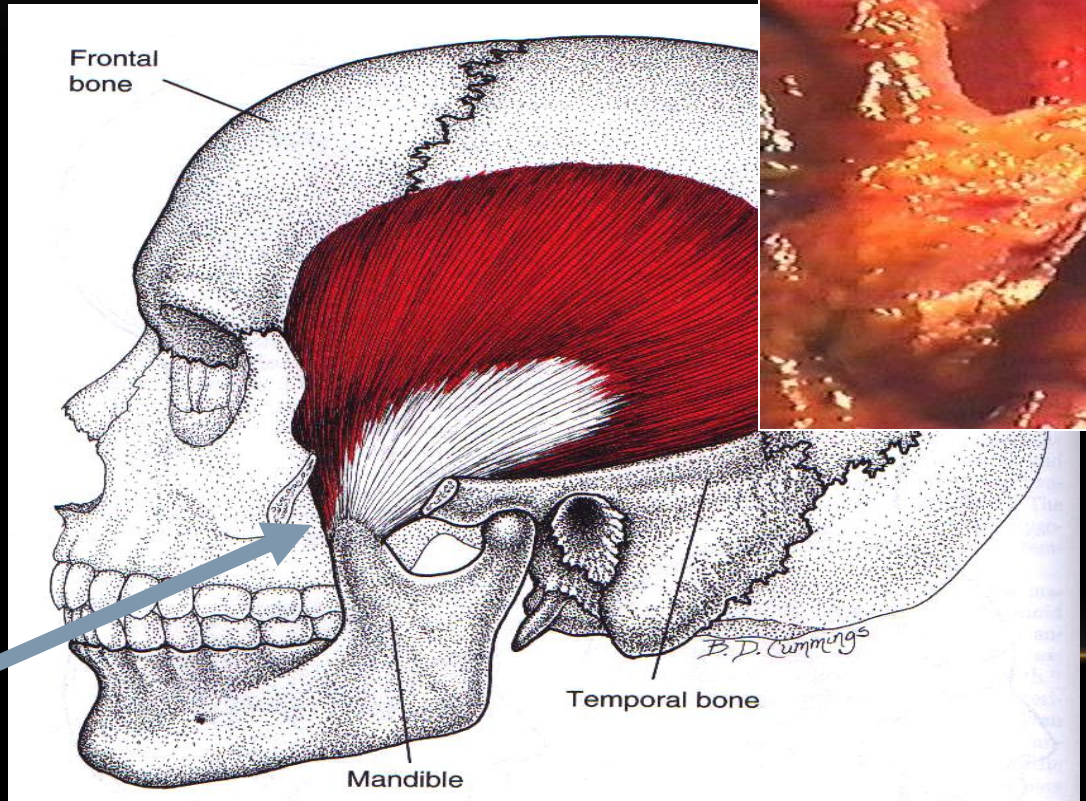
The finishing step *During this phase braces or aligners*

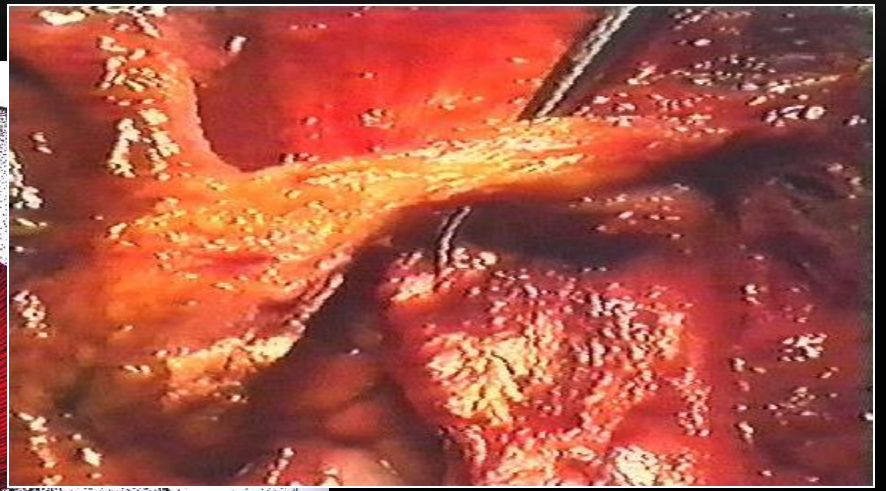
SUPERFICIAL MASSETER





TEMPORALIS TENDON

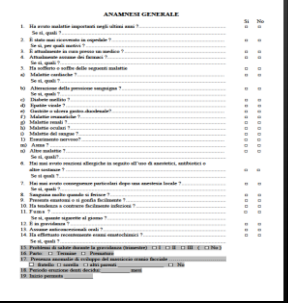


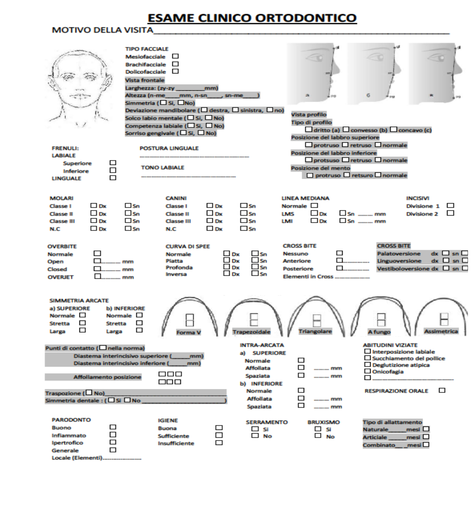


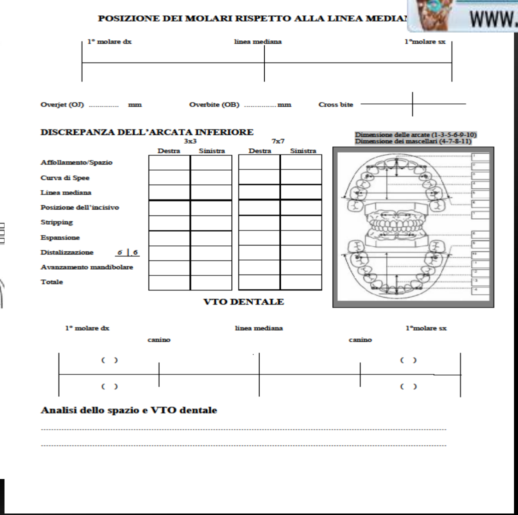

Università degli Studi "G. d'Annunzio" Chieti e Pescara
Dipartimento di Scienze Mediche, Orali e Biotecnologiche
Direttore: Prof. SERGIO CAPUTI
Cattedra di Ortognatodonzia e Gnatologia
Titolare: Prof. FELICE FESTA
ARCHIVIO CARTELLE CLINICHE

CARTELLA ORTODONTICA
GNATOLOGICA
E DOLORE ORO-FACCIALE

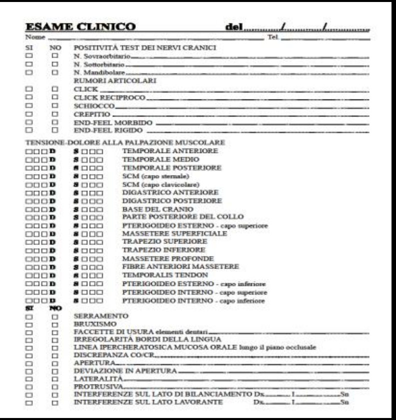
COGNOME ....
NOME ....
DATA ....

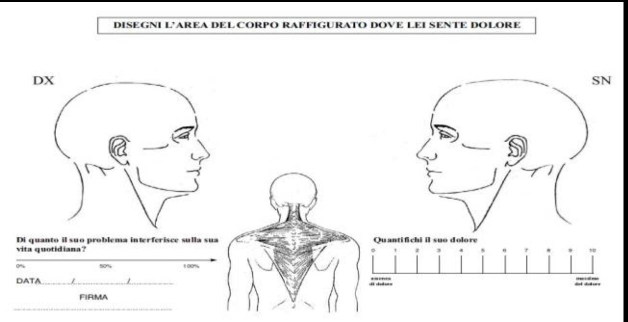

ANAMNESI GENERALE

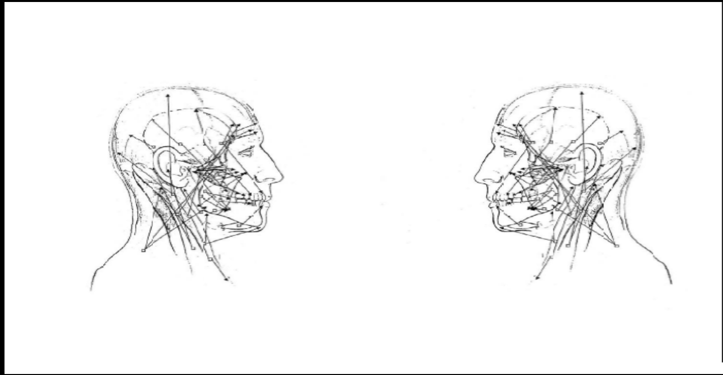

ESAME CLINICO ORTODONTICO
MOTIVO DELLA VISITA


POSIZIONE DEI MOLARI RISPETTO ALLA LINEA MEDIANA
DISCREPANZA DELL'ARCATA INFERIORE
VTO DENTALE
Analisi dello spazio e VTO dentale

In GREY MOSCOW UNIVERSITY clinical chart area +
In BLACK Chieti UNIVERSITY clinical chart area


ESAME CLINICO del ..../..../....
Nome Tel
SI NO POSITIVITÀ TEST DEI NERVI CRANICI
N. Sovraorbitario
N. Sottorbitario
N. Mandibolare
RUMORI ARTICOLARI
CLICK
CLICK RECIPROCO
SCHIOCCO
CREPITIO
END-FEEL MORBIDO
END-FEEL RIGIDO
TENSIONE-DOLORE ALLA PALPAZIONE MUSCOLARE
TEMPORALE ANTERIORE
TEMPORALE MEDIO
TEMPORALE POSTERIORE
SCM (capo sternale)
SCM (capo clavicolare)
DIGASTRICO ANTERIORE
DIGASTRICO POSTERIORE
BASE DEL CRANIO
PARTE POSTERIORE DEL COLLO
PTERIGOIDEO ESTERNO - capo superiore
MASSETERE SUPERFICIALE
TRAPEZIO SUPERIORE
TRAPEZIO INFERIORE
MASSETERE PROFONDE
FIBRE ANTERIORI MASSETERE
TEMPORALIS TENDON
PTERIGOIDEO ESTERNO - capo inferiore
PTERIGOIDEO INTERNO - capo superiore
PTERIGOIDEO INTERNO - capo inferiore
SI NO
SERRAMENTO
BRUXISMO
FACCETTE DI USURA elementi dentari
IRREGOLARITÀ BORDI DELLA LINGUA
LINEA IPERCHERATOSICA MUCOSA ORALE lungo il piano occlusale
DISCREPANZA CO/CR
APERTURA
DEVIAZIONE IN APERTURA
LATERALITÀ
PROTRUSIVA
INTERFERENZE SUL LATO DI BILANCIAMENTO Dx .... Sn
INTERFERENZE SUL LATO LAVORANTE Dx .... Sn


DISEGNI L'AREA DEL CORPO RAFFIGURATO DOVE LEI SENTE DOLORE
DX SN
Di quanto il suo problema interferisce sulla sua vita quotidiana?
0% 50% 100%
Quantifichi il suo dolore
0 1 2 3 4 5 6 7 8 9 10
DATA ..../..../....
FIRMA

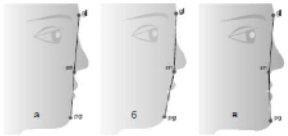


ESAME CLINICO ORTODONTICO

MOTIVO DELLA VISITA_____

TIPO FACCIALE
Mesiofacciale ☐
Brachifacciale ☐
Dolicofacciale ☐

Vista frontale
Larghezza: (zy-zy _____mm)
Altezza (n-me____mm, n-sn____, sn-me____)
Simmetria (☐ Si, ☐No)
Deviazione mandibolare (☐ destra, ☐ sinistra, ☐ no)
Solco labio mentale (☐ Si, ☐ No)
Competenza labiale (☐ Si, ☐ No)
Sorriso gengivale (☐ Si, ☐ No)



Vista profilo
Tipo di profilo
☐ dritto (a) ☐ convesso (b) ☐ concavo (c)
Posizione del labbro superiore
☐ protruso ☐ retruso ☐ normale
Posizione del labbro inferiore
☐ protsuso ☐ retruso ☐ normale
Posizione del mento
☐ protruso ☐ retsuro ☐ normale

FRENULI:
LABIALE
Superiore ☐
Inferiore ☐
LINGUALE ☐

POSTURA LINGUALE
.....

TONO LABIALE
.....

MOLARI
Classe I ☐ Dx ☐ Sn
Classe II ☐ Dx ☐ Sn
Classe III ☐ Dx ☐ Sn
N.C ☐ Dx ☐ Sn

CANINI
Classe I ☐ Dx ☐ Sn
Classe II ☐ Dx ☐ Sn
Classe III ☐ Dx ☐ Sn
N.C ☐ Dx ☐ Sn

LINEA MEDIANA
Normale ☐
LMS ☐ Dx ☐ Sn ..... mm
LMI ☐ Dx ☐ Sn ..... mm

INCISIVI
Divisione 1 ☐
Divisione 2 ☐

OVERBITE
Normale ☐
Open ☐..... mm
Closed ☐..... mm
OVERJET ☐..... mm

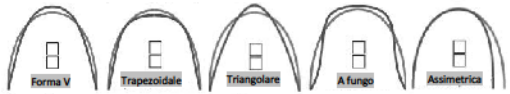
CURVA DI SPEE
Normale ☐ Dx ☐ Sn
Piatta ☐ Dx ☐ Sn
Profonda ☐ Dx ☐ Sn
Inversa ☐ Dx ☐ Sn

CROSS BITE
Nessuno ☐
Anteriore ☐.....
Posteriore ☐.....
Elementi in Cross .....

CROSS BITE
Palatoversione dx ☐ sn ☐
Linguoversione dx ☐ sn ☐
Vestiboloversione dx ☐ sn ☐

SIMMETRIA ARCATE
a) SUPERIORE
Normale ☐
Stretta ☐
Larga ☐

b) INFERIORE
Normale ☐
Stretta ☐
Larga ☐



Punti di contatto (☐ nella norma)
Diastema interincisivo superiore (_____mm)
Diastema interincisivo inferiore (_____mm)

Affollamento posizione ☐☐☐ ☐☐☐

Traspozione (☐ No)
Simmetria dentale : (☐ Si ☐ No _____)

INTRA-ARCATA
a) SUPERIORE
Normale ☐
Affollata ☐ ..... mm
Spaziata ☐ ..... mm

b) INFERIORE
Normale ☐
Affollata ☐ ..... mm
Spaziata ☐ ..... mm

ABITUDINI VIZIATE
☐ Interposizione labiale
☐ Succhiamento del pollice
☐ Deglutizione atipica
☐ Onicofagia
☐ .....

RESPIRAZIONE ORALE ☐

PARODONTO
Buono ☐
Infiammato ☐
Ipertrofico ☐
Generale ☐
Locale (Elementi).....

IGIENE
Buona ☐
Sufficiente ☐
Insufficiente ☐

SERRAMENTO
☐ Si
☐ No

BRUXISMO
☐ Si
☐ No

Tipo di allattamento
Naturale_____mesi ☐
Articiale _____mesi ☐
Combinato__mesi ☐

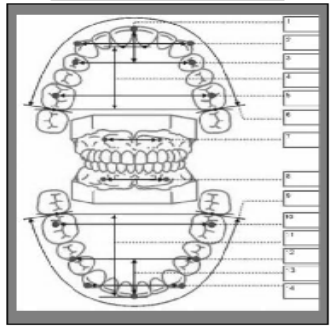
POSIZIONE DEI MOLARI RISPETTO ALLA LINEA MEDIANA

Overjet (OJ) ..... mm Overbite (OB) ..... mm Cross bite

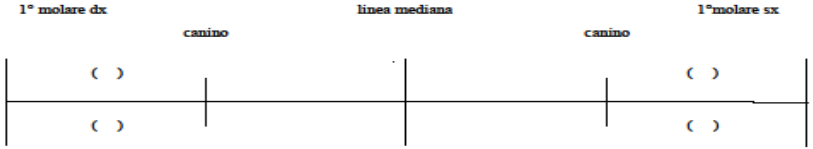
DISCREPANZA DELL'ARCATA INFERIORE

	3x3		7x7	
	Destra	Sinistra	Destra	Sinistra
Affollamento/Spazio				
Curva di Spee				
Linea mediana				
Posizione dell'incisivo				
Stripping				
Espansione				
Distalizzazione 6 | 6				
Avanzamento mandibolare				
Totale				

Dimensione delle arcate (1-3-5-6-9-10)
Dimensione dei mascellari (4-7-8-11)



VTO DENTALE



Analisi dello spazio e VTO dentale

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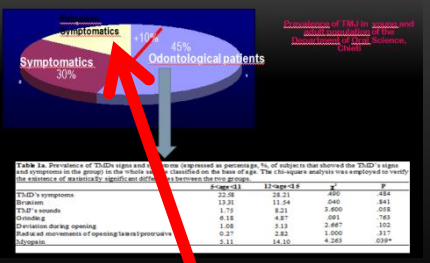
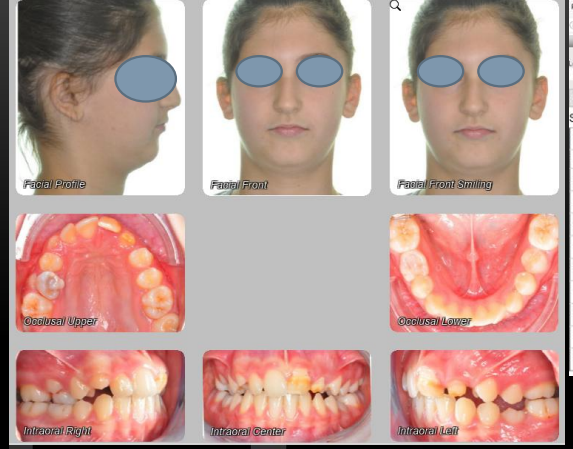
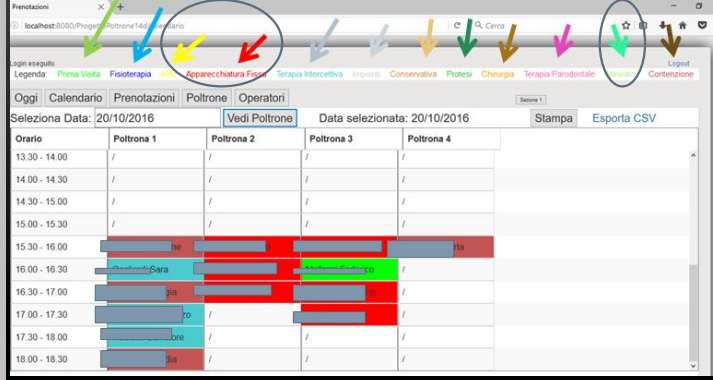


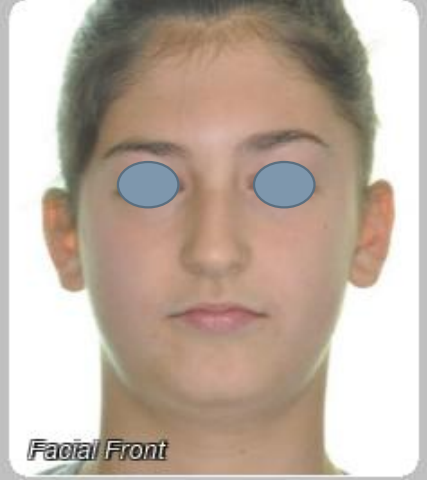


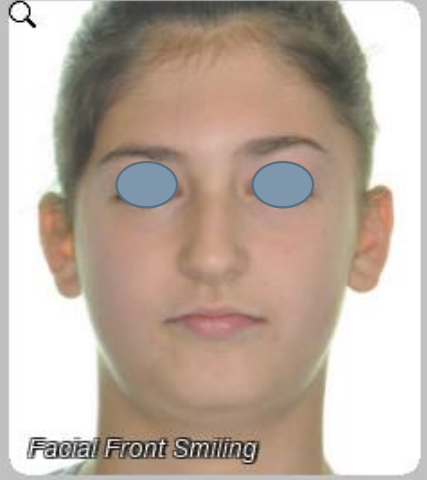


Case 31 TMJ Palpation Sympt. Class II Dolicofacial, Mild Maxillary Contraction, Upper and Lower Mild Crowding, 23 Impacted, 21,22 Dilaceration, Passsive Aligners, self ligating low friction + 21,22 Composite Crown s+ Passive Aligners Retention

TMJ palpation Sympt.: Light pain Temporalis Tendon L, Right Upper Trapezius

Age:13 years Passive Aligners 2 Months,18 Months Self Ligating Low Friction, Composite 21 Crown,12 Months Passive Aligners Retention





The case was treated by Dr. Antonios Filippakos

NETWORK>MANAGEMENT SOFTWARES> >TMJ/ORTHODONTICS CLINICAL CHART> >DOLPHIN 3D>

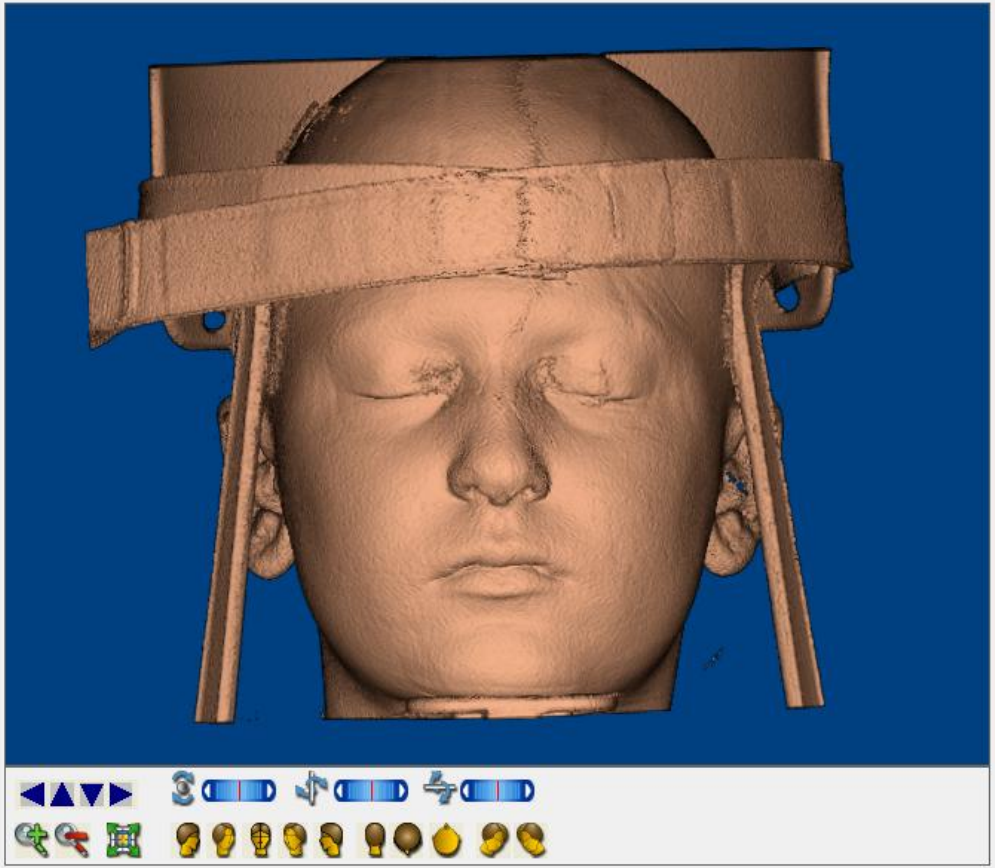
- Transition from 2D to 3D Orthodontics
- 1)Segmentation
- 2)Orientation
- 3)Virtual 2D X-Rays development (lateral>ortophantomography>TMJ>cross sections>postero-anterior>upper arch submento-vertex>lower arch submento-vertex
- 4)Virtual 2D Cephalometrics >Transition to 3D cehalometrics
- 5) Virtual 3D Muscles Dissections: Right Masseter>Left Masseter

>INTRAORAL SCANNERS

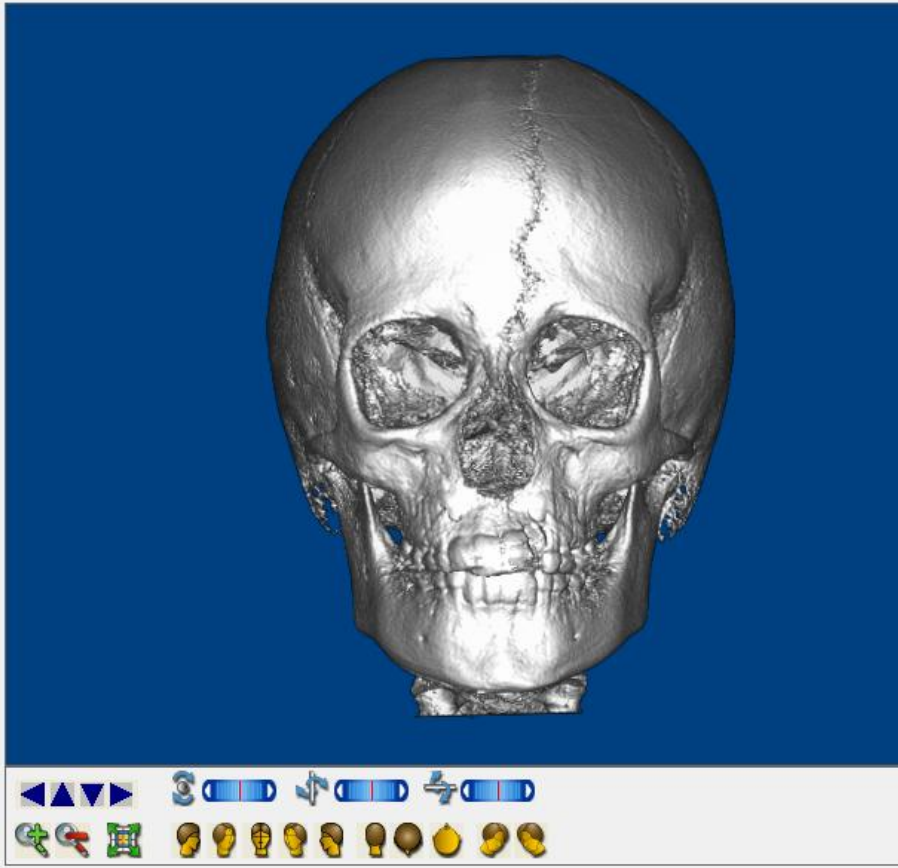
Quick Solids Segmentation

For optimal X-ray image, properly segment hard tissue and soft tissue here.

Soft Tissue Seg:



Hard Tissue Seg:



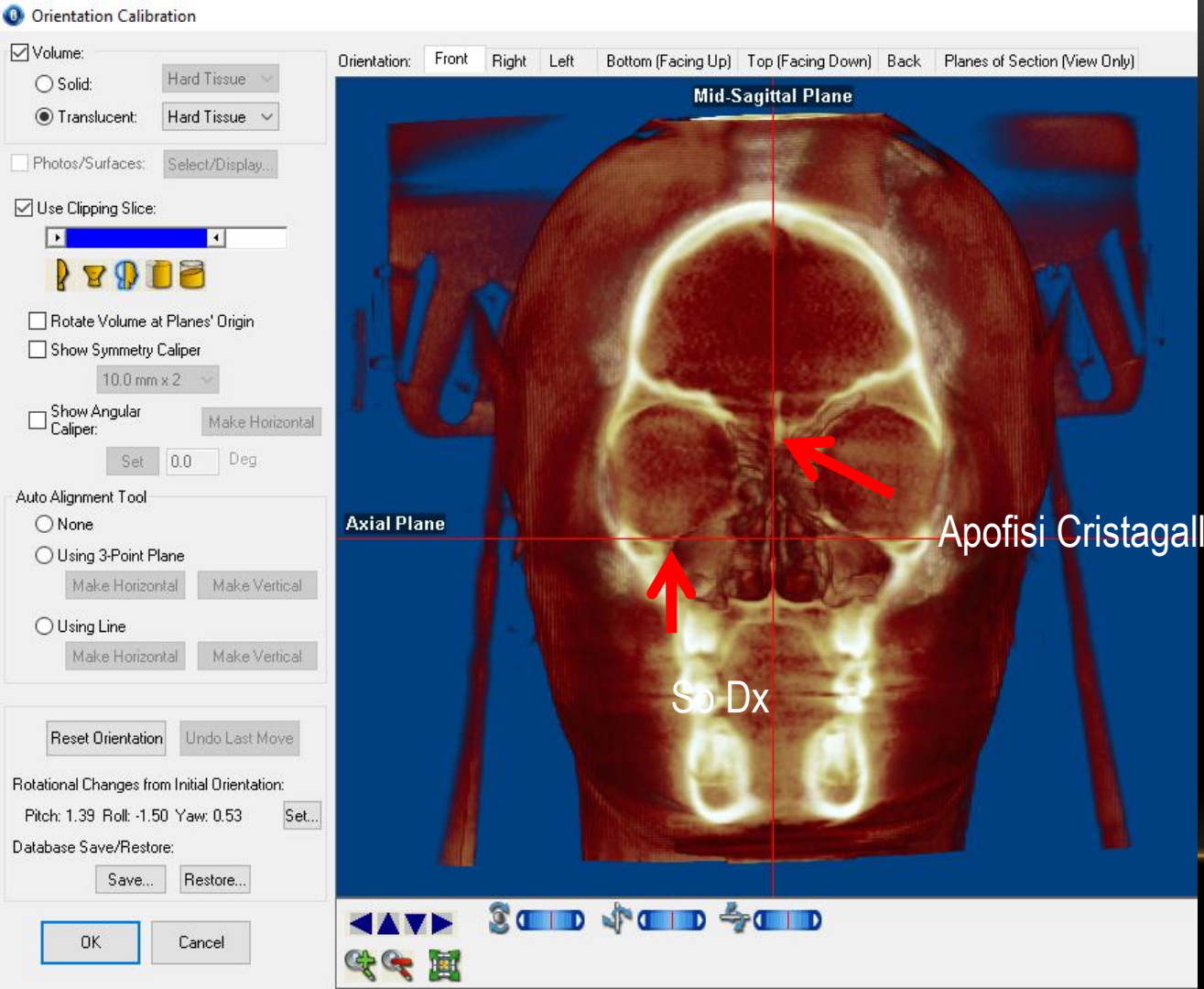
OK

Cancel

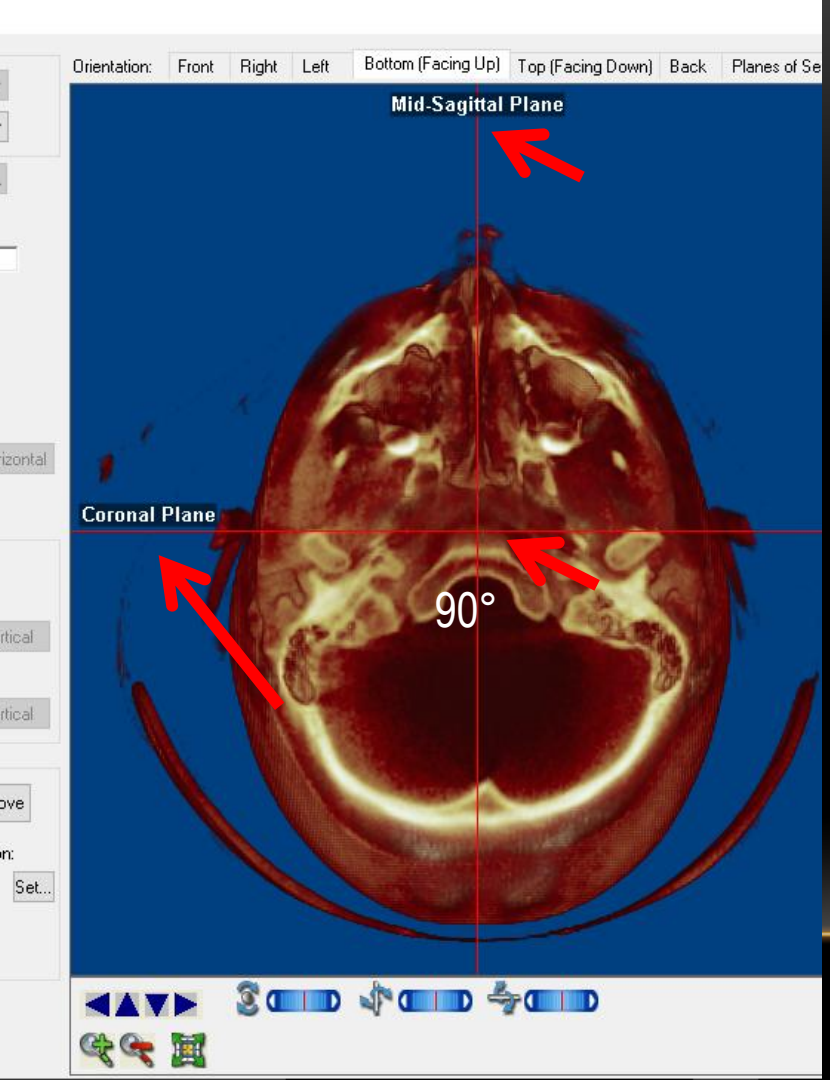
NETWORK>MANAGEMENT SOFTWARES> >TMJ/ORTHODONTICS CLINICAL CHART> >DOLPHIN 3D>

- Transition from 2D to 3D Orthodontics
- 1)Segmentation
- 2)Orientation
- 3)Virtual 2D X-Rays development (lateral>ortophantomography>TMJ>cross sections>postero-anterior>upper arch submento-vertex>lower arch submento-vertex
- 4)Virtual 2D Cephalometrics >Transition to 3D cehalometrics
- 5) Virtual 3D Muscles Dissections: Right Masseter>Left Masseter

>INTRAORAL SCANNERS




Orientation Calibration
Volume:
Solid:
Hard Tissue
Translucent:
Hard Tissue
Photos/Surfaces:
Select/Display...
Use Clipping Slice:
Rotate Volume at Planes' Origin
Show Symmetry Caliper
10.0 mm x 2
Show Angular Caliper:
Make Horizontal
Set
0.0
Deg
Auto Alignment Tool
None
Using 3-Point Plane
Make Horizontal
Make Vertical
Using Line
Make Horizontal
Make Vertical
Reset Orientation
Undo Last Move
Rotational Changes from Initial Orientation:
Pitch: 0.58 Roll: -1.49 Yaw: 0.55
Set...
Database Save/Restore:
Save...
Restore...
OK
Cancel
Orientation:
Front
Right
Left
Bottom (Facing Up)
Top (Facing Down)
Back
Planes of Section (View Only)
Coronal Plane
Axial Plane
PO DX
So Dx
Orthodontics and Genetic evolution world portal
www.felicefesta.it



NETWORK>MANAGEMENT SOFTWARES> >TMJ/ORTHODONTICS CLINICAL CHART> >DOLPHIN 3D>

- Transition from 2D to 3D Orthodontics
- 1)Segmentation
- 2)Orientation
- 3)Virtual 2D X-Rays development (lateral>ortophantomography>TMJ>cross sections>postero-anterior>upper arch submento-vertex>lower arch submento-vertex
- 4)Virtual 2D Cephalometrics >Transition to 3D cehalometrics
- 5) Virtual 3D Muscles Dissections: Right Masseter>Left Masseter

>INTRAORAL SCANNERS

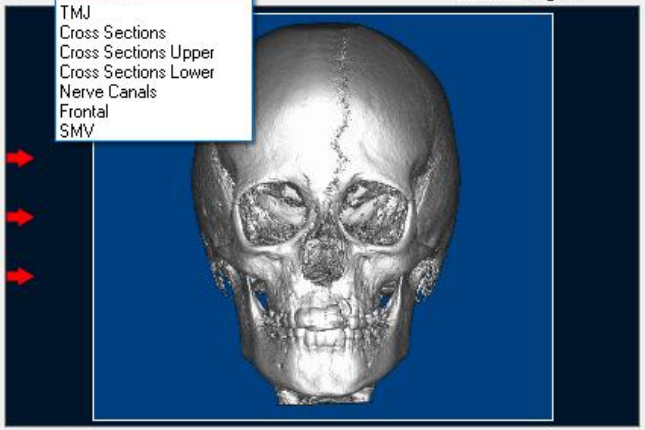
Build X-Rays Tool (** Patents Pending **)

View: Lateral | Auto Apply | Send Snapshot...

Enhance... | Seg... | Prefs... | Measure: Remove All | 2 Pt Line | 3 Pt Angle | Show Landmarks

- Lateral
- Panoramic
- TMJ
- Cross Sections
- Cross Sections Upper
- Cross Sections Lower
- Nerve Canals
- Frontal
- SMV

Front | Right



Half | Other Half | Both | Reset Orientation

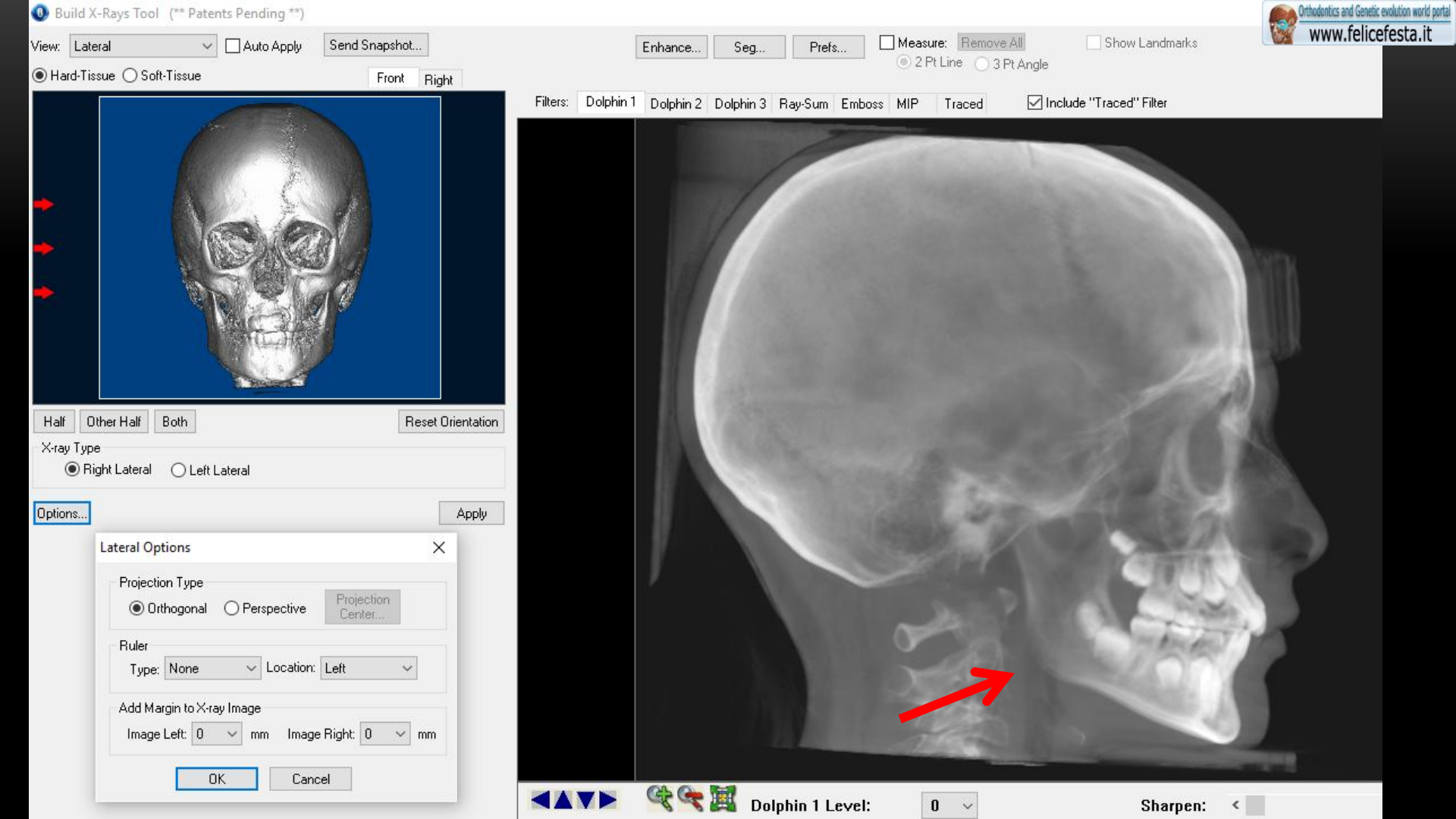
X-ray Type

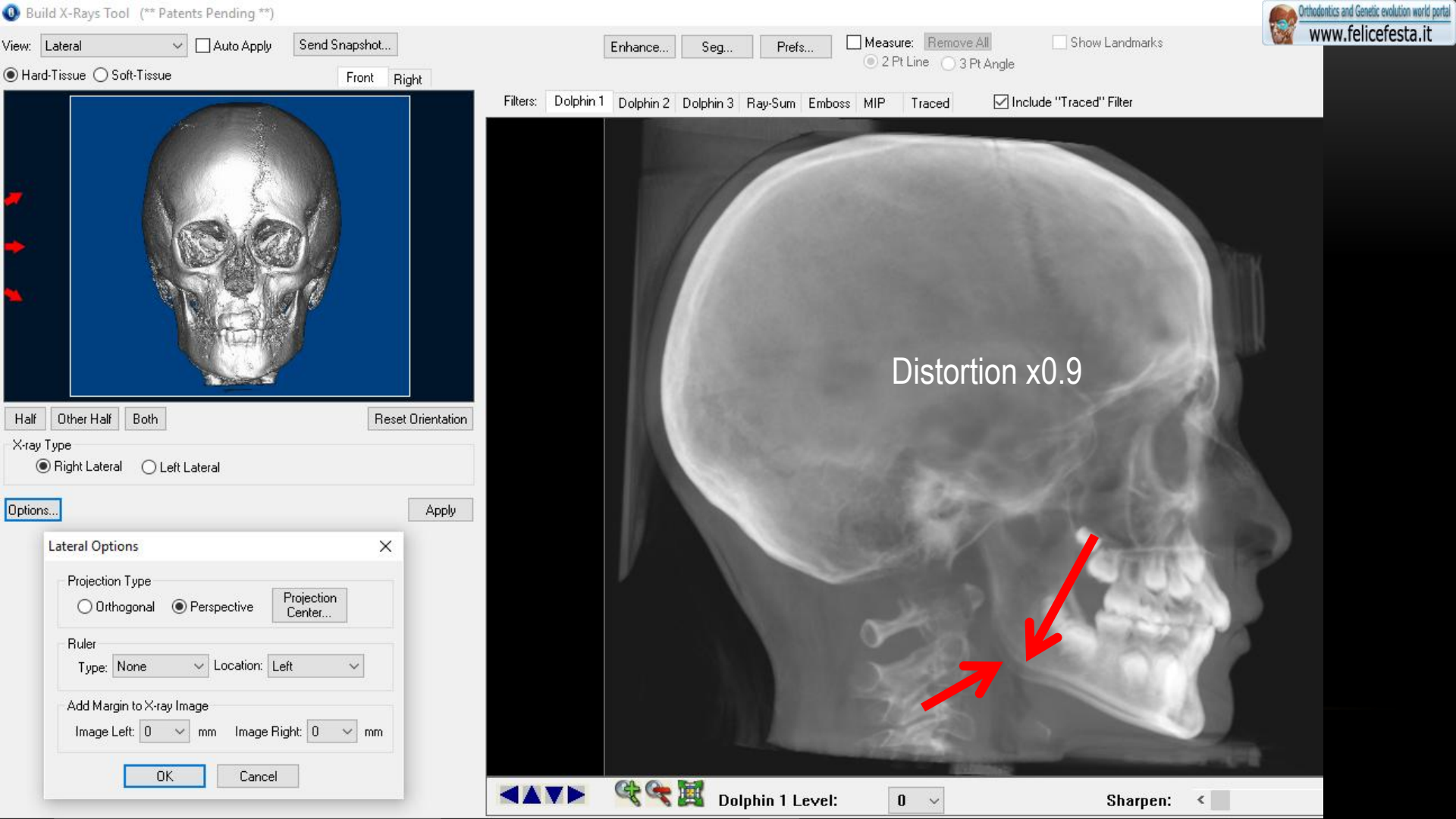
(•) Right Lateral ( ) Left Lateral

Options... | Apply

Filters: Dolphin 1 | Dolphin 2 | Dolphin 3 | Ray-Sum | Emboss | MIP | Traced | [x] Include "Traced" Filter

Dolphin 1 Level: 0 | Sharpen:

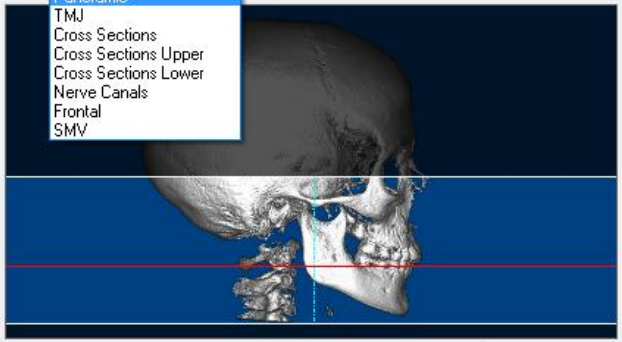

Build X-Rays Tool (** Patents Pending **)
Orthodontics and Genetic evolution world portal
www.felicefesta.it
View: Lateral
Auto Apply
Send Snapshot...
Enhance...
Seg...
Prefs...
Measure:
Remove All
2 Pt Line
3 Pt Angle
Show Landmarks
Hard-Tissue
Soft-Tissue
Front
Right
Filters:
Dolphin 1
Dolphin 2
Dolphin 3
Ray-Sum
Emboss
MIP
Traced
Include "Traced" Filter
Half
Other Half
Both
Reset Orientation
X-ray Type
Right Lateral
Left Lateral
Options...
Apply
Lateral Options
Projection Type
Orthogonal
Perspective
Projection Center...
Ruler
Type: None
Location: Left
Add Margin to X-ray Image
Image Left: 0 mm
Image Right: 0 mm
OK
Cancel
Dolphin 1 Level: 0
Sharpen:


Build X-Rays Tool (** Patents Pending **)
Orthodontics and Genetic evolution world portal
www.felicefesta.it
View: Lateral
Auto Apply
Send Snapshot...
Enhance...
Seg...
Prefs...
Measure:
Remove All
2 Pt Line
3 Pt Angle
Show Landmarks
Hard-Tissue
Soft-Tissue
Front
Right
Filters:
Dolphin 1
Dolphin 2
Dolphin 3
Ray-Sum
Emboss
MIP
Traced
Include "Traced" Filter
Distortion x0.9
Half
Other Half
Both
Reset Orientation
X-ray Type
Right Lateral
Left Lateral
Options...
Apply
Lateral Options
Projection Type
Orthogonal
Perspective
Projection Center...
Ruler
Type: None
Location: Left
Add Margin to X-ray Image
Image Left: 0 mm
Image Right: 0 mm
OK
Cancel
Dolphin 1 Level: 0
Sharpen:

Build X-Rays Tool (** Patents Pending **)

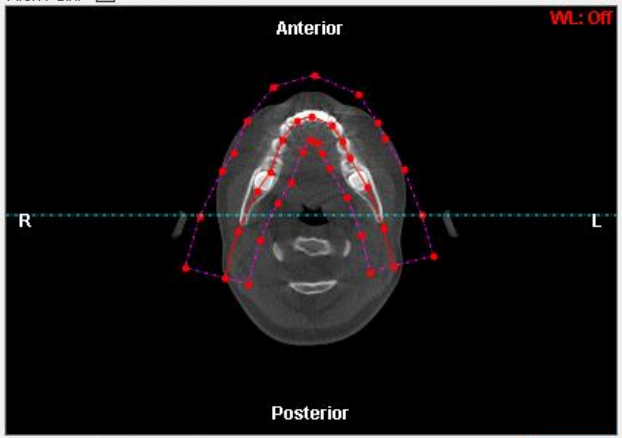
View: Panoramic | Auto Apply | Send Snapshot... | Enhance... | Seg... | Prefs... | Measure: Remove All | 2 Pt Line | 3 Pt Angle | Show Landmarks

- Lateral
- Panoramic
- TMJ
- Cross Sections
- Cross Sections Upper
- Cross Sections Lower
- Nerve Canals
- Frontal
- SMV



Reset Orientation

Arch Path: Translucent View

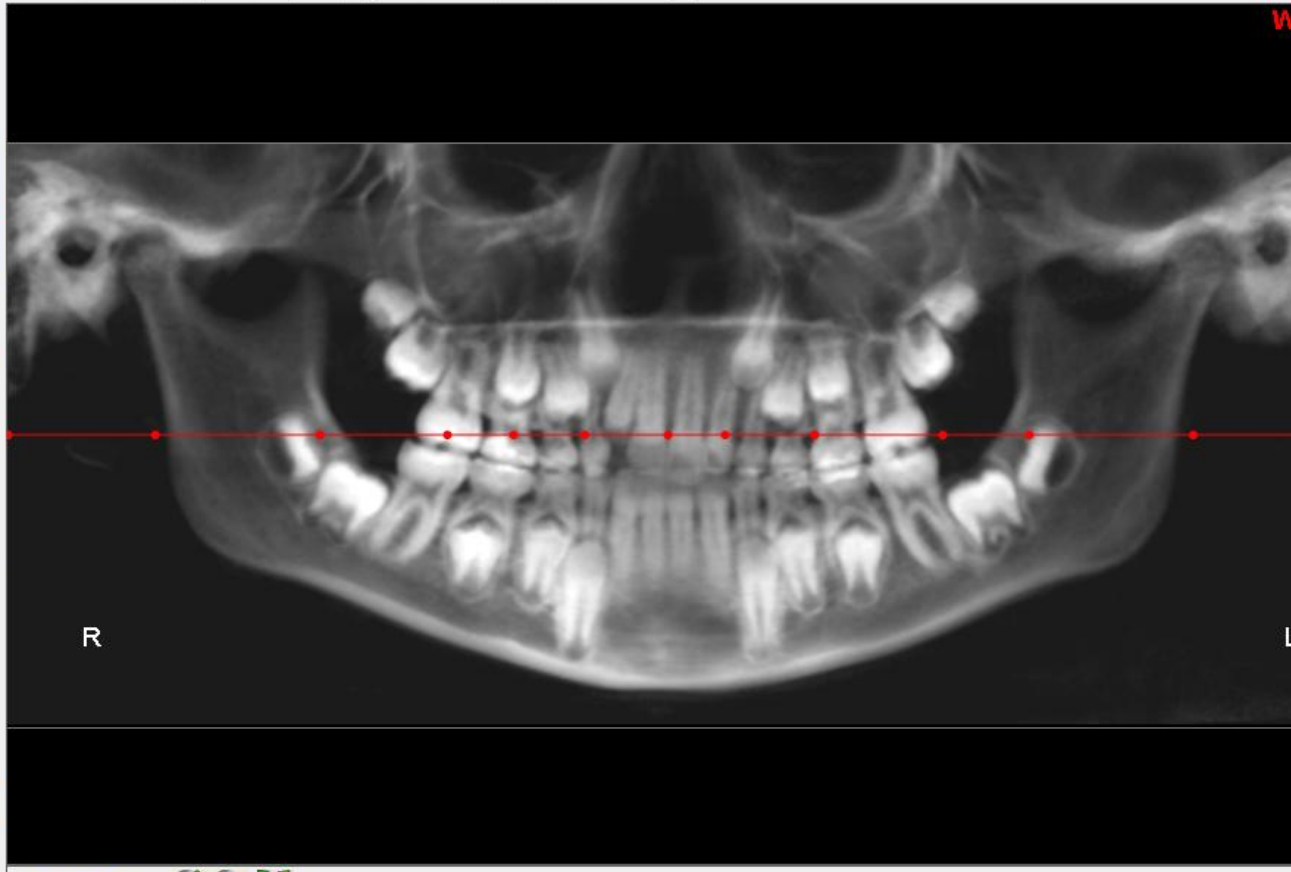


Redo Path | Options... | Apply

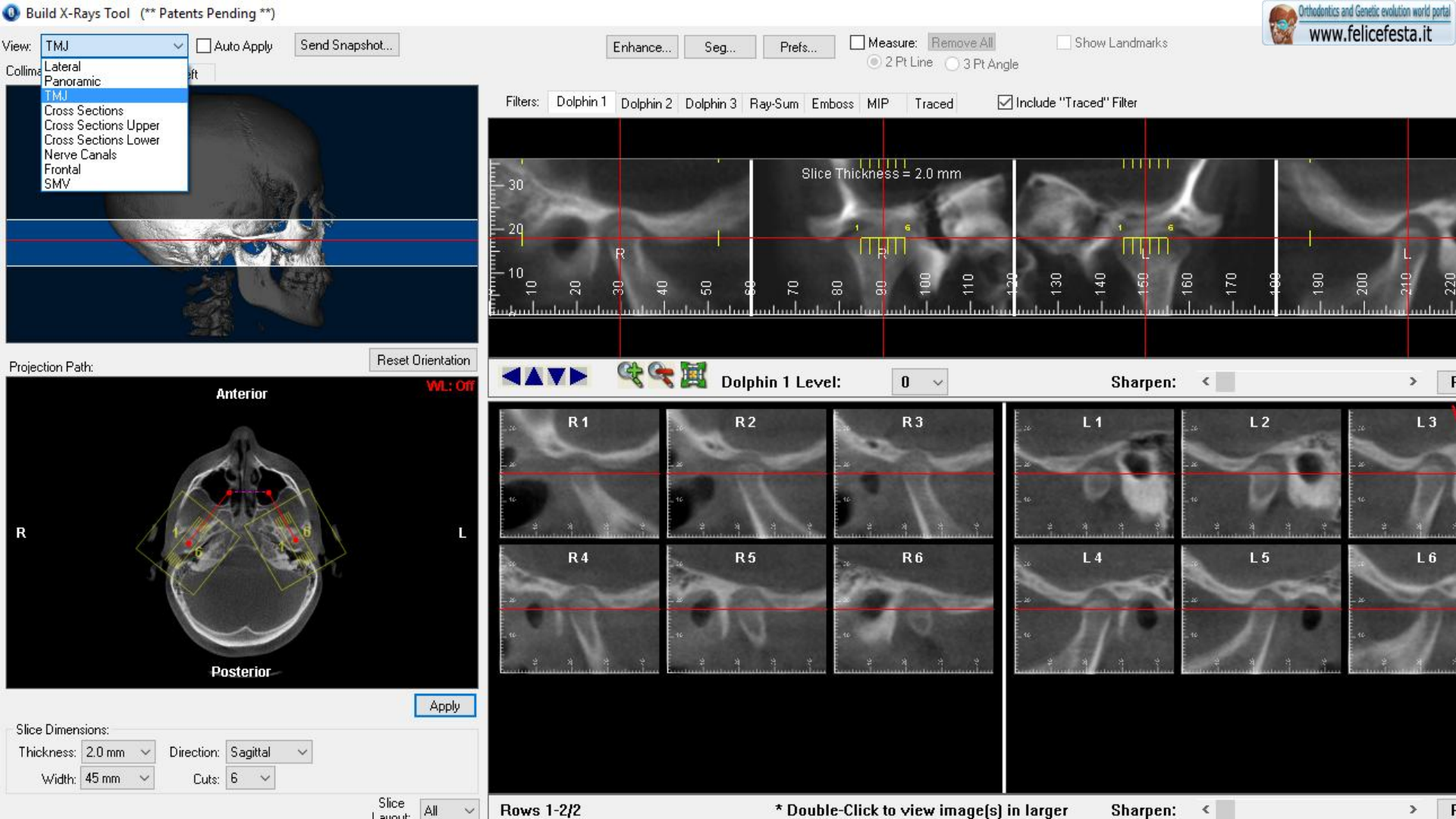
Anterior (Buccal) 14 mm | Uniform Thickness: NA

Posterior (Lingual) 24 mm

Filters: Dolphin 1 | Dolphin 2 | Dolphin 3 | Ray-Sum | Emboss | MIP | Traced | Include "Traced" Filter



Dolphin 1 Level: 0 | Sharpen: | Res

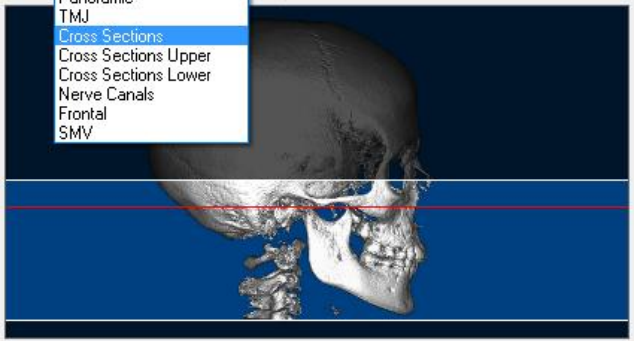

Build X-Rays Tool (** Patents Pending **)
Orthodontics and Genetic evolution world portal
www.felicefesta.it
View: TMJ
Auto Apply
Send Snapshot...
Lateral
Panoramic
TMJ
Cross Sections
Cross Sections Upper
Cross Sections Lower
Nerve Canals
Frontal
SMV
Enhance...
Seg...
Prefs...
Measure:
Remove All
2 Pt Line
3 Pt Angle
Show Landmarks
Filters:
Dolphin 1
Dolphin 2
Dolphin 3
Ray-Sum
Emboss
MIP
Traced
Include "Traced" Filter
Slice Thickness = 2.0 mm
Projection Path:
Reset Orientation
WL: Off
Anterior
R
L
Posterior
Apply
Dolphin 1 Level:
0
Sharpen:
R1
R2
R3
R4
R5
R6
L1
L2
L3
L4
L5
L6
Slice Dimensions:
Thickness: 2.0 mm
Direction: Sagittal
Width: 45 mm
Cuts: 6
Slice Layout:
All
Rows 1-2/2
* Double-Click to view image(s) in larger
Sharpen:

Build X-Rays Tool (** Patents Pending **)

View: Cross Sections | Auto Apply | Send Snapshot... | Enhance... | Seg... | Prefs... | Measure: Remove All | 2 Pt Line | 3 Pt Angle | Show Landmarks

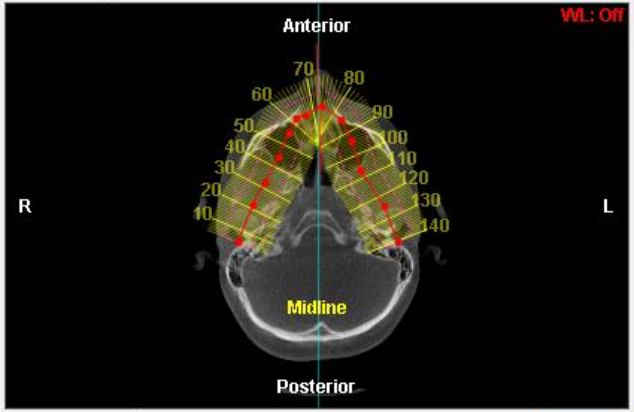
- Lateral
- Panoramic
- TMJ
- Cross Sections
- Cross Sections Upper
- Cross Sections Lower
- Nerve Canals
- Frontal
- SMV

Collim ... eft



Reset Orientation

Arch Path: Translucent View



Redo Path | Pano Thickness: 20 mm | Apply

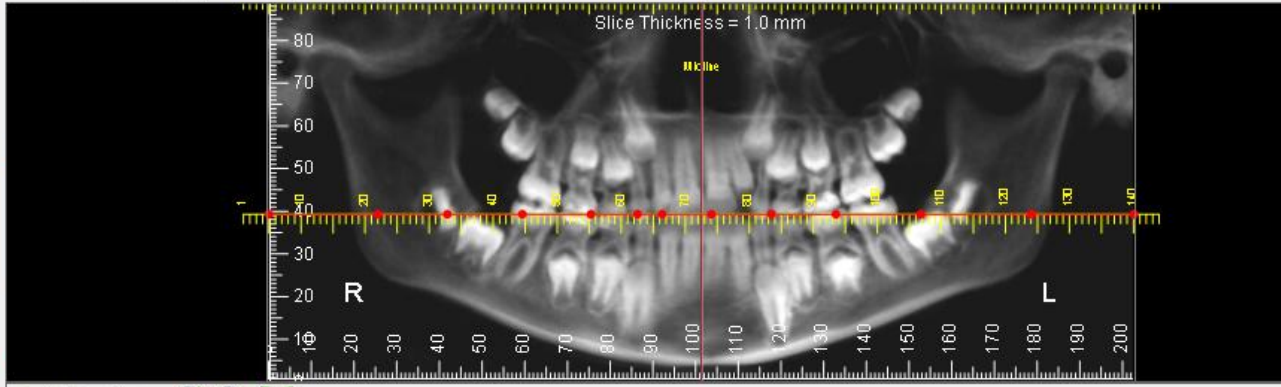
Slice Group Dimensions:

Thickness: 1.0 mm | Spacing: 1.5 mm

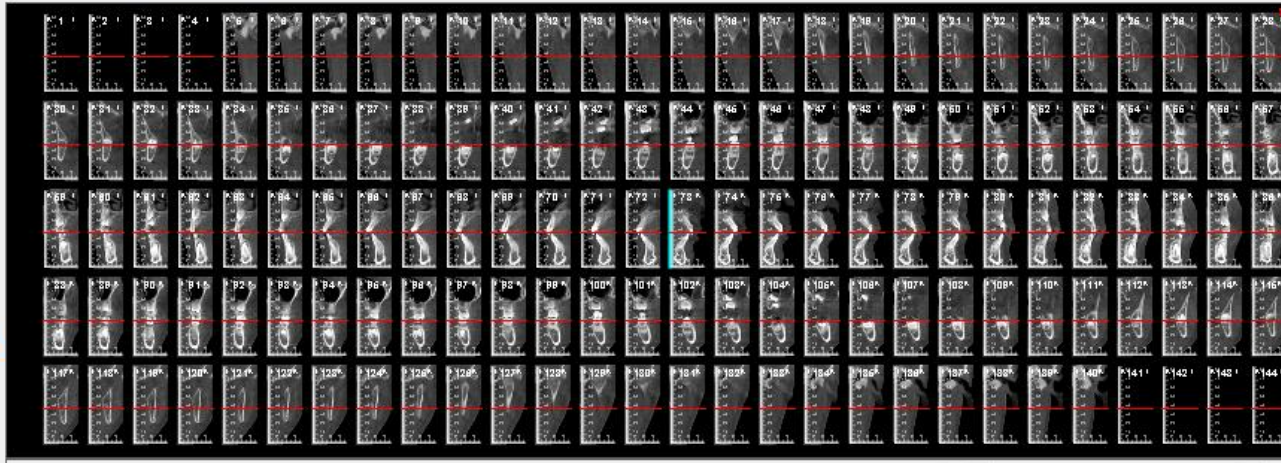
Width: 40 mm | Cuts: 144

Groups: 1 | Slice Layout: All

Filters: Dolphin 1 | Dolphin 2 | Dolphin 3 | Ray-Sum | Emboss | MIP | Traced | Include "Traced" Filter



Dolphin 1 Level: 0 | Sharpen:



Rows 1-5/5 | * Double-Click to view image[s] in larger | Sharpen:

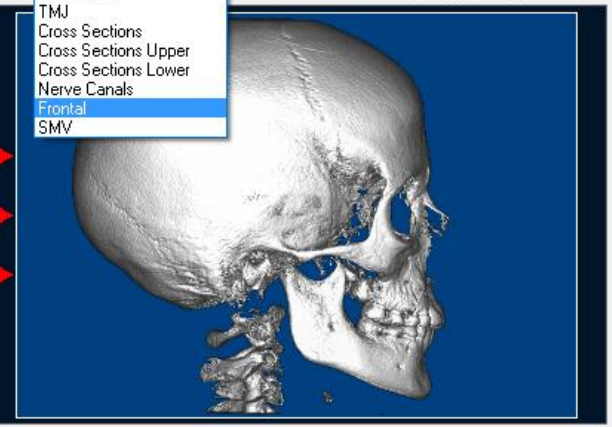
Build X-Rays Tool (** Patents Pending **)

ew: Frontal | Auto Apply | Send Snapshot...

Enhance... | Seg... | Prefs... | Measure: | Remove All | Show Landmarks | 2 Pt Line | 3 Pt Angle

- Lateral
- Panoramic
- TMJ
- Cross Sections
- Cross Sections Upper
- Cross Sections Lower
- Nerve Canals
- Frontal
- SMV

Right | Front



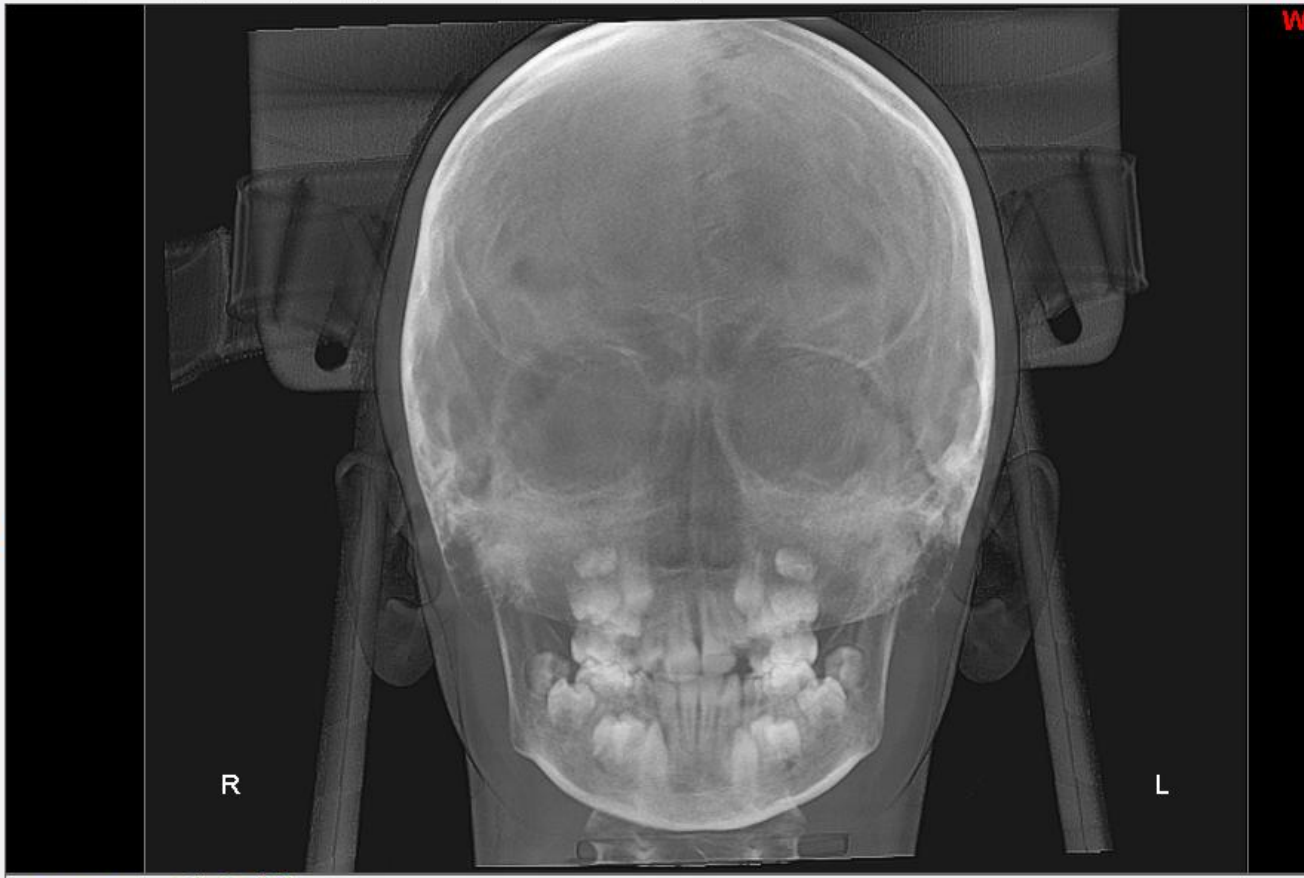
Reset Orientation

X-ray Type

Anterior-Posterior (AP) | Posterior-Anterior (PA)

ptions... | Apply

Filters: Dolphin 1 | Dolphin 2 | Dolphin 3 | Ray-Sum | Emboss | MIP | Traced | Include "Traced" Filter



Dolphin 1 Level: 0 | Sharpen: | Res

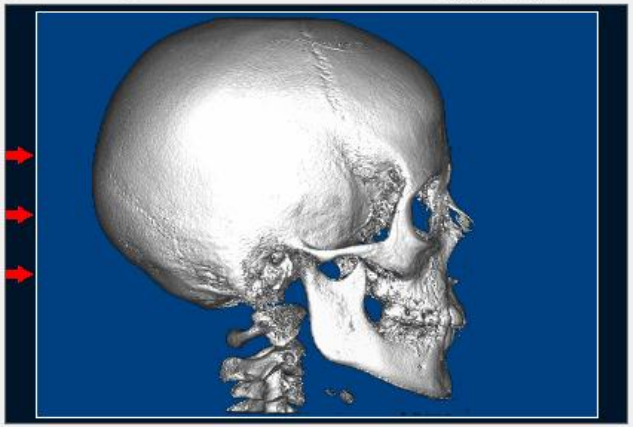
Build X-Rays Tool (** Patents Pending **)

View: Frontal | Auto Apply | Send Snapshot...

Enhance... | Seg... | Prefs...

Measure: Remove All | 2 Pt Line | 3 Pt Angle | Show Landmarks

Hard-Tissue | Soft-Tissue | Right | Front



Reset Orientation

X-ray Type

Anterior-Posterior (AP) | Posterior-Anterior (PA)

Options... | Apply

Frontal Options

Projection Type

Orthogonal | Perspective | Projection Center...

Ruler

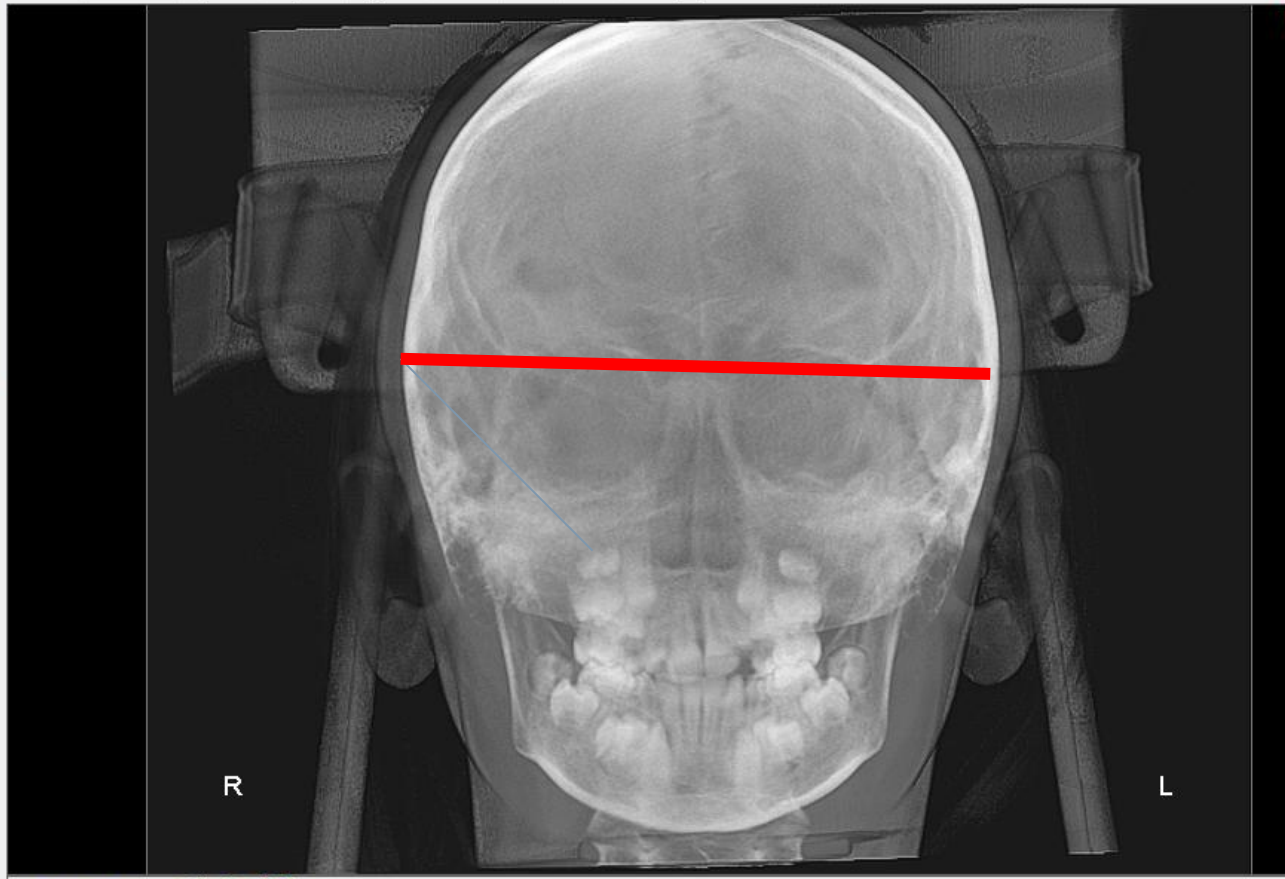
Type: None | Location: Left

Add Margin to X-ray Image

Image Left: 0 mm | Image Right: 0 mm

OK | Cancel

Filters: Dolphin 1 | Dolphin 2 | Dolphin 3 | Ray-Sum | Emboss | MIP | Traced | Include "Traced" Filter



Dolphin 1 Level: 0 | Sharpen:

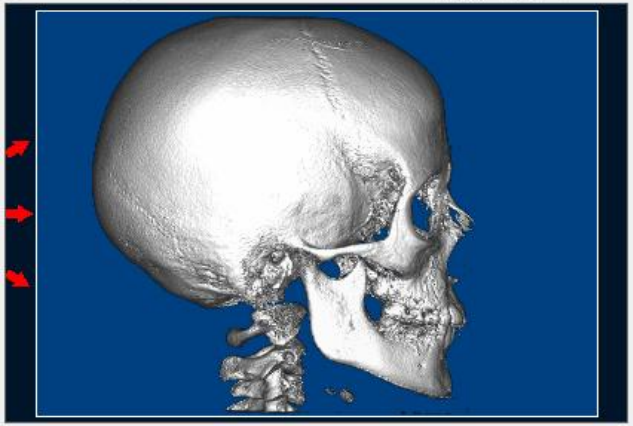
Build X-Rays Tool (** Patents Pending **)

View: Frontal | Auto Apply | Send Snapshot...

Enhance... | Seg... | Prefs...

Measure: Remove All | 2 Pt Line | 3 Pt Angle | Show Landmarks

Hard-Tissue | Soft-Tissue | Right | Front



Reset Orientation

X-ray Type

Anterior-Posterior (AP) | Posterior-Anterior (PA)

Options... | Apply

Frontal Options

Projection Type

Orthogonal | Perspective | Projection Center...

Ruler

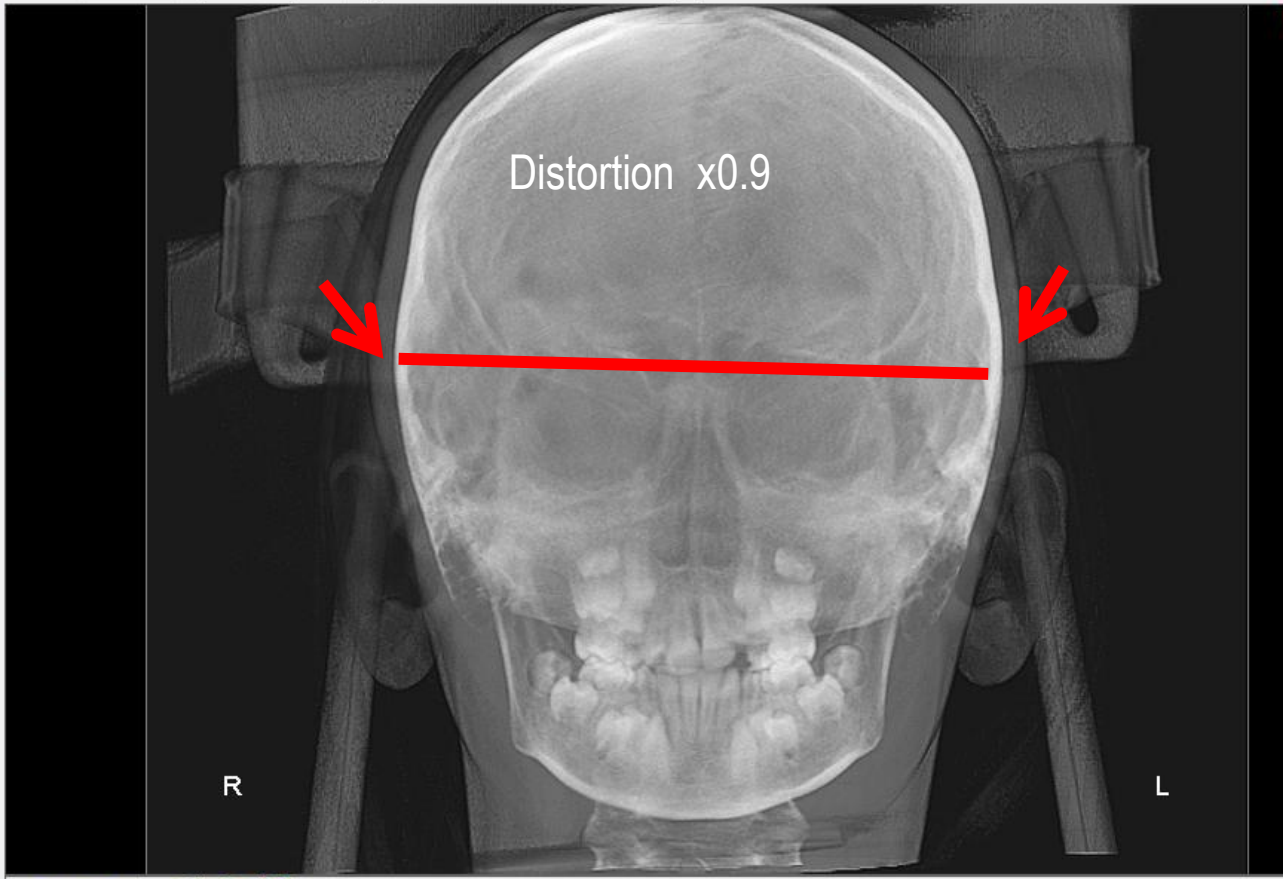
Type: None | Location: Left

Add Margin to X-ray Image

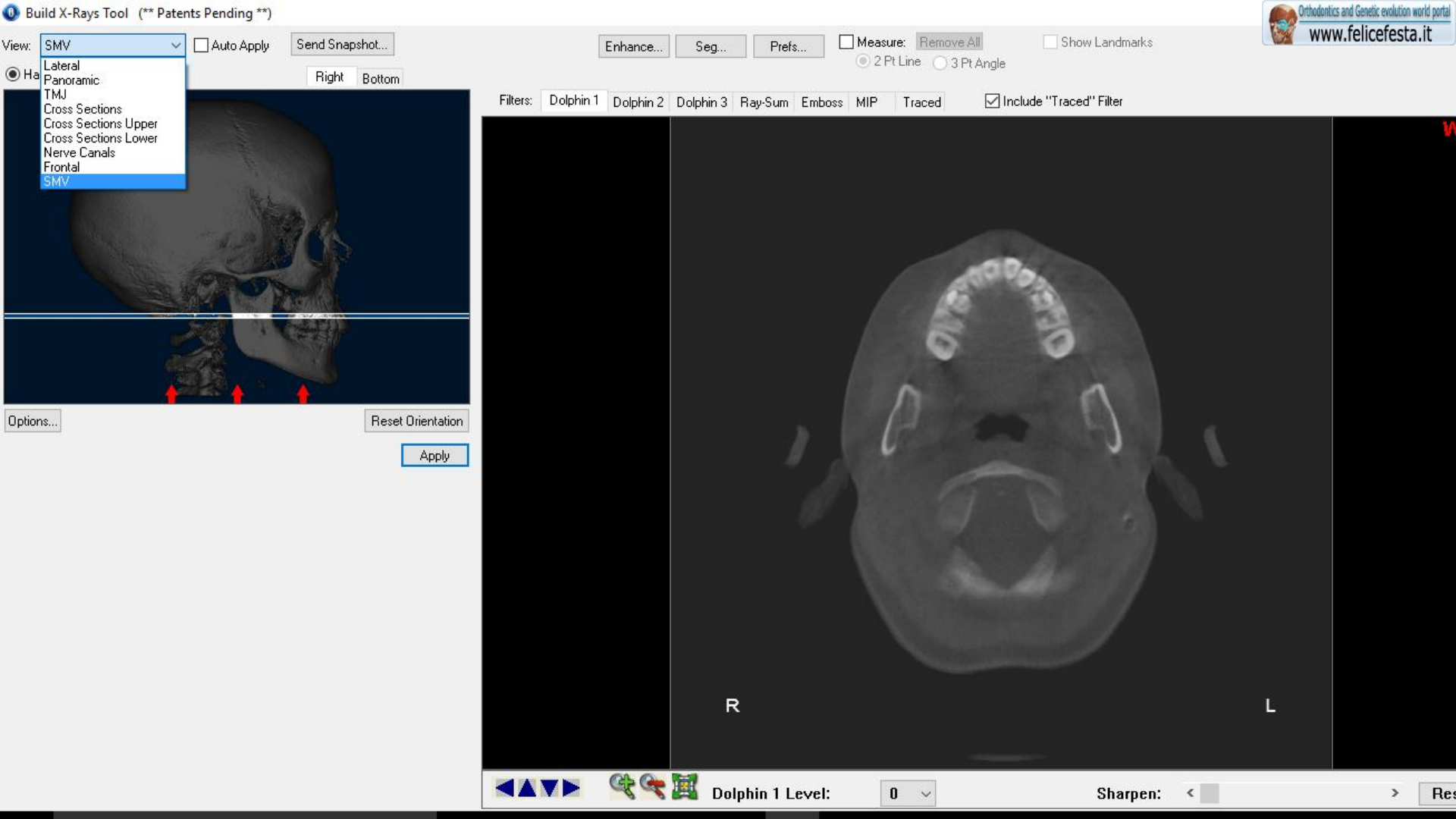
Image Left: 0 mm | Image Right: 0 mm

OK | Cancel

Filters: Dolphin 1 | Dolphin 2 | Dolphin 3 | Ray-Sum | Emboss | MIP | Traced | Include "Traced" Filter



Dolphin 1 Level: 0 | Sharpen:


Build X-Rays Tool (** Patents Pending **)
Orthodontics and Genetic evolution world portal
www.felicefesta.it
View: SMV
Auto Apply
Send Snapshot...
Enhance...
Seg...
Prefs...
Measure:
Remove All
2 Pt Line
3 Pt Angle
Show Landmarks
Lateral
Panoramic
TMJ
Cross Sections
Cross Sections Upper
Cross Sections Lower
Nerve Canals
Frontal
SMV
Right
Bottom
Filters:
Dolphin 1
Dolphin 2
Dolphin 3
Ray-Sum
Emboss
MIP
Traced
Include "Traced" Filter
Options...
Reset Orientation
Apply
R
L
Dolphin 1 Level:
0
Sharpen:

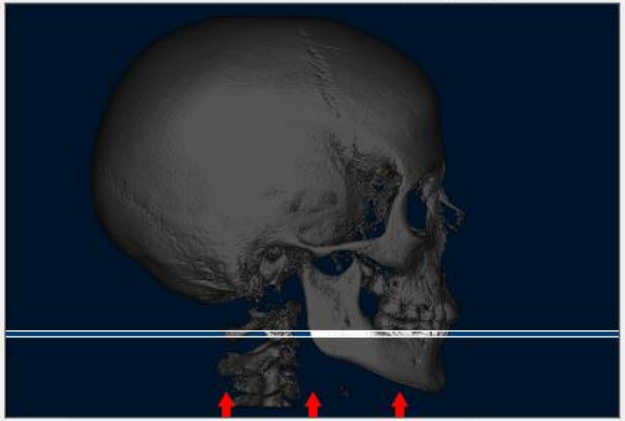
Build X-Rays Tool (** Patents Pending **)

View: SMV | Auto Apply | Send Snapshot...

Enhance... | Seg... | Prefs...

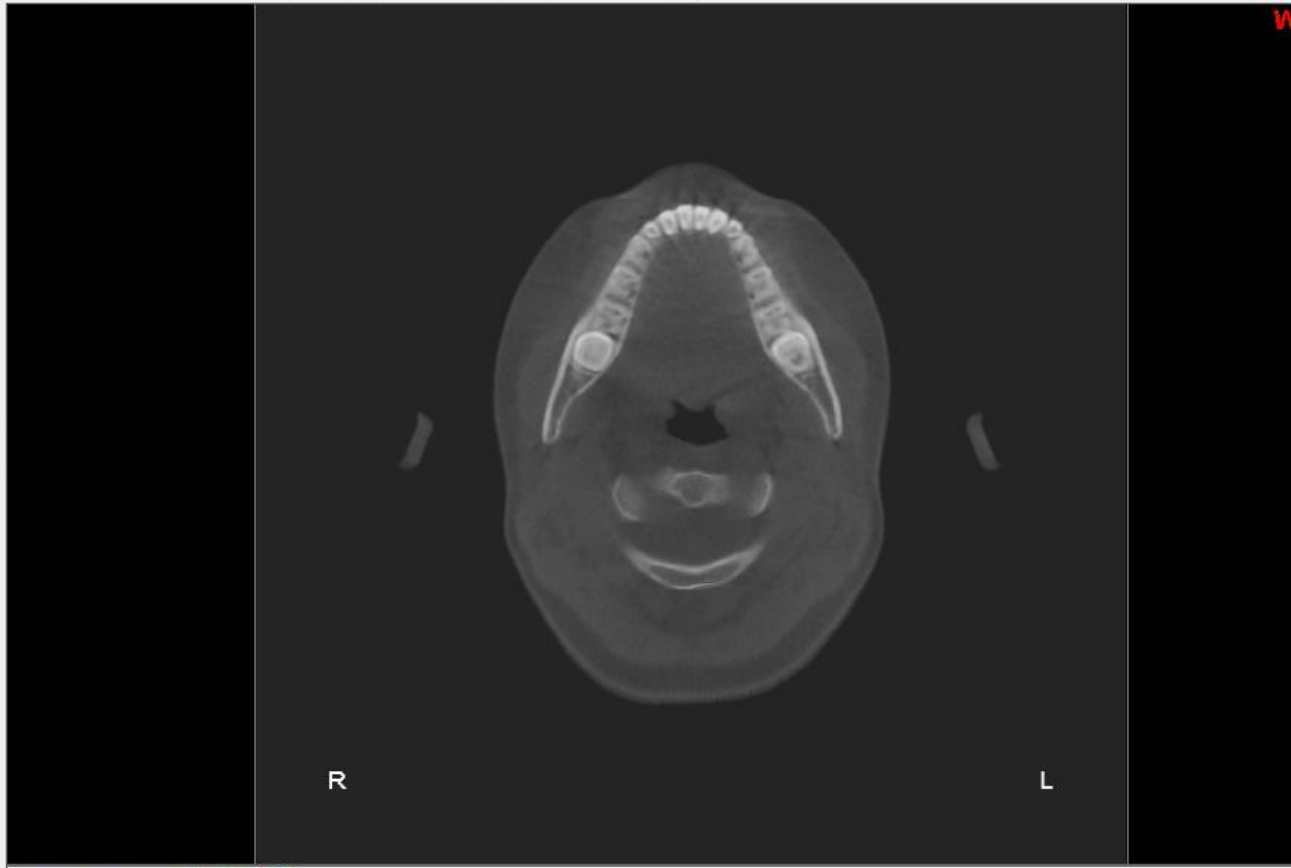
Measure: Remove All | 2 Pt Line | 3 Pt Angle | Show Landmarks

Hard-Tissue | Soft-Tissue | Right | Bottom



Options... | Reset Orientation | Apply

Filters: Dolphin 1 | Dolphin 2 | Dolphin 3 | Ray-Sum | Emboss | MIP | Traced | Include "Traced" Filter



Dolphin 1 Level: 0 | Sharpen:

Build X-Rays Tool (** Patents Pending **)

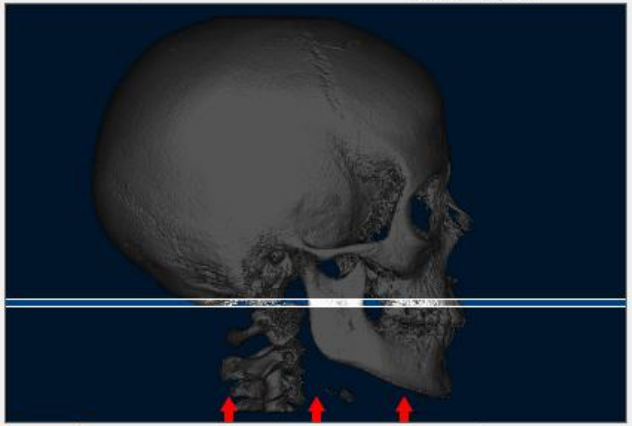
View: SMV | Auto Apply | Send Snapshot...

Enhance... | Seg... | Prefs...

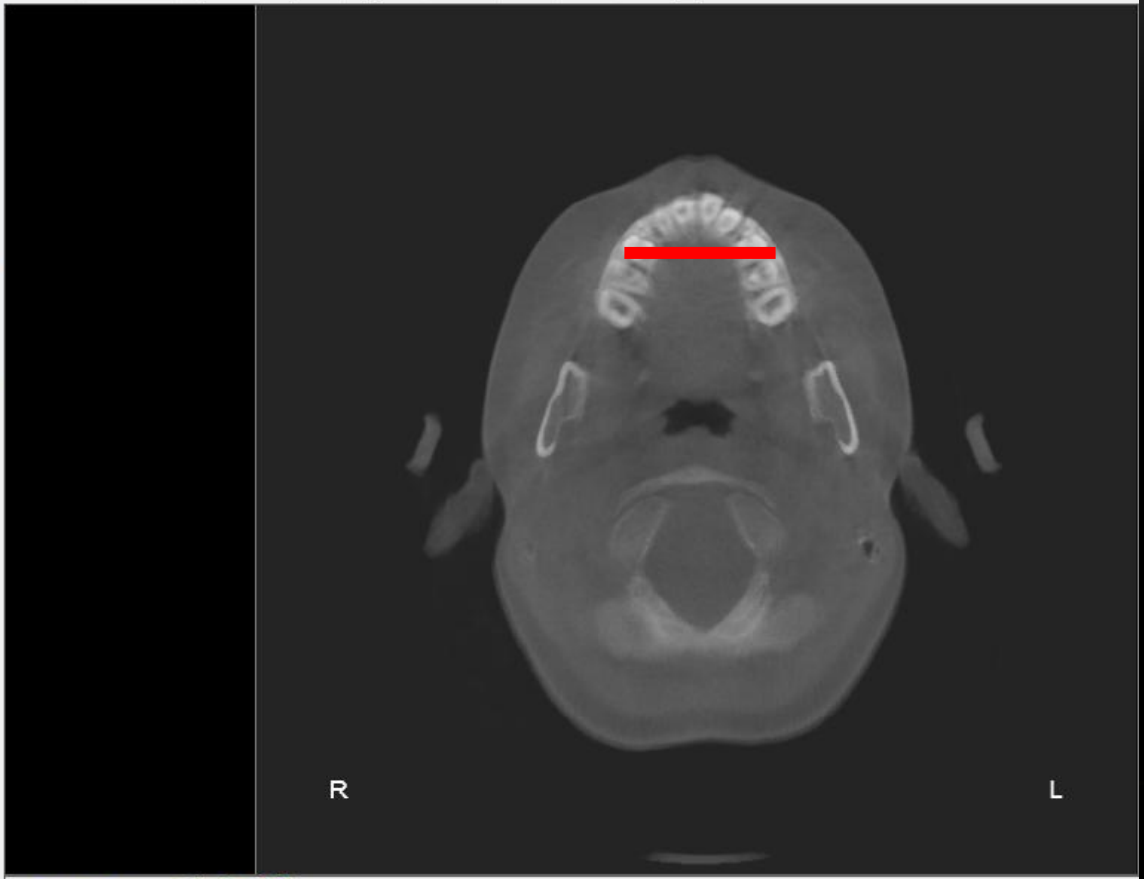
Measure: Remove All | 2 Pt Line | 3 Pt Angle | Show Landmarks

Hard-Tissue | Soft-Tissue | Right | Bottom

Filters: Dolphin 1 | Dolphin 2 | Dolphin 3 | Ray-Sum | Emboss | MIP | Traced | Include "Traced" Filter



Options... | Reset Orientation | Apply



Dolphin 1 Level: 0 | Sharpen:

SMV Options

Projection Type
Orthogonal | Perspective | Projection Center...

Ruler
Type: None | Location: Left

Add Margin to X-ray Image
Image Left: 0 mm | Image Right: 0 mm

OK | Cancel

Build X-Rays Tool (** Patents Pending **)

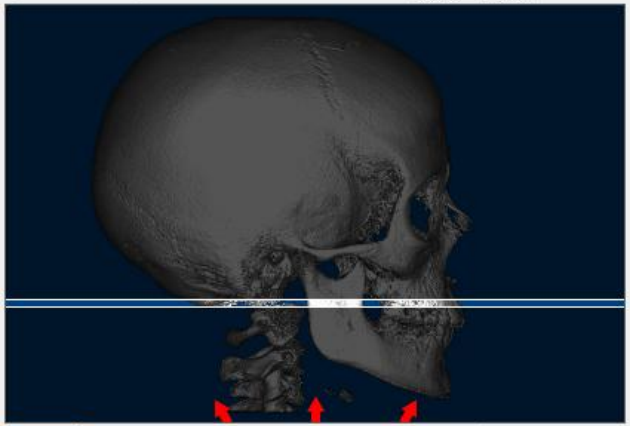
View: SMV | Auto Apply | Send Snapshot...

Enhance... | Seg... | Prefs...

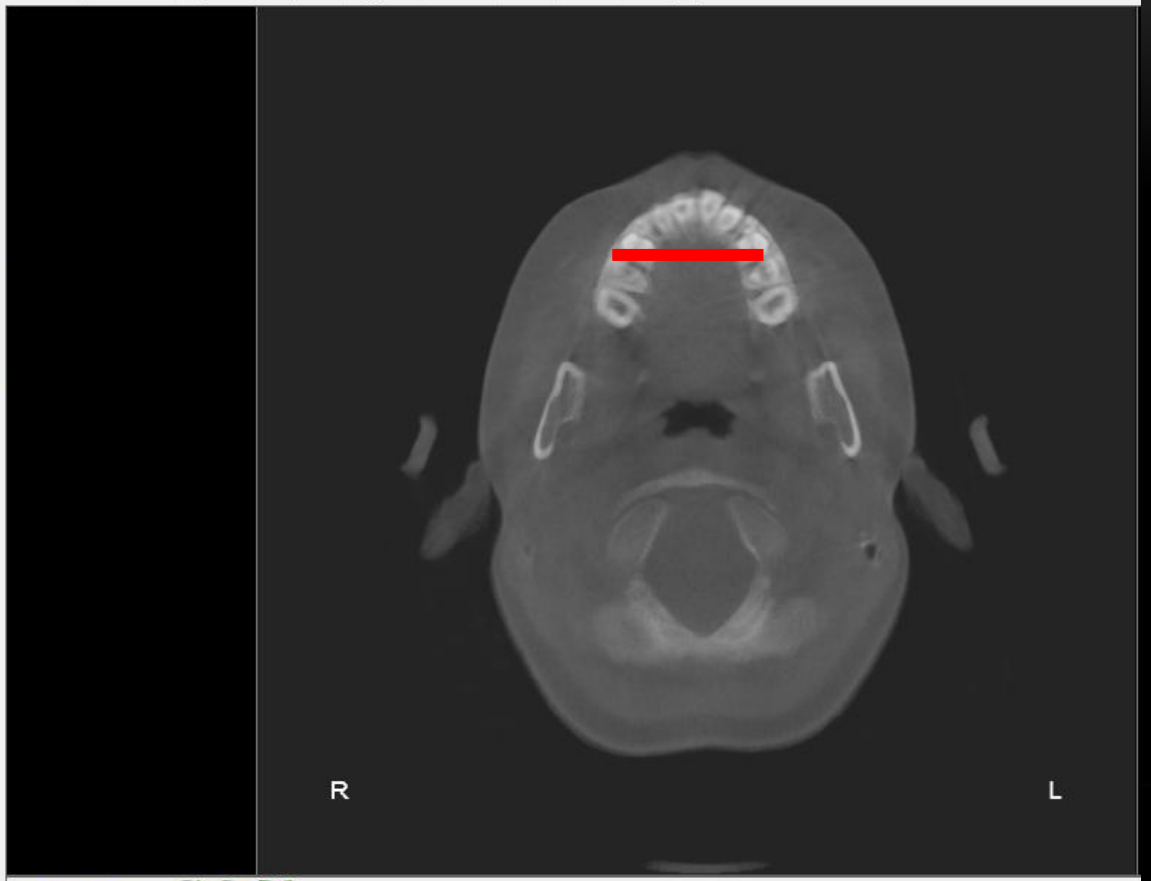
Measure: Remove All | 2 Pt Line | 3 Pt Angle | Show Landmarks

Hard-Tissue | Soft-Tissue | Right | Bottom

Filters: Dolphin 1 | Dolphin 2 | Dolphin 3 | Ray-Sum | Emboss | MIP | Traced | Include "Traced" Filter



Options... | Reset Orientation | Apply



Dolphin 1 Level: 0 | Sharpen:

SMV Options

Projection Type
Orthogonal | Perspective | Projection Center...

Ruler
Type: None | Location: Left

Add Margin to X-ray Image
Image Left: 0 mm | Image Right: 0 mm

OK | Cancel

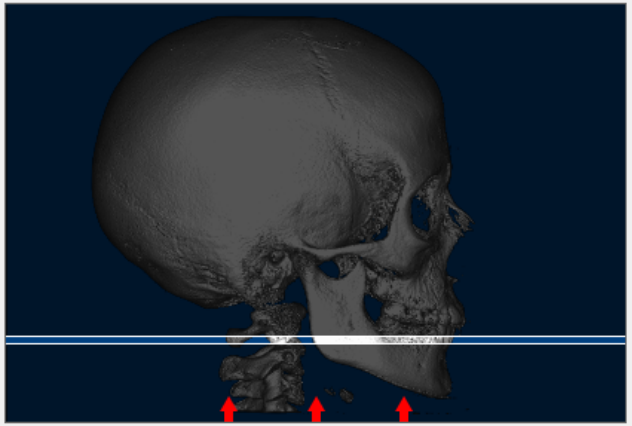
Build X-Rays Tool (** Patents Pending **)

View: SMV | Auto Apply | Send Snapshot...

Enhance... | Seg... | Prefs...

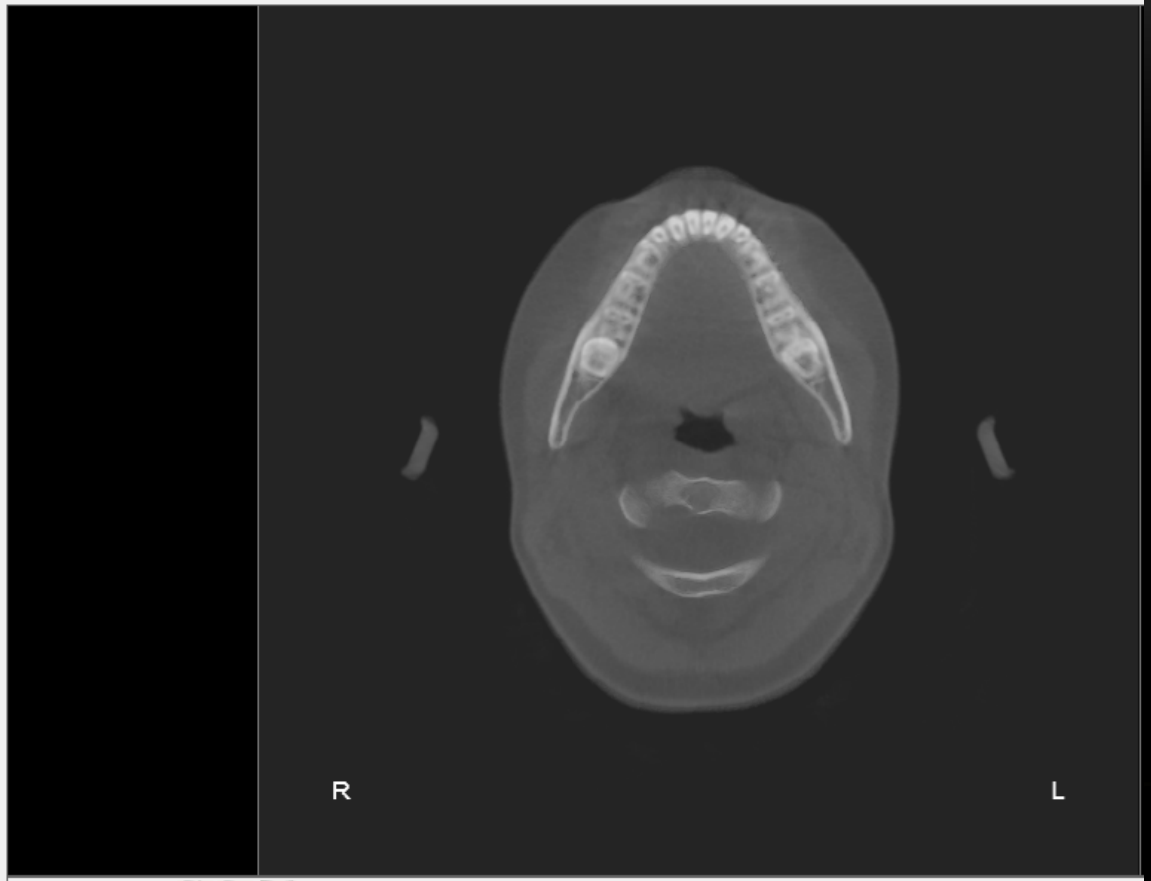
Measure: Remove All | 2 Pt Line | 3 Pt Angle | Show Landmarks

Hard-Tissue | Soft-Tissue | Right | Bottom



Options... | Reset Orientation | Apply

Filters: Dolphin 1 | Dolphin 2 | Dolphin 3 | Ray-Sum | Emboss | MIP | Traced | Include "Traced" Filter



Dolphin 1 Level: 0 | Sharpen:

SMV Options

Projection Type
Orthogonal | Perspective | Projection Center...

Ruler
Type: None | Location: Left

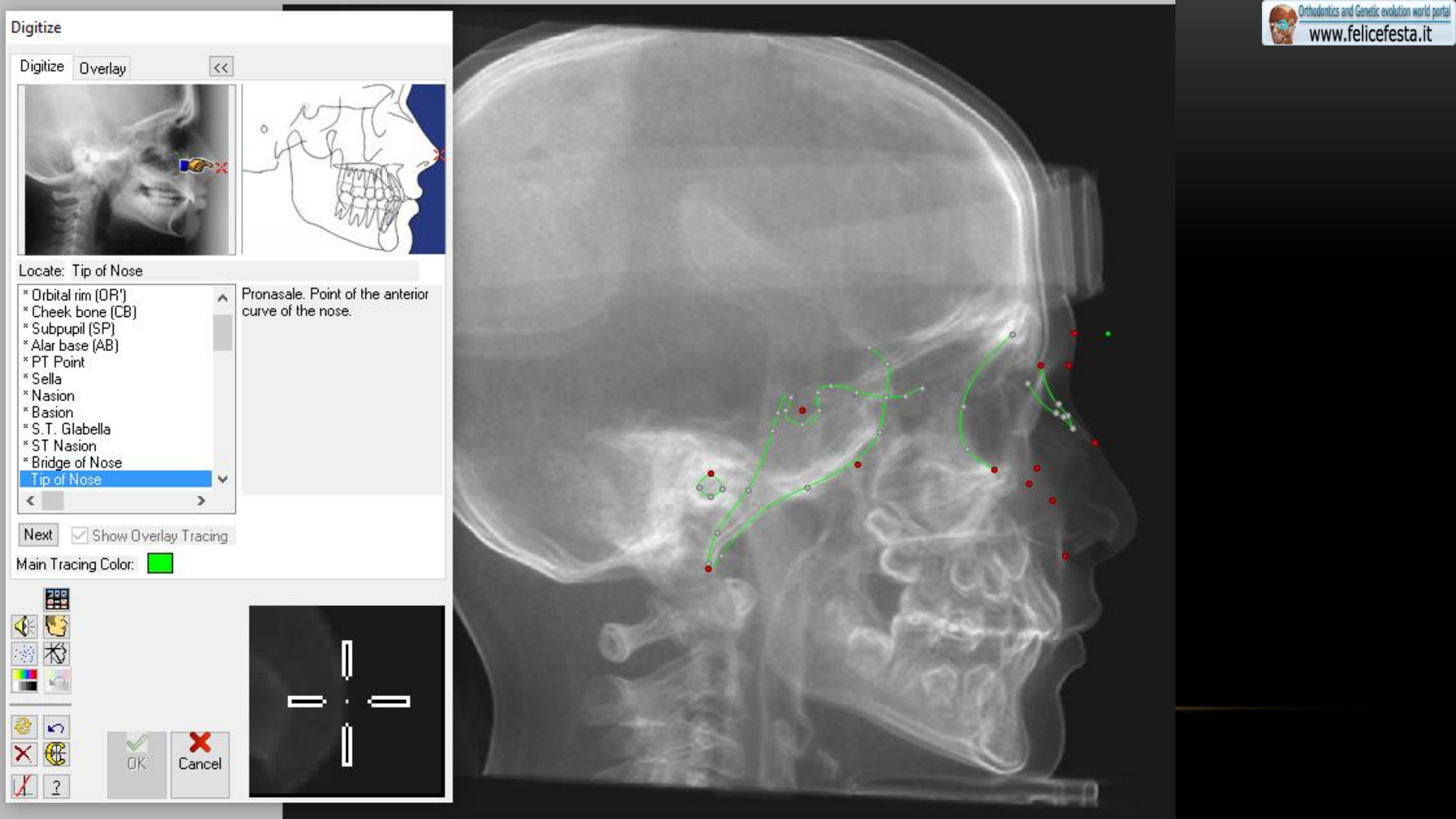
Add Margin to X-ray Image
Image Left: 0 mm | Image Right: 0 mm

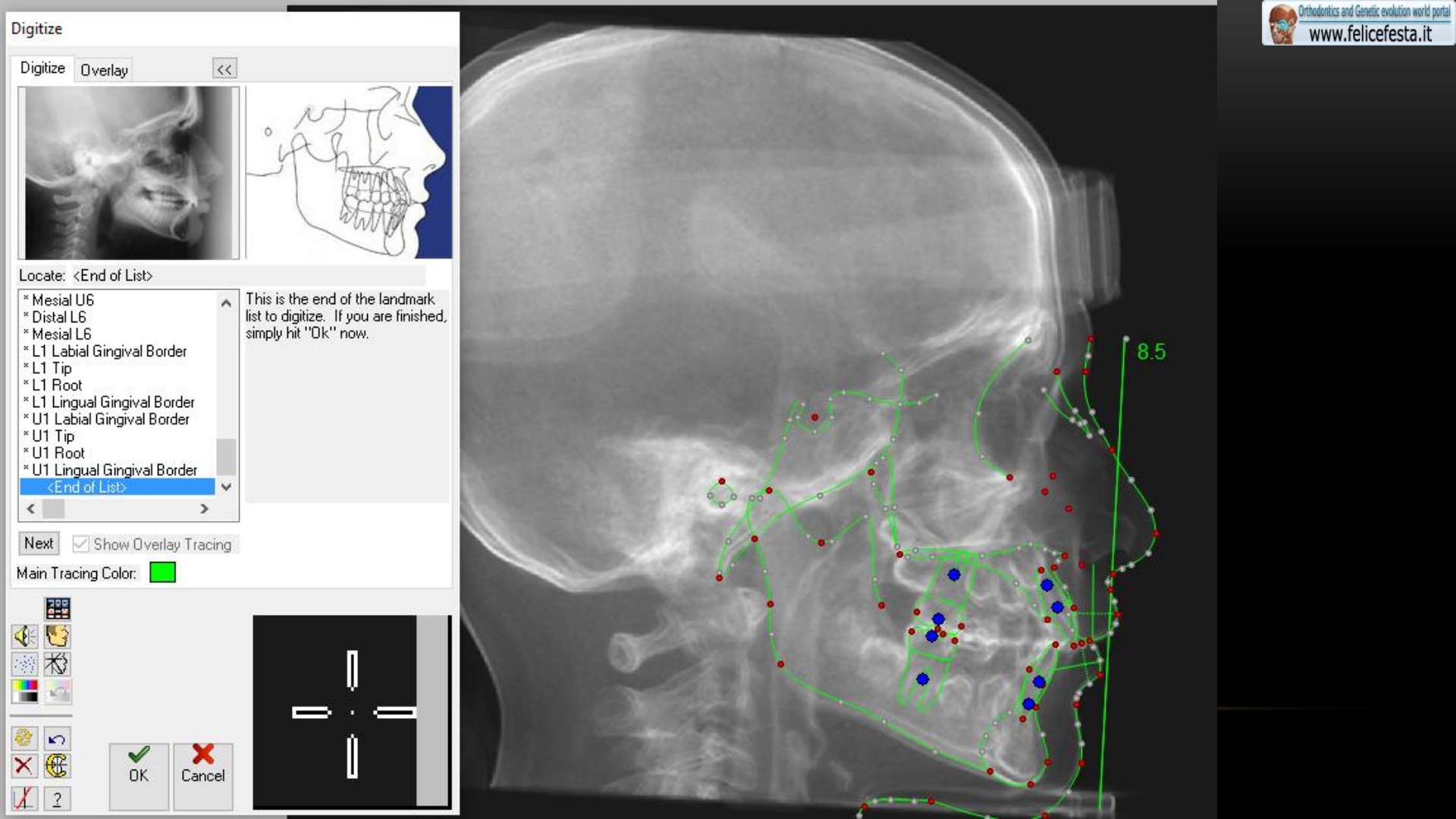
OK | Cancel

NETWORK>MANAGEMENT SOFTWARES> >TMJ/ORTHODONTICS CLINICAL CHART> >DOLPHIN 3D>

- Transition from 2D to 3D Orthodontics
- 1)Segmentation
- 2)Orientation
- 3)Virtual 2D X-Rays development (lateral>ortophantomography>TMJ>cross sections>postero-anterior>upper arch submento-vertex>lower arch submento-vertex
- 4)Virtual 2D Cephalometrics >Transition to 3D cehalometrics
- 5) Virtual 3D muscles Dissections: Right Masseter>Left Masseter

>INTRAORAL SCANNERS


Digitize
Digitize
Overlay
<<
Locate: Tip of Nose
* Orbital rim (OR')
* Cheek bone (CB)
* Subpupil (SP)
* Alar base (AB)
* PT Point
* Sella
* Nasion
* Basion
* S.T. Glabella
* ST Nasion
* Bridge of Nose
Tip of Nose
Pronasale. Point of the anterior curve of the nose.
Next
Show Overlay Tracing
Main Tracing Color:
OK
Cancel
?
Orthodontics and Genetic evolution world portal
www.felicefesta.it


Digitize
Digitize
Overlay
<<
Locate: <End of List>
* Mesial U6
* Distal L6
* Mesial L6
* L1 Labial Gingival Border
* L1 Tip
* L1 Root
* L1 Lingual Gingival Border
* U1 Labial Gingival Border
* U1 Tip
* U1 Root
* U1 Lingual Gingival Border
<End of List>
This is the end of the landmark list to digitize. If you are finished, simply hit "Ok" now.
Next
Show Overlay Tracing
Main Tracing Color:
OK
Cancel
8.5
Orthodontics and Genetic evolution world portal
www.felicefesta.it

Dolphin Imaging 11.8 Premium - Scarci, Francesca ID: SCARCIF

File Edit View Options Tools Window Help

Link Tracing+Image

1. GENERAL fit

- Click-drag lower box to Subnasale.
- Click-drag upper box to SIZE/ROTATE tracing to fit upper face. Reposition lower box if necessary.

2. DETAILED, soft tissue profile fit

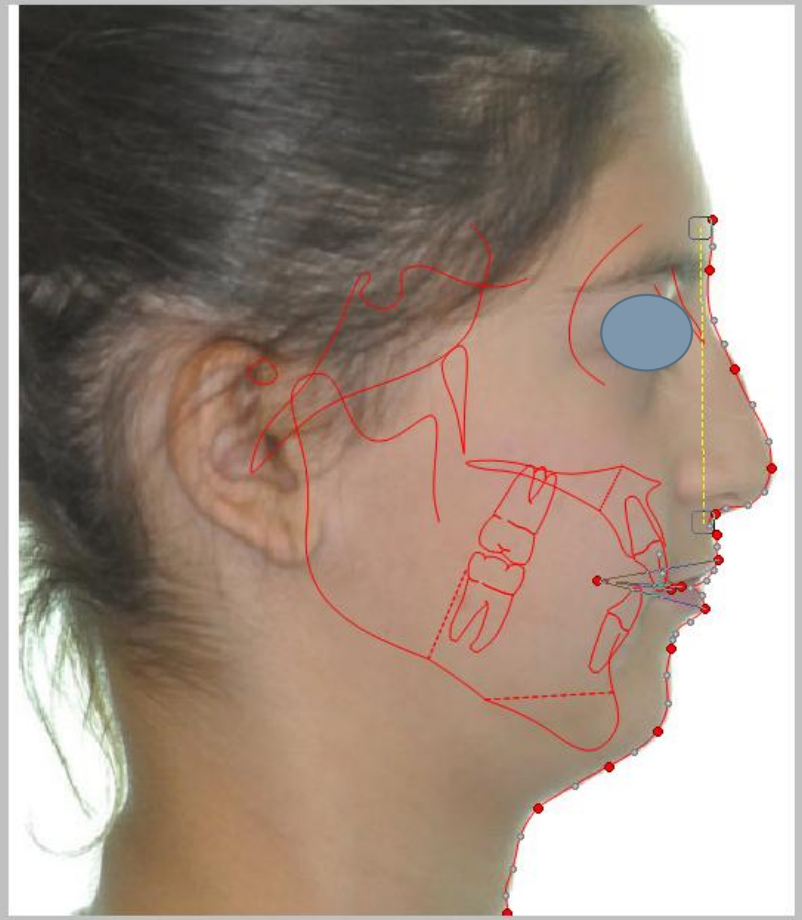
Click-drag profile landmarks. Pay special attention around lip outlines. Measurements based on repositioned soft tissue landmarks will be altered.

3. (Optional) Save a copy of the link

Save Link

4.

Start Treatment >>



Dolphin Imaging 11.8 Premium - Scarci, Francesca ID: SCARCIF

File Edit View Options Tools Window Help

Treatment Simulation (VTO)

? << Less

CO-CR | Growth | TxPlan | Goals

Maxilla	A-P	Vert
ANS	0.0	0.0
PNS	0.0	0.0
Mx1 tip	0.0	0.0
Molar MB cusp tip	0.0	0.0

Mandible	A-P	Vert
Md1 tip	0.0	0.0
Molar MB cusp tip	0.0	0.0
B point	0.0	0.0
Pog	0.0	0.0
Genioplasty	0.0	0.0

☑ Model Block Surgery

Soft Tissue Profile
- ◉ Profile touch-up
- ○ Lip reposturing

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

Superimpose... Procedures...

Undo List | Prev Notes | Delete Rest

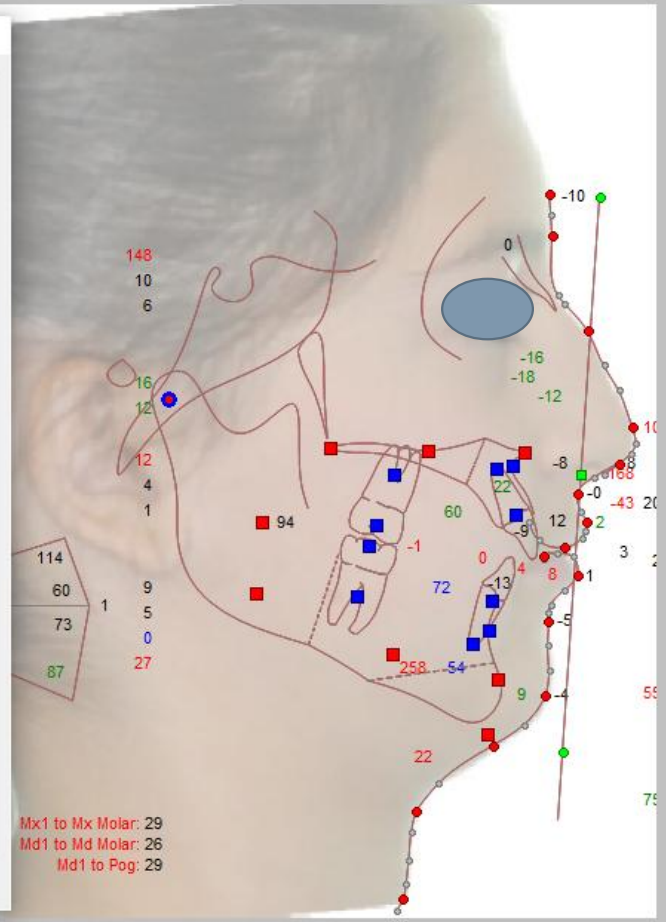
- Original -

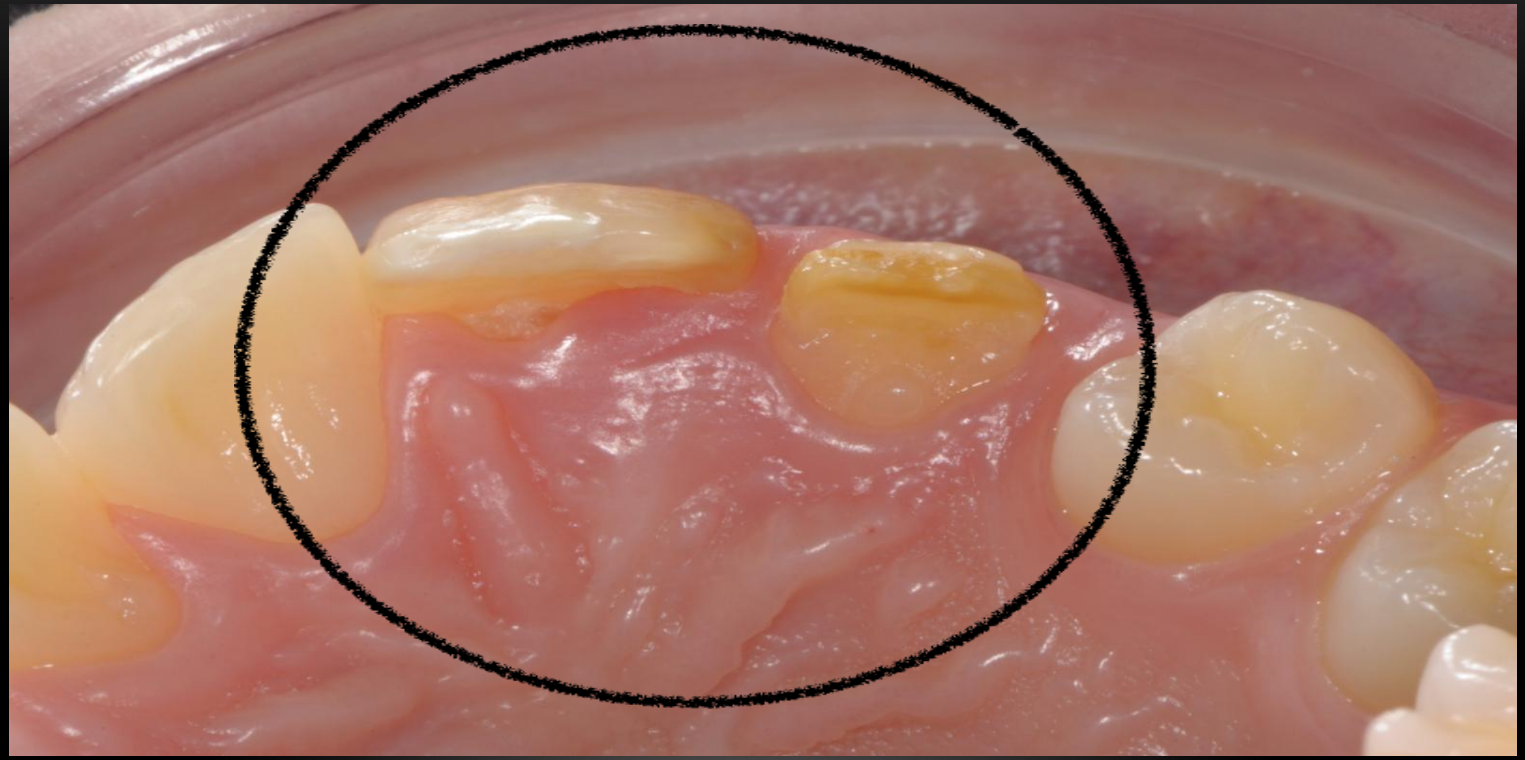
	mm	mm	○
Upper 1:	0.0	0.0	0.0
Lower 1:	0.0	0.0	0.0
Upper 6:	0.0	0.0	0.0
Lower 6:	0.0	0.0	0.0
A Point:	0.0	0.0	
B Point:	0.0	0.0	
Mx (LeFort):	0.0	0.0	0.0
Ant. Mx:	0.0	0.0	0.0
Post. Mx:	0.0	0.0	0.0
Mx+Md:	0.0	0.0	0.0
Md (BSSO):	0.0	0.0	0.0
Rotate Md @ Hinge Axis:			0.0
Rotate Mx+Md @ Hinge Axis:			0.0
Genioplasty:	0.0	0.0	

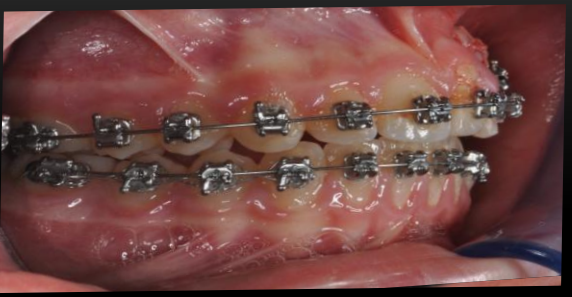
Others: (S) Post Md Rotate@Hinge

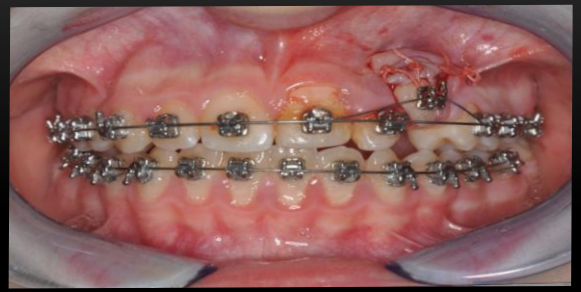
Autorotate mandible

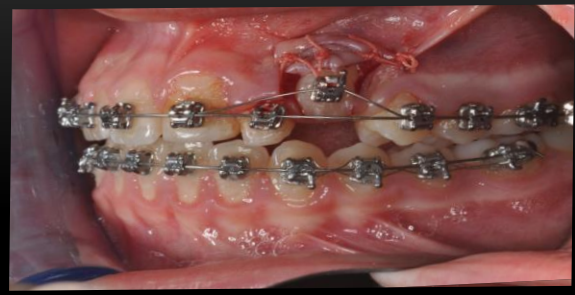
Arch Length Discrepancy
Mx: 0.0 mm
Md: 0.0 mm
Edit...
Extract... Expand... Strip...

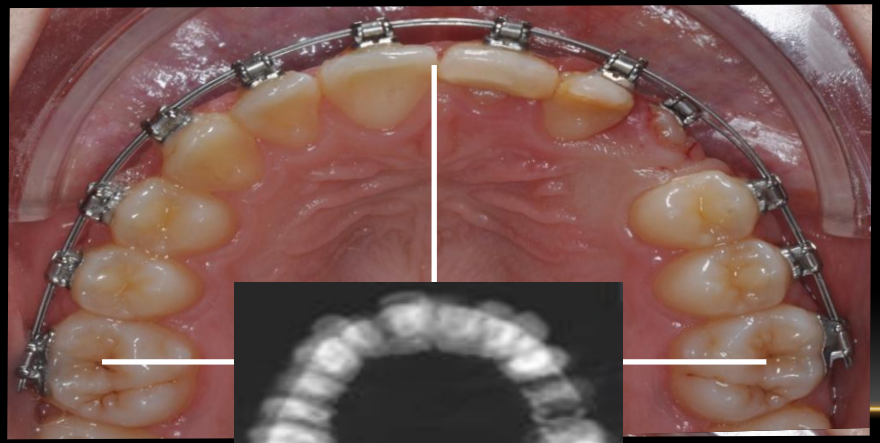


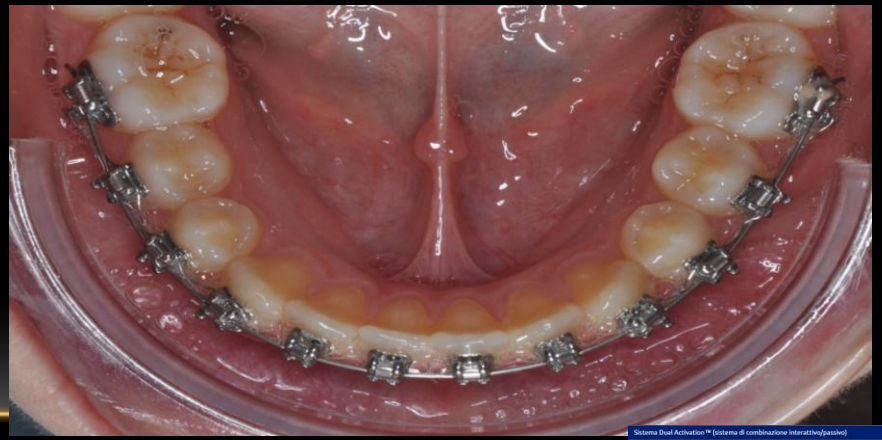


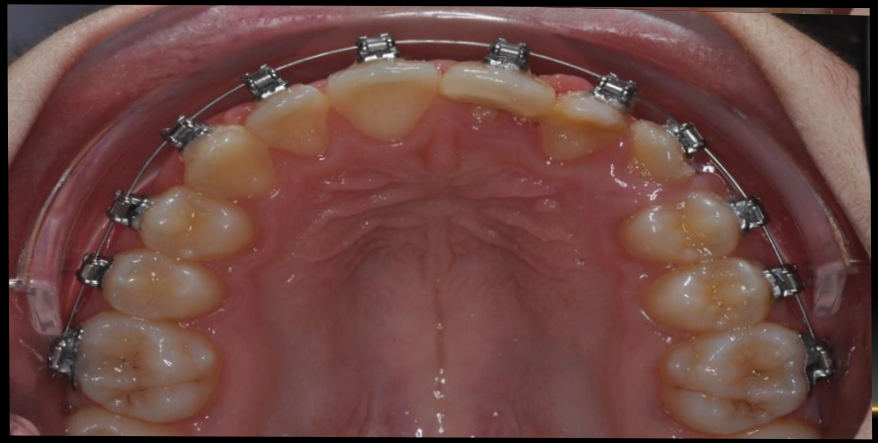


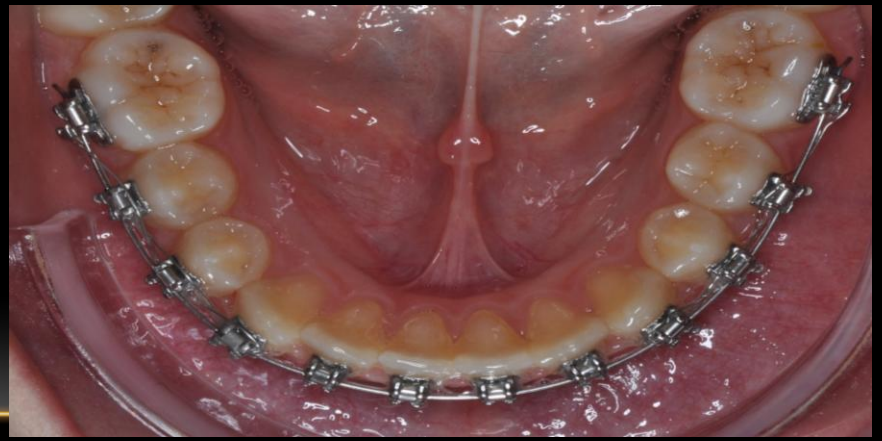


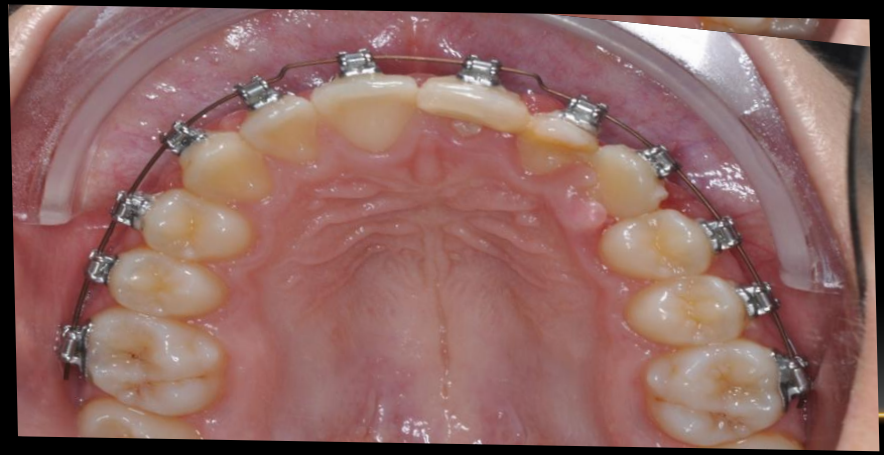


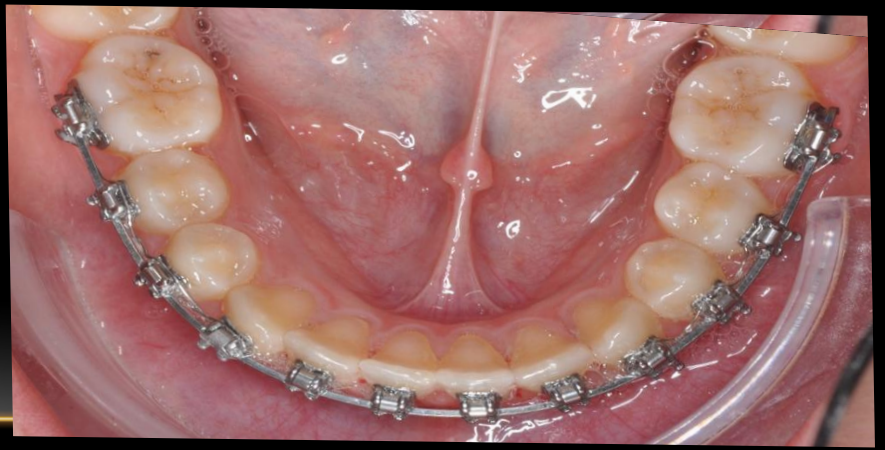


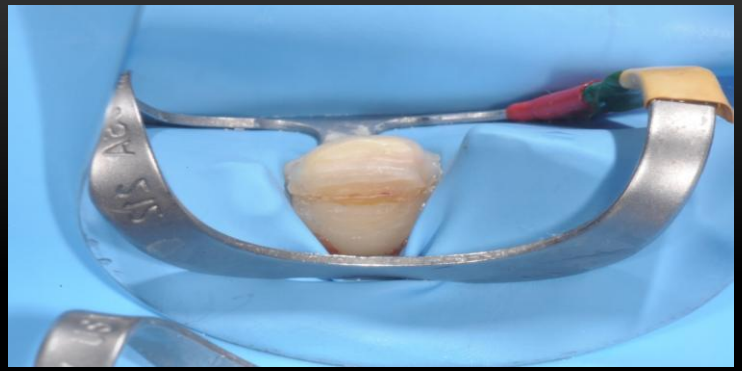


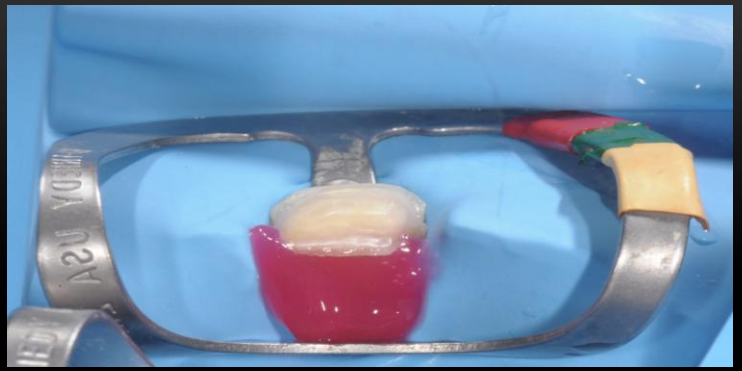




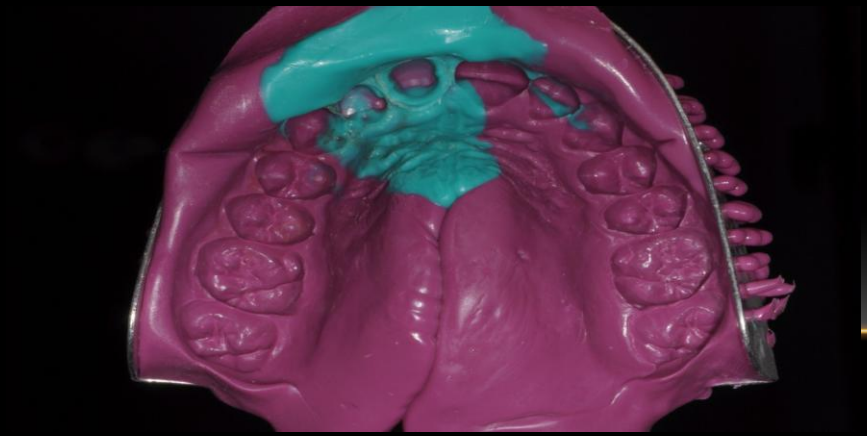


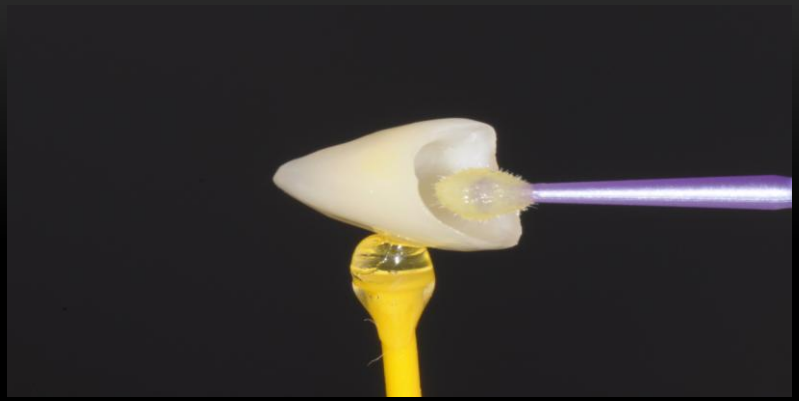


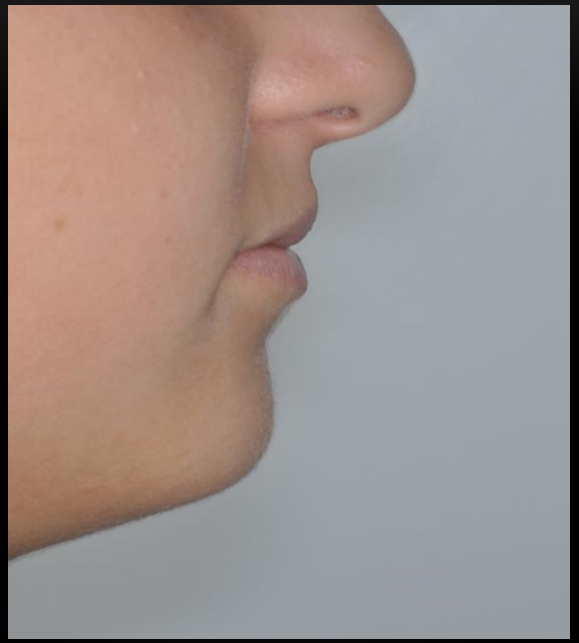




The composite restorations were performed by Dr. Francesco De Angelis








Facial Profile


Facial Front


Facial Front Smiling

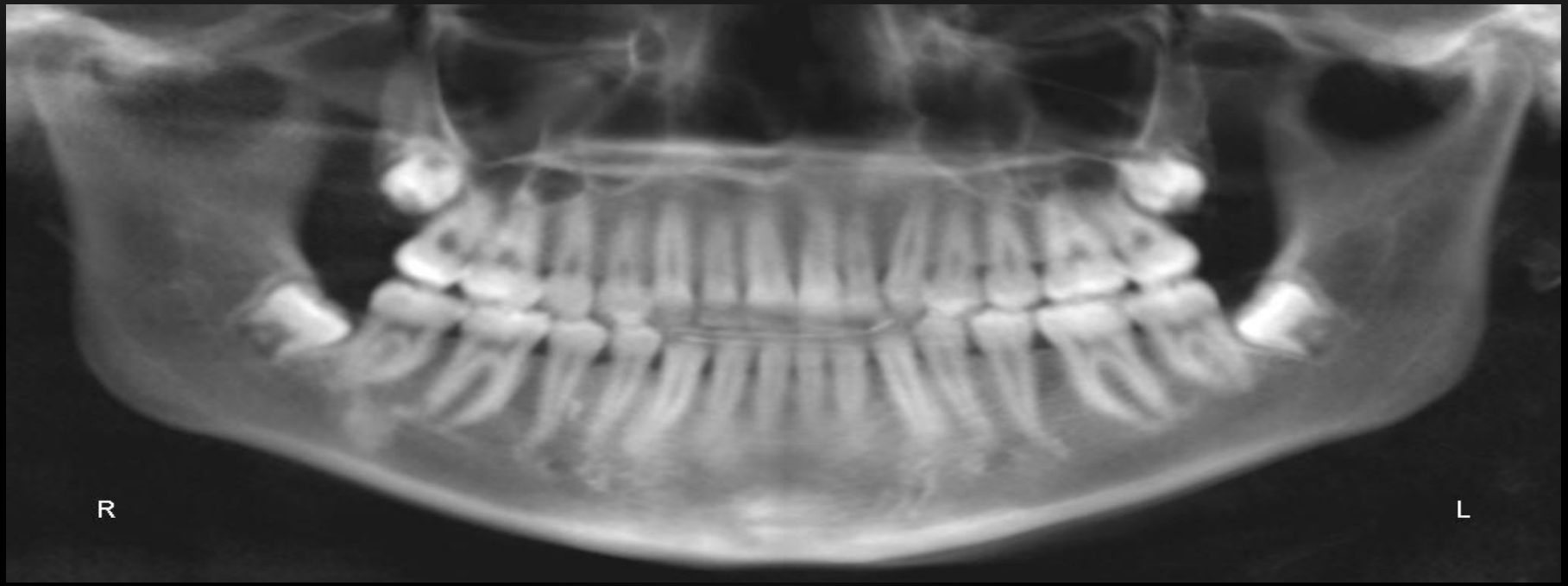

Occlusal Upper


Occlusal Lower


Intraoral Right

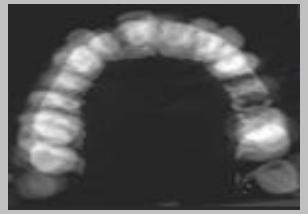

Intraoral Center

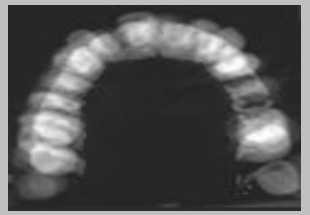

Intraoral Left

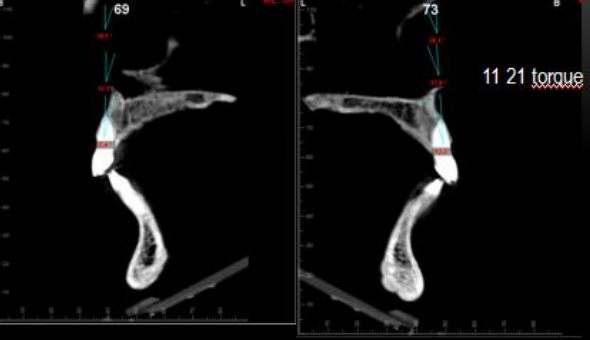


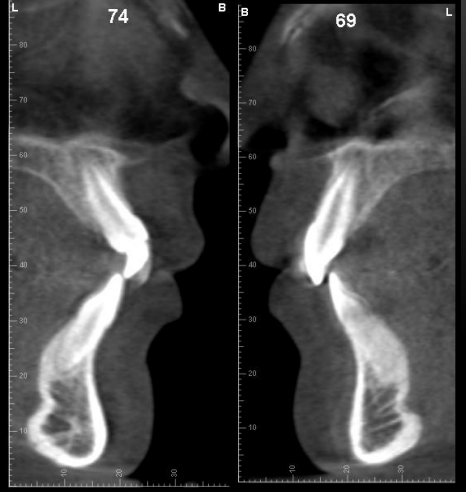




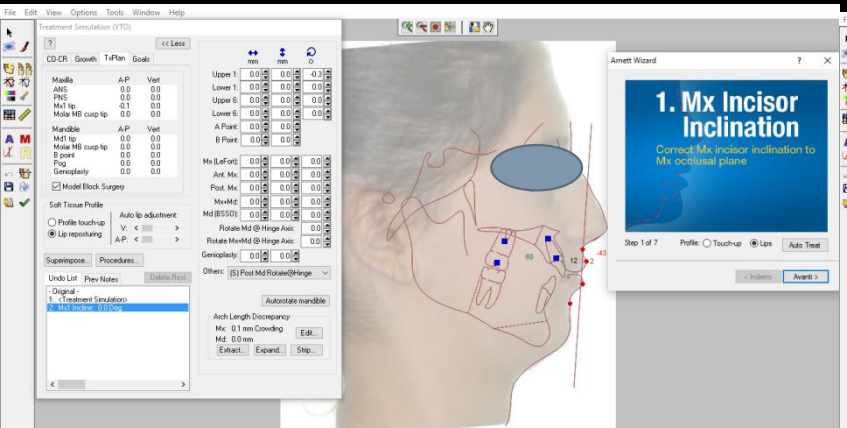


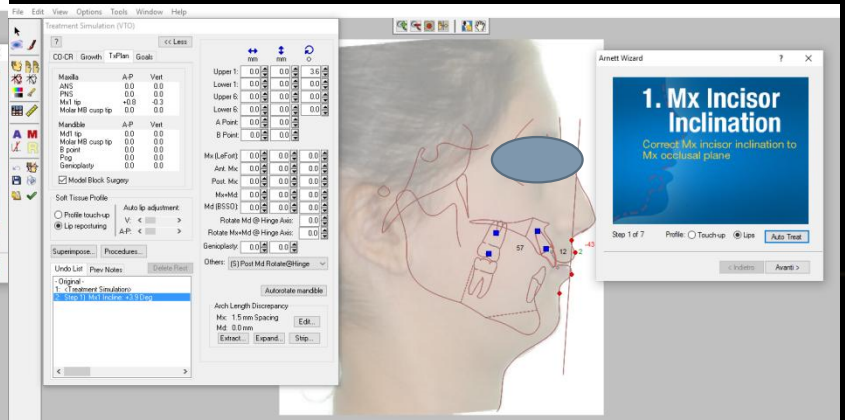


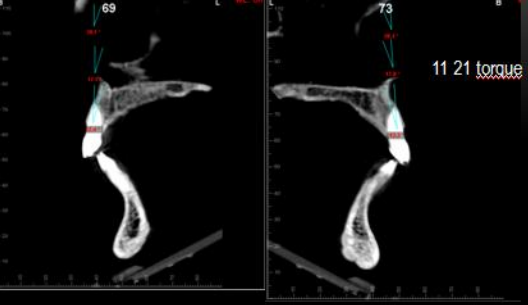


festa2face®

+20°/+15°(17°+/-3°) Roth +12° MBT +17°(+/-3°)

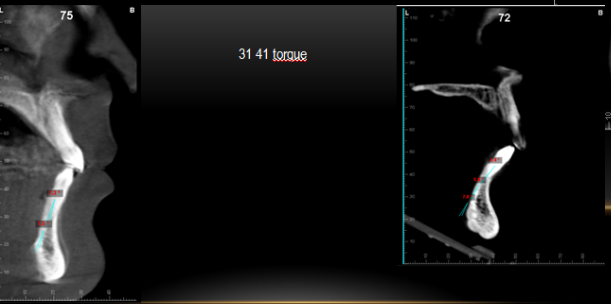




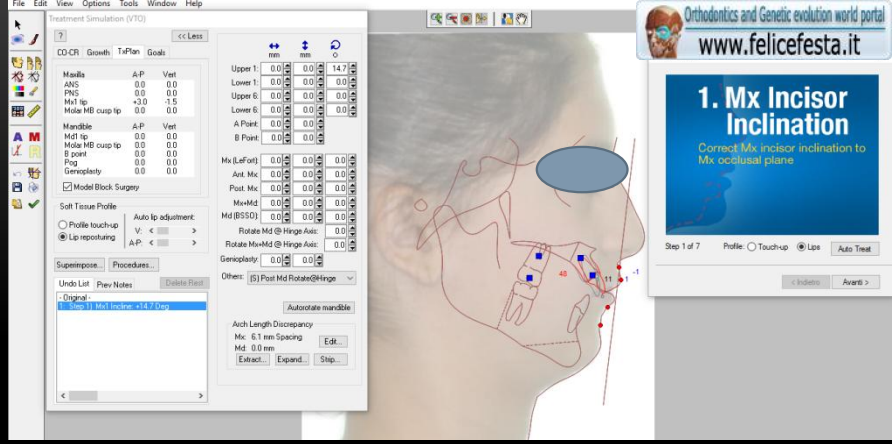


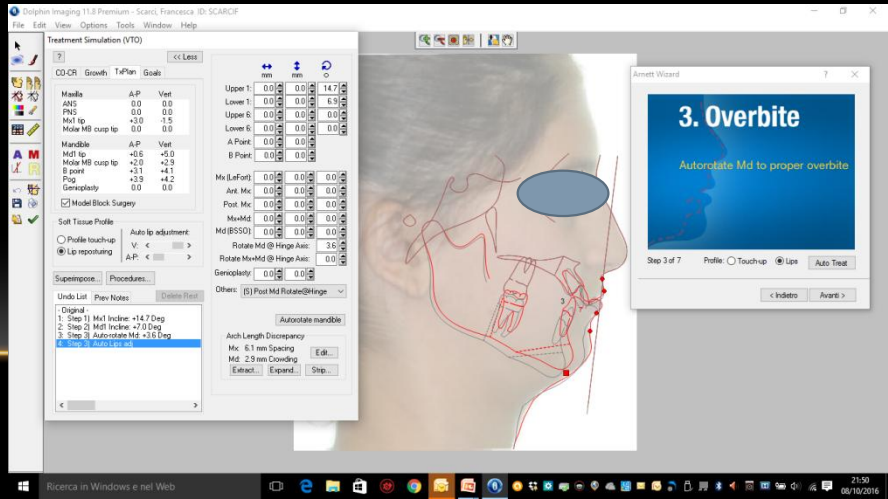
festa2face®

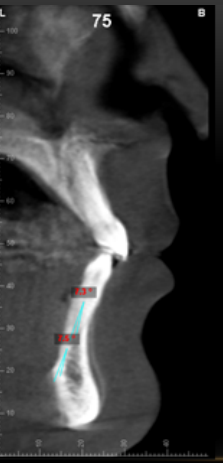
+20°/+15°(17°+/-3°) Roth +12° MBT +17°(+/-3°)



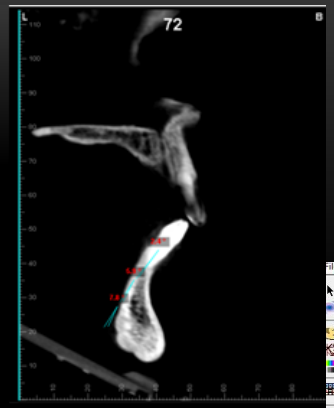
festa2face® -6°/-8°/-9°(-6°+/-8°) Roth -1° MBT -6°+/-8°





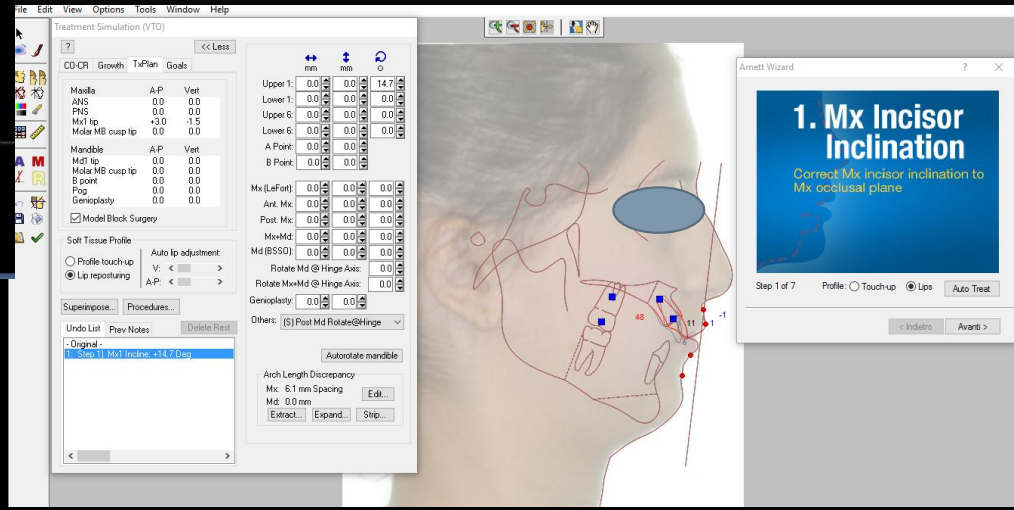


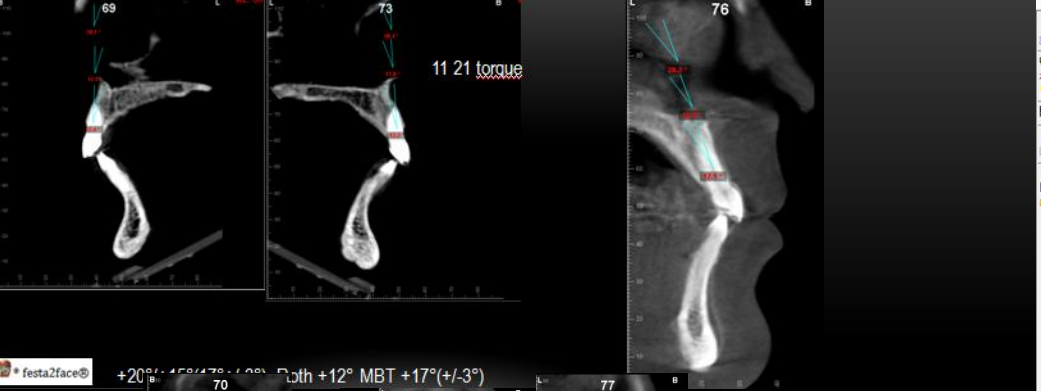
31 41 torque



festa2face®

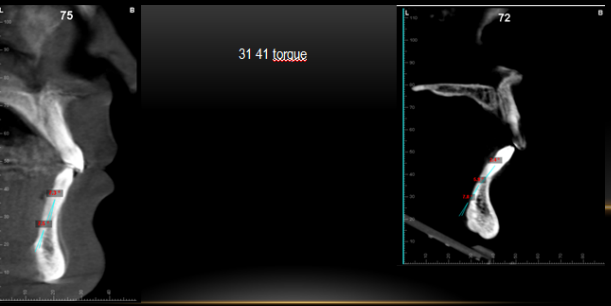
-6°/-8°/-9°(-6°+/-8°) Roth -1° MBT -6°+/-8°



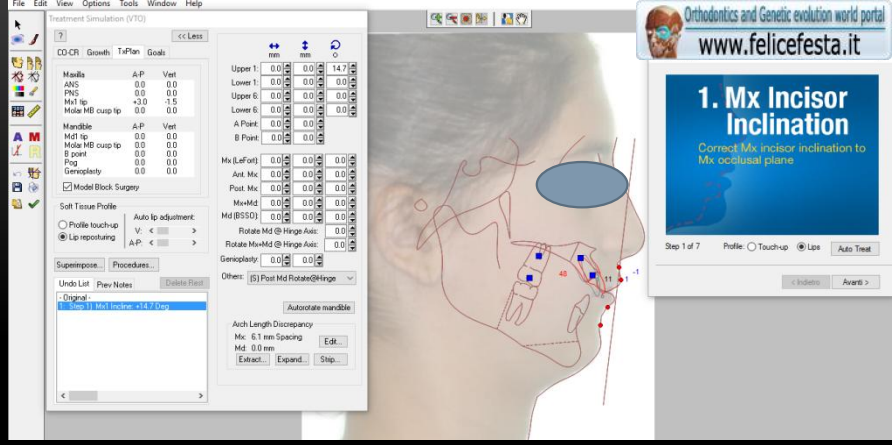

69
73
11 21 torque
76

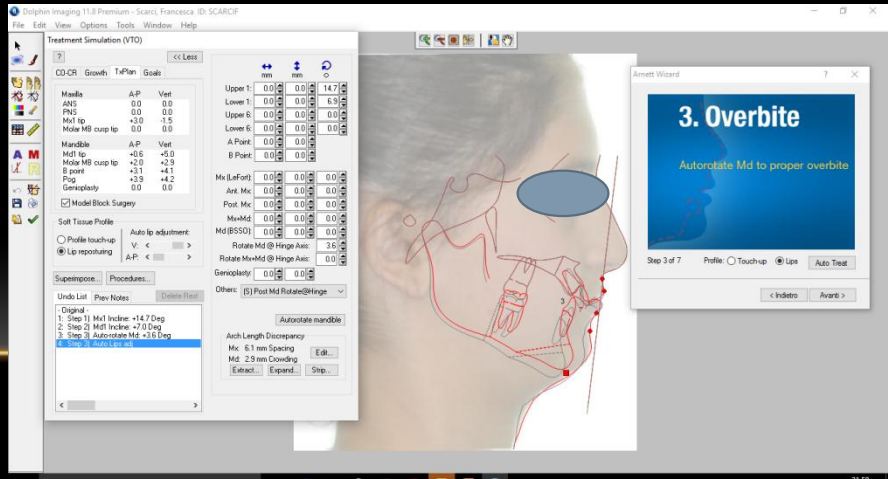
festa2face®

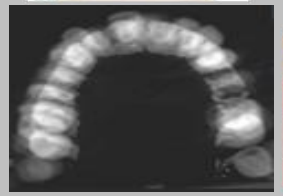

+20°/-15°/17°/-0°) Roth +12° MBT +17°(+/-3°)
69
70
74
77

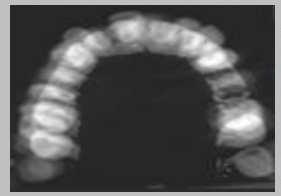

75
31 41 torque
72

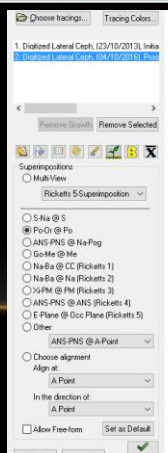

festa2face®
-6°/-8°/-9°(-6°+/-8°) Roth -1° MBT -6°+/-8°

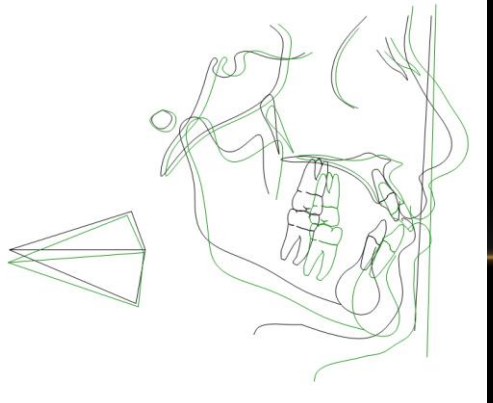

Orthodontics and Genetic evolution world portal
www.felicefesta.it
1. Mx Incisor Inclination
Correct Mx incisor inclination to Mx occlusal plane


3. Overbite
Autorotate Md to proper overbite









TMJ/ORTHODONTICS CLINICAL CHART

DOLPHIN 3D

- Transition from 2D to 3D Orthodontics
- 1)Segmentation
- 2)Orientation
- 3)Virtual 2D X-Rays development (lateral>ortophantomography>TMJ>cross sections>postero-anterior>upper arch submento-vertex>lower arch submento-vertex
- 4)Virtual 2D Cephalometrics >Transition to 3D cehalometrics
- 5) Virtual 3D Muscles Dissections: Right Masseter>Left Masseter

INTRAORAL SCANNERS

File Edit View Options Tools Help

Volume: Translucent Solid

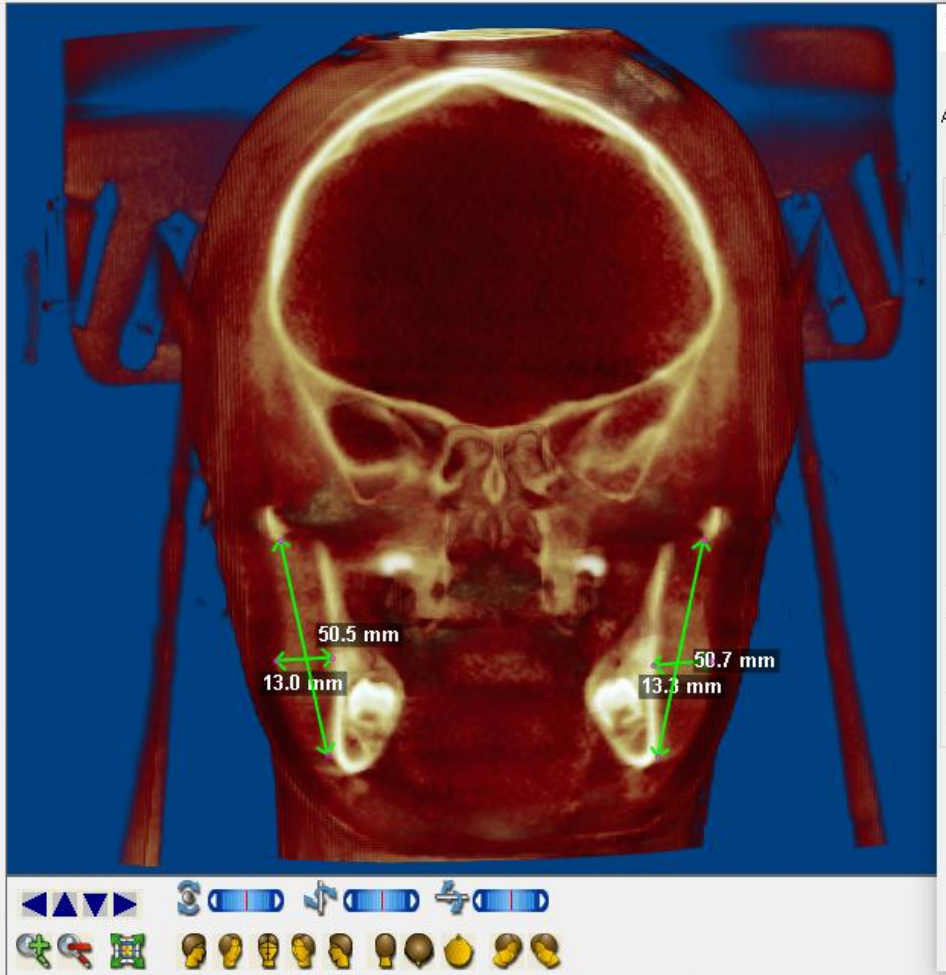
Soft Tissue
Seg:
Hard Tissue Default
Seg:
Opc:
Soft Tissue + Hard Tissue
Opc:

Photos/Surfaces: Select/Display...
Add... Edit...

Orientation... Build X-Rays...
Digitize / Measure... Create Movie...
Sinus/ Airway... Mirroring...
Super-imposition... Implants...

Use Clipping Slice 142.8 mm
Use Volume Clipping Box Edit...
Use Volume Sculpting Edit...

Send Snapshot...



Digitize/Measurement

View: 3D
Analysis: <Dolphin>

Landmark | 3D Line | 3D Angle | 3D Path
2D Slice Area | 2D Line | 2D Angle | 2D Path

Name	Value
2D Line Distance 1 (Volume)	50.5
2D Line Distance 2 (Volume)	50.7
2D Line Distance 3 (Volume)	13.0
2D Line Distance 4 (Volume)	13.3
<Add New - 2D Line Distance>	---

* Digitize 2 points to define line

Show ALL Remove Highlighted Line
Hide ALL Remove ALL Lines...

Clear ALL Measurements...
Undo Last Digitization

Continue to show on images when this window closes

Close

TMJ/ORTHODONTICS CLINICAL CHART DOLPHIN 3D

- Transition from 2D to 3D Orthodontics
- 1)Segmentation
- 2)Orientation
- 3)Virtual 2D X-Rays development (lateral>ortophantomography>TMJ>cross sections>postero-anterior>upper arch submento-vertex>lower arch submento-vertex
- 4)Virtual 2D Cephalometrics >Transition to 3D cehalometrics
- 5) Virtual 3D Muscles Dissections: Right Masseter>Left Masseter

INTRAORAL SCANNERS

Genomic Diagnosis
3D Appliances

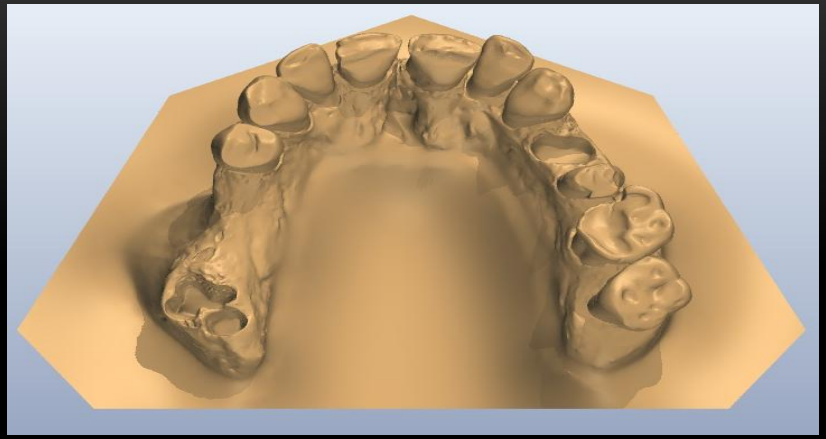
TMJ/ORTHODONTICS CLINICAL CHART DOLPHIN 3D

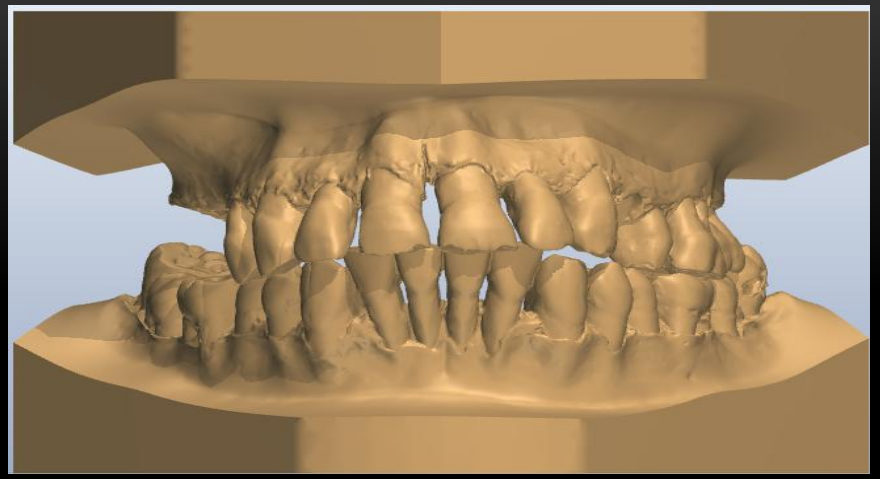
- Transition from 2D to 3D Orthodontics
- 1)Segmentation
- 2)Orientation
- 3)Virtual 2D X-Rays development (lateral>ortophantomography>TMJ>cross sections>postero-anterior>upper arch submento-vertex>lower arch submento-vertex
- 4)Virtual 2D Cephalometrics >Transition to 3D cehalometrics
- 5) Virtual 3D Muscles Dissections: Right Masseter>Left Masseter

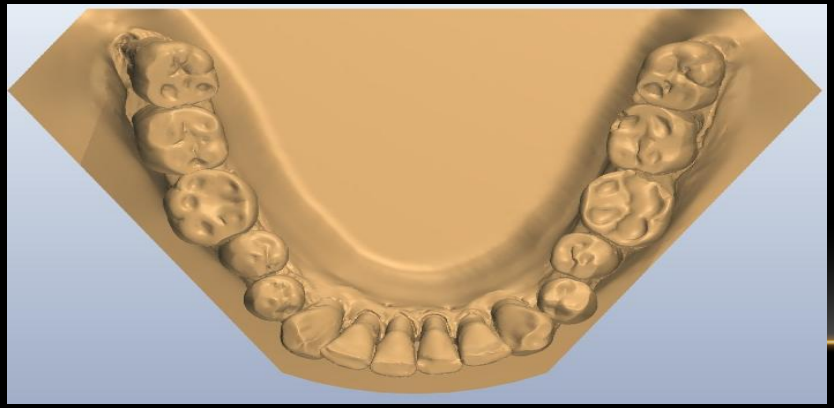
INTRAORAL SCANNERS

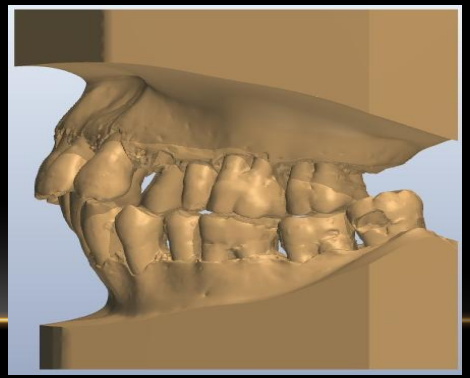
Genomic Diagnosis

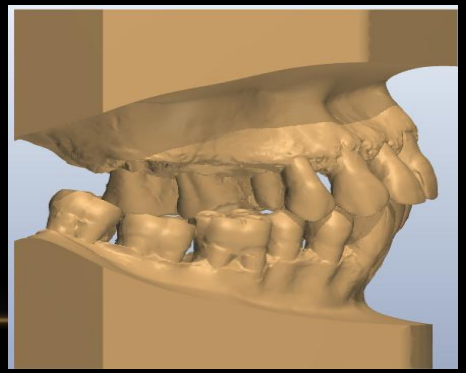
3D Appliances

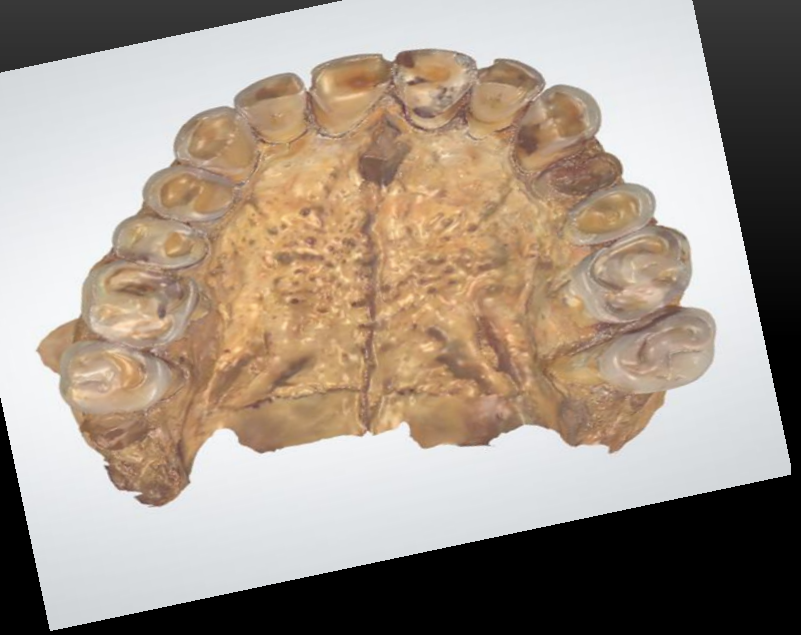


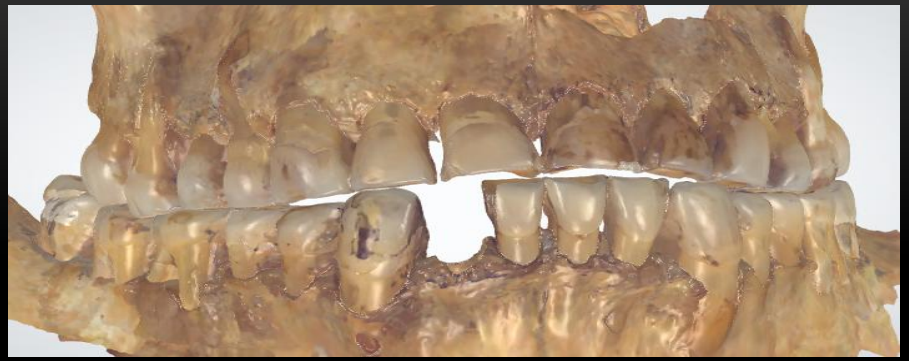


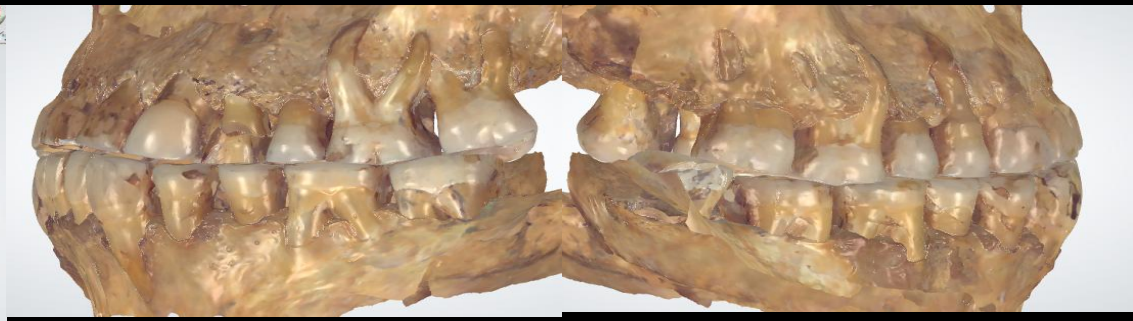


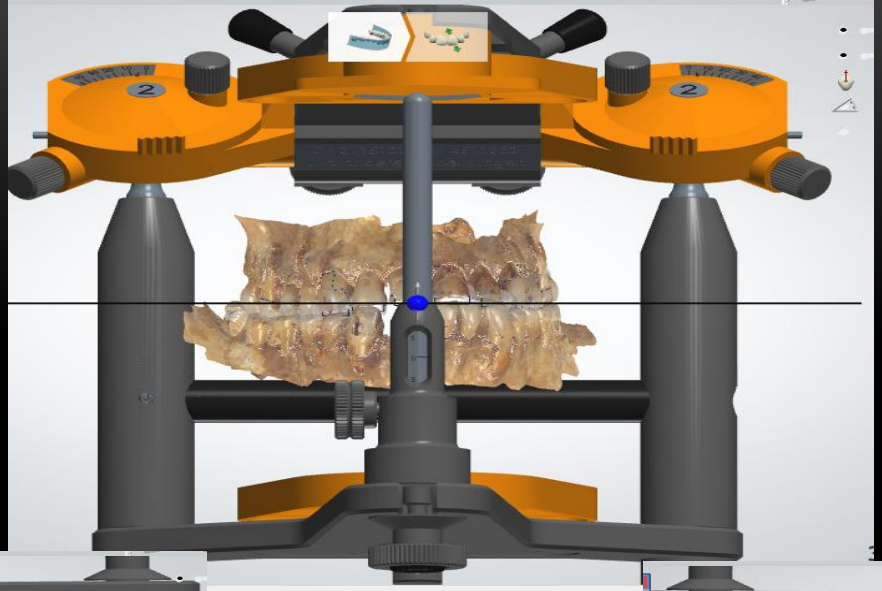


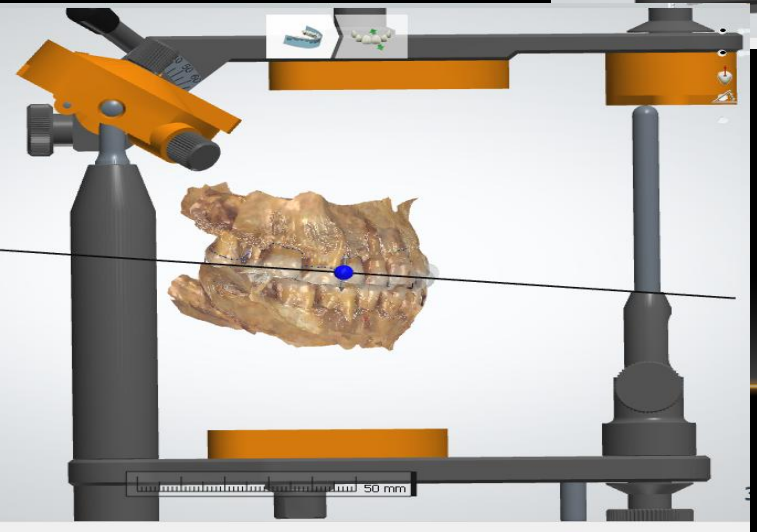


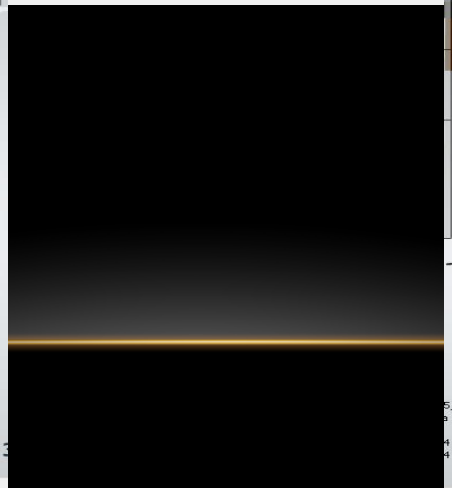


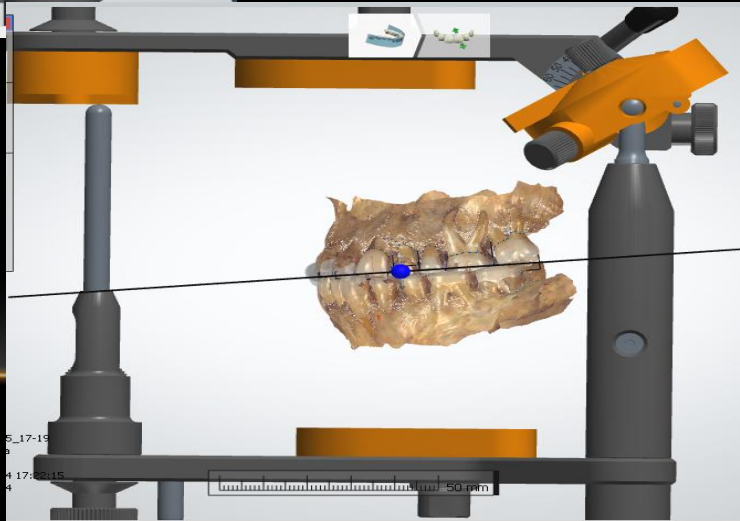






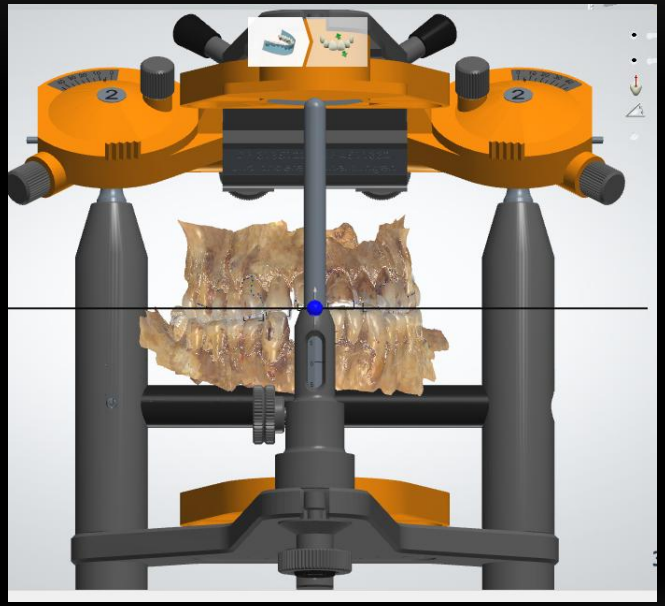


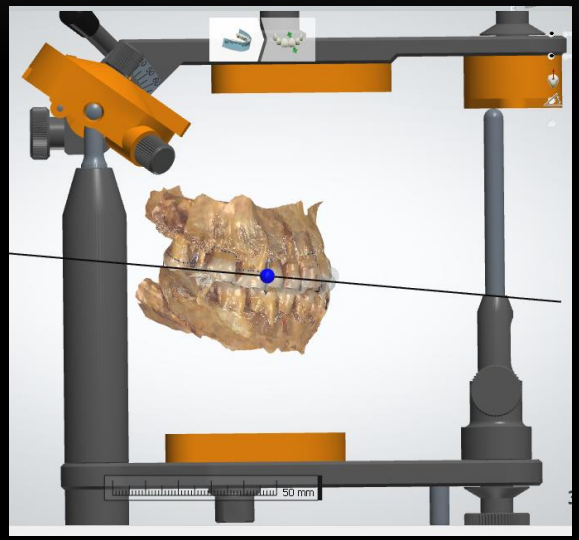




3D OPI ARCH RECONSTRUCTION

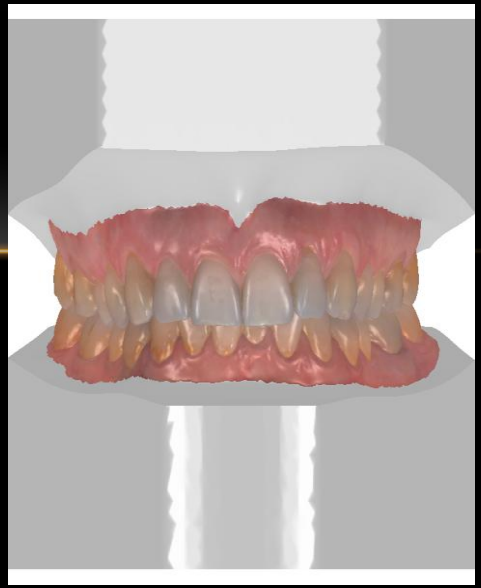
3D OPI ARCH VIRTUAL ARTICULATOR





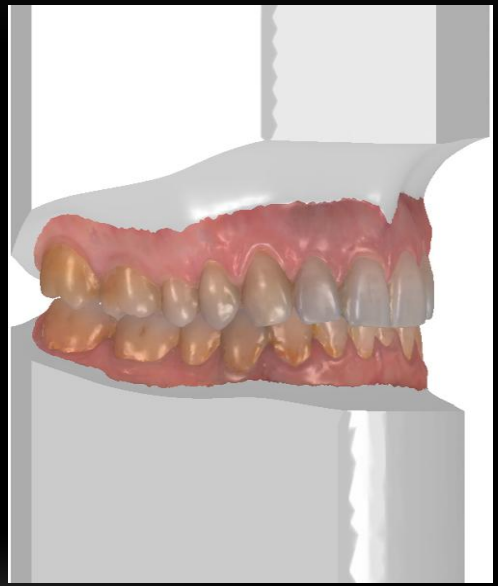
OPI ARCH > CONTEMPORARY ARCH

Front view



OPI ARCH > CONTEMPORARY ARCH

Right side

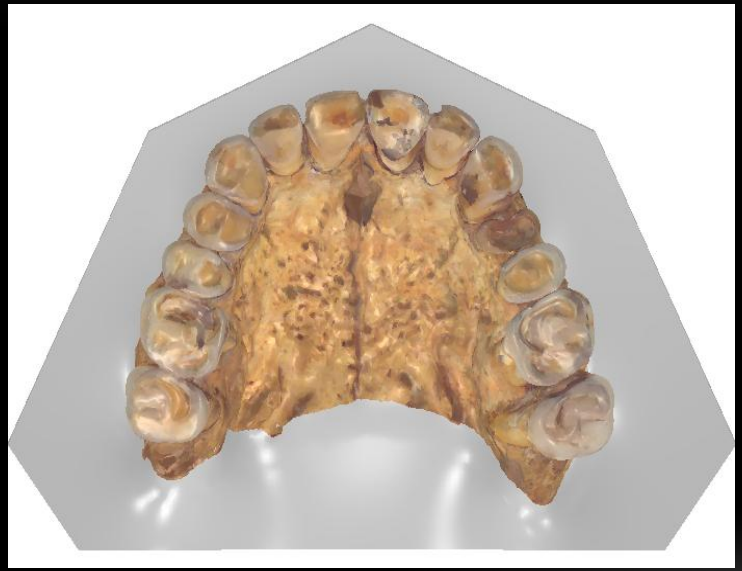


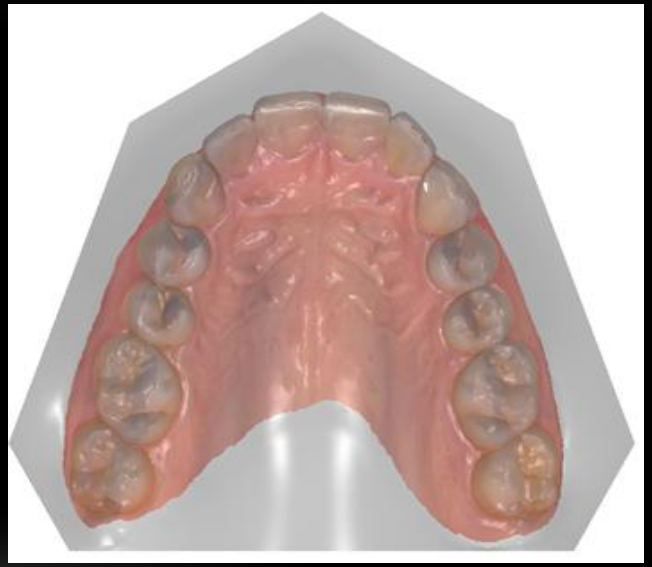
OPI ARCH > CONTEMPORARY ARCH

Left side

OPI ARCH > CONTEMPORARY ARCH

Maxillary occlusal view



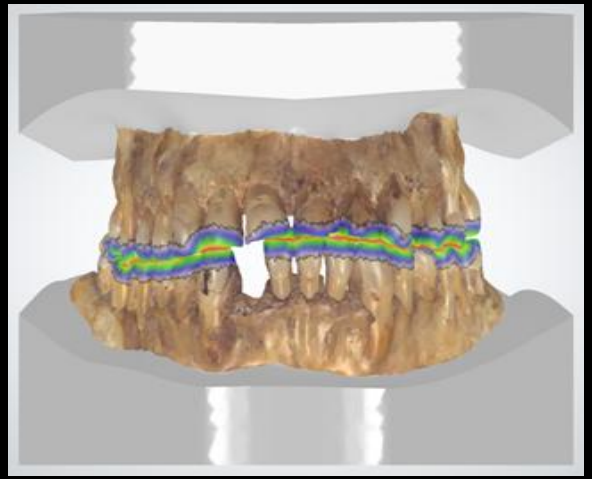


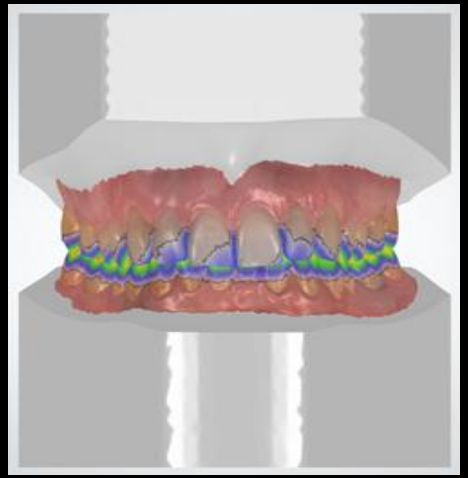
OPI ARCH > CONTEMPORARY ARCH

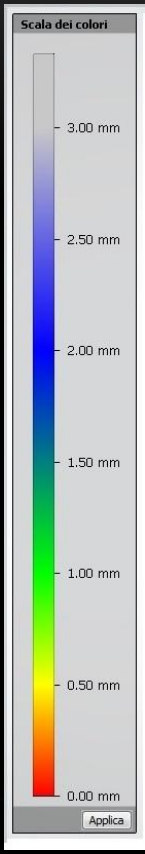
Mandibular occlusal view

OPI ARCH > CONTEMPORARY ARCH

Occlusal contacts

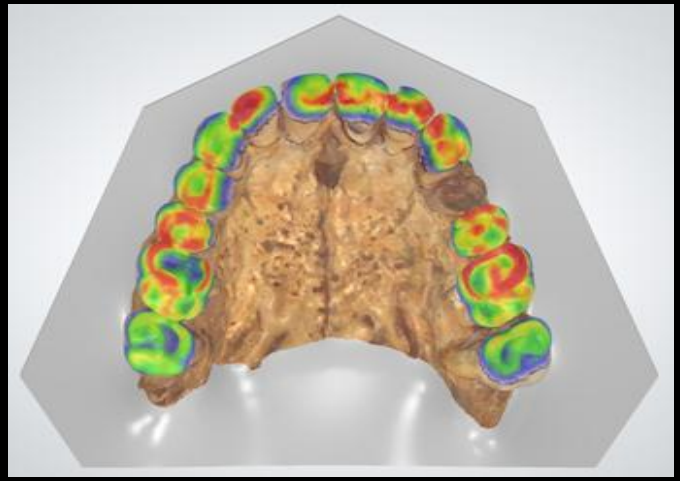


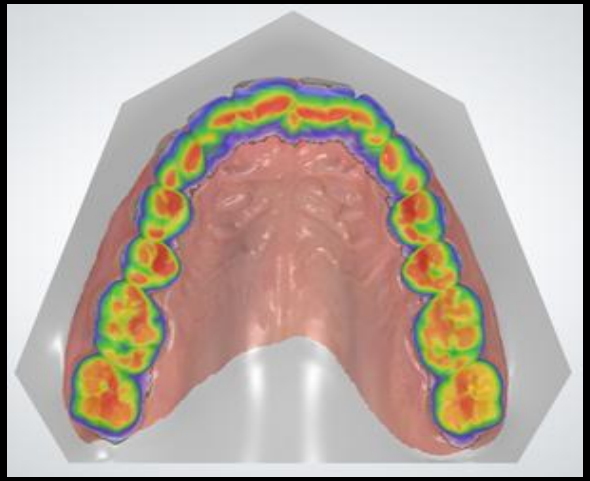


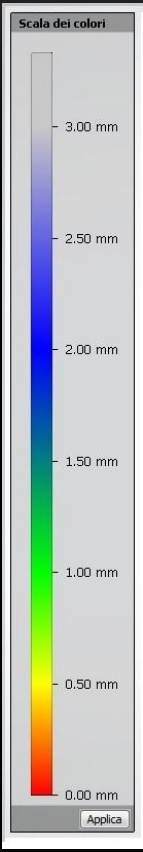


OPI ARCH > CONTEMPORARY ARCH

Maxillary contacts

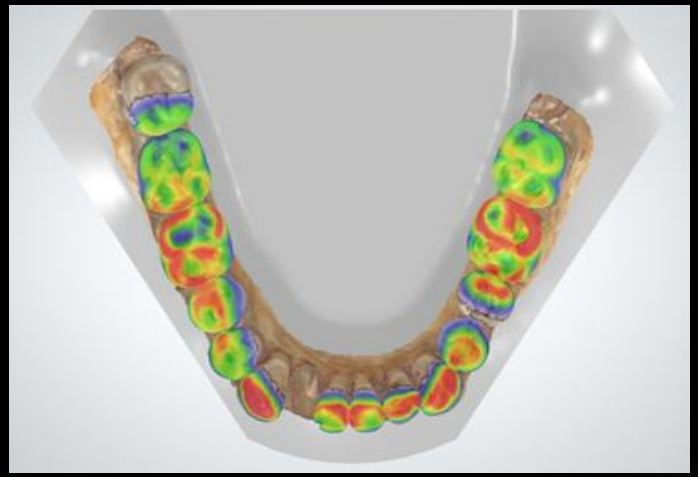


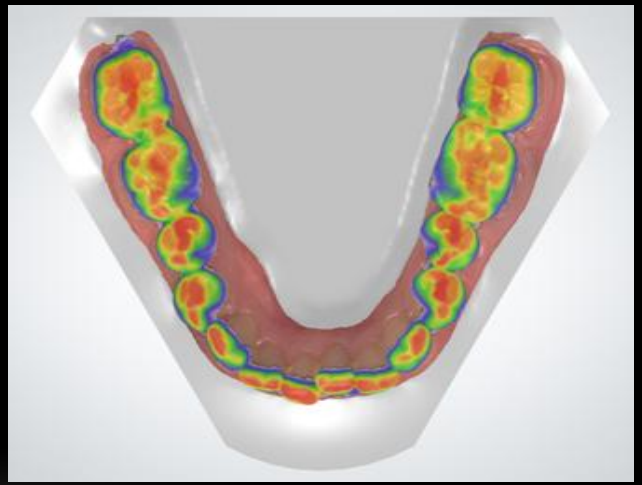


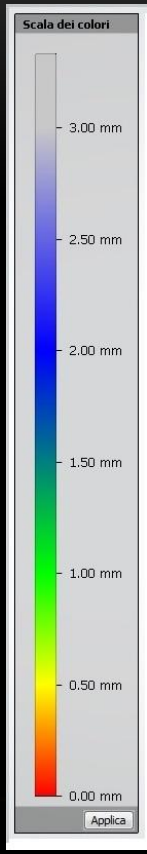


OPI ARCH > CONTEMPORARY ARCH

Mandibular contacts

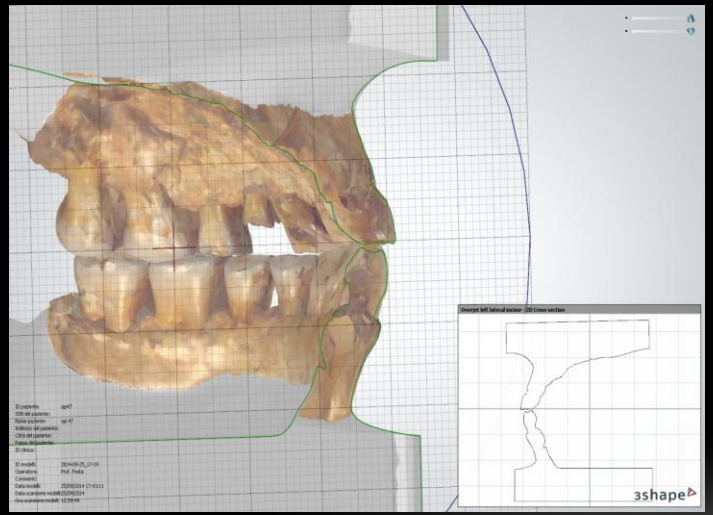


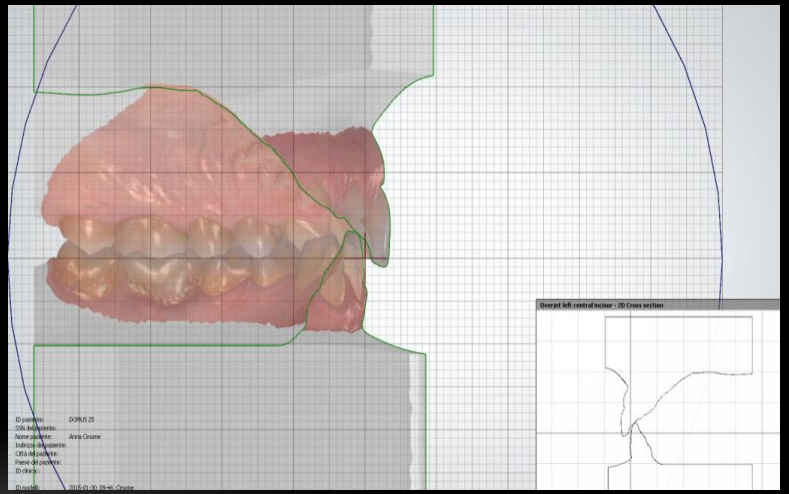




OPI ARCH > CONTEMPORARY ARCH

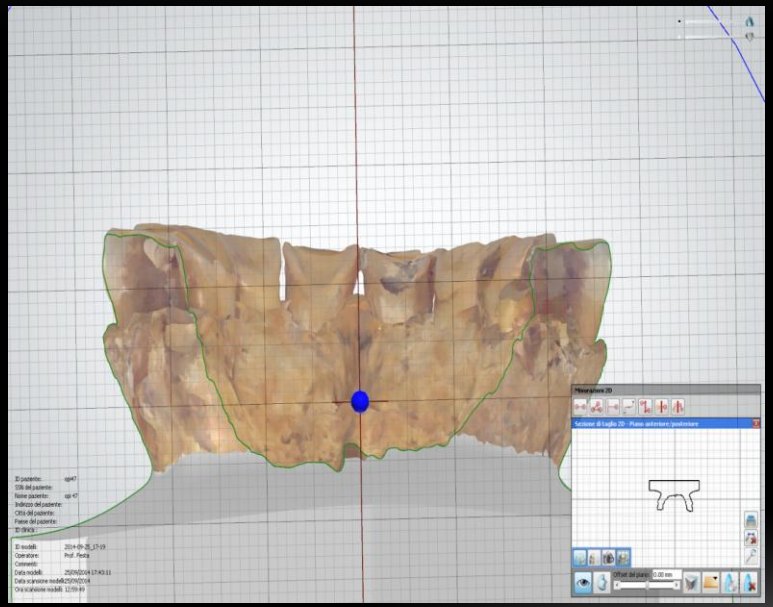
Overjet and overbite compared

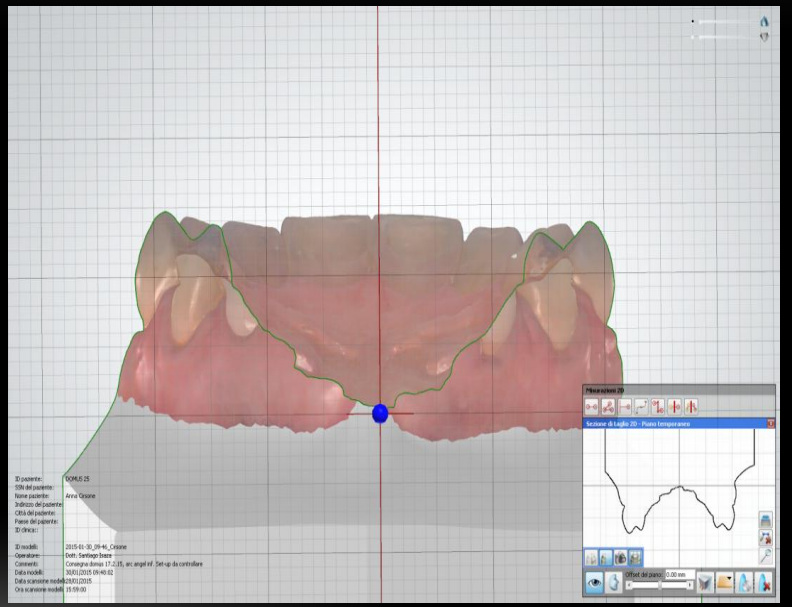




OPI ARCH > CONTEMPORARY ARCH

Morphological difference of upper premolars





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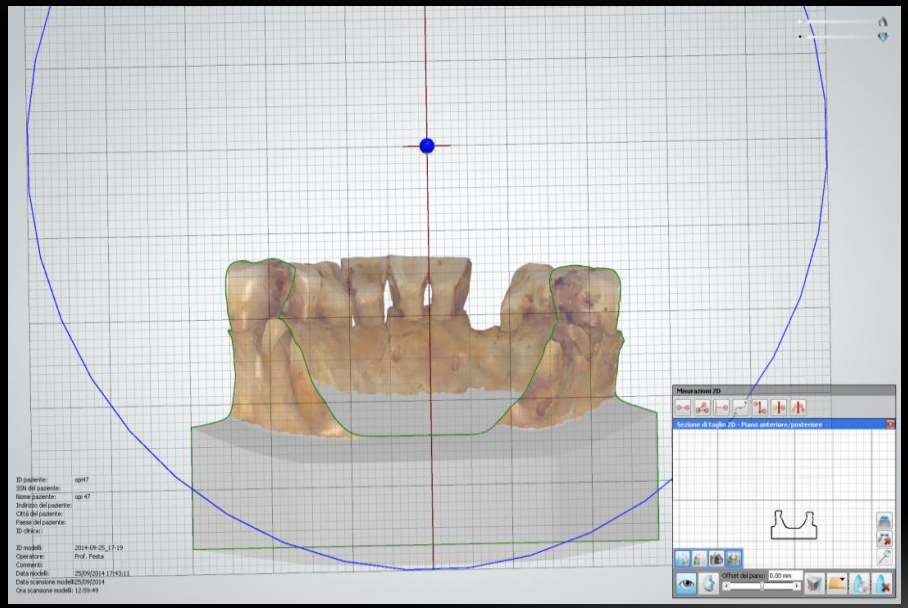
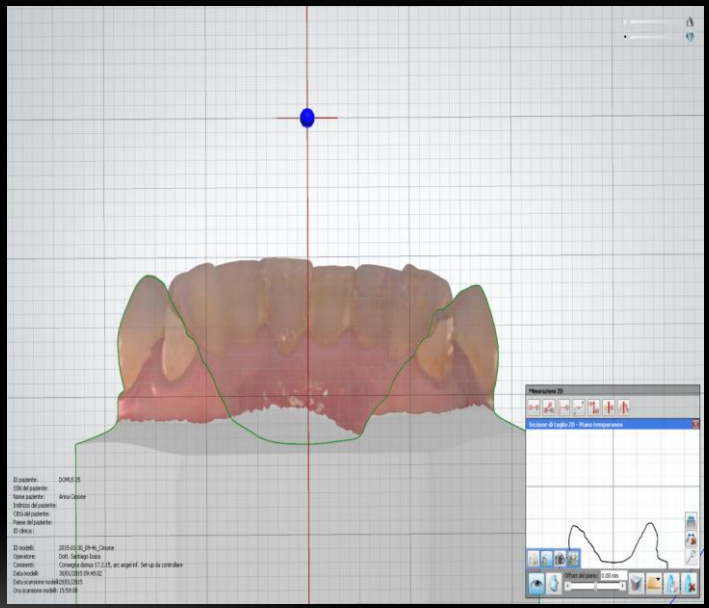
Morphological difference of lower premolars





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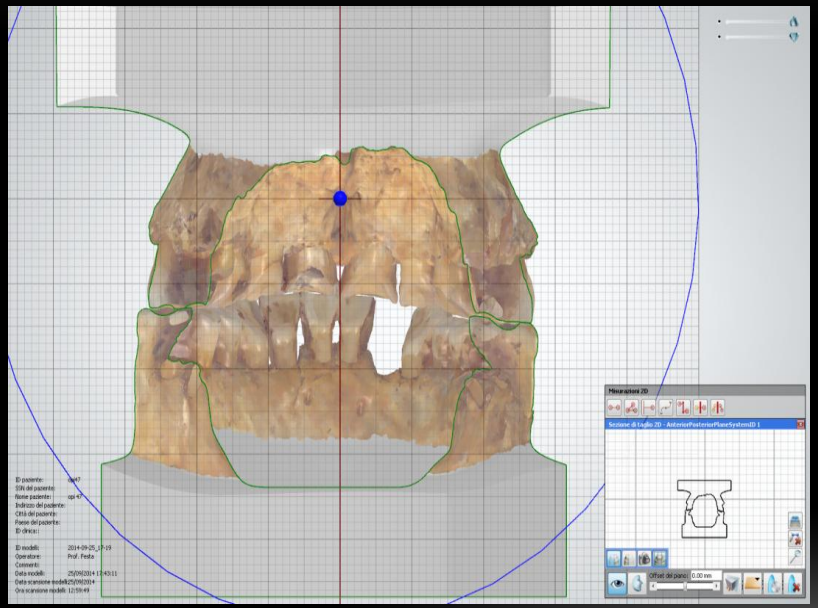
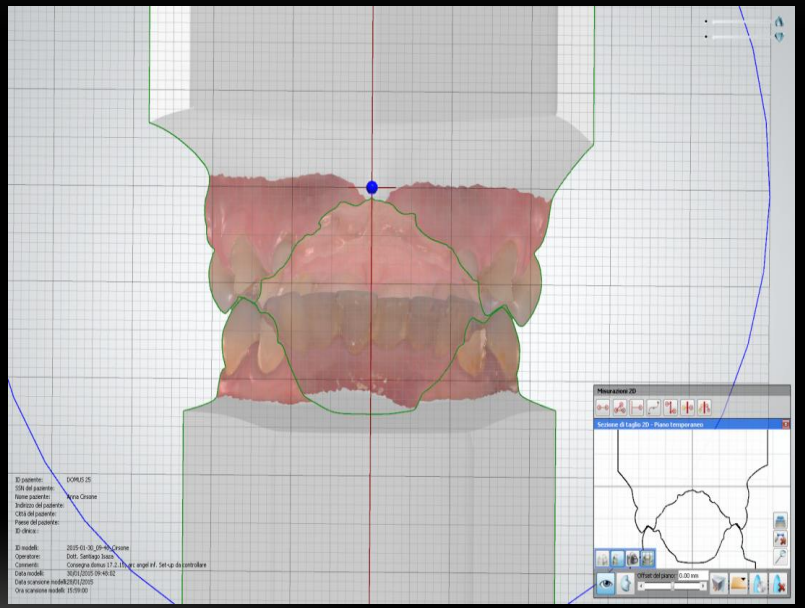
Intermaxillary relationship premolars





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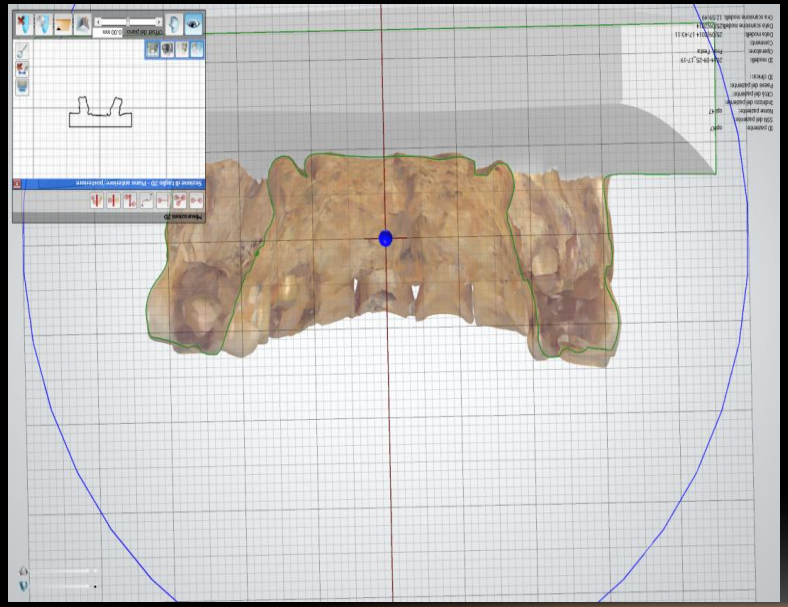
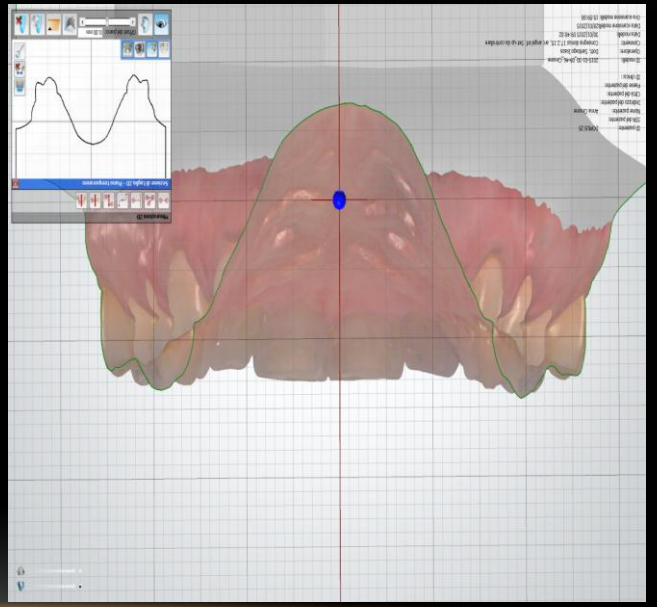
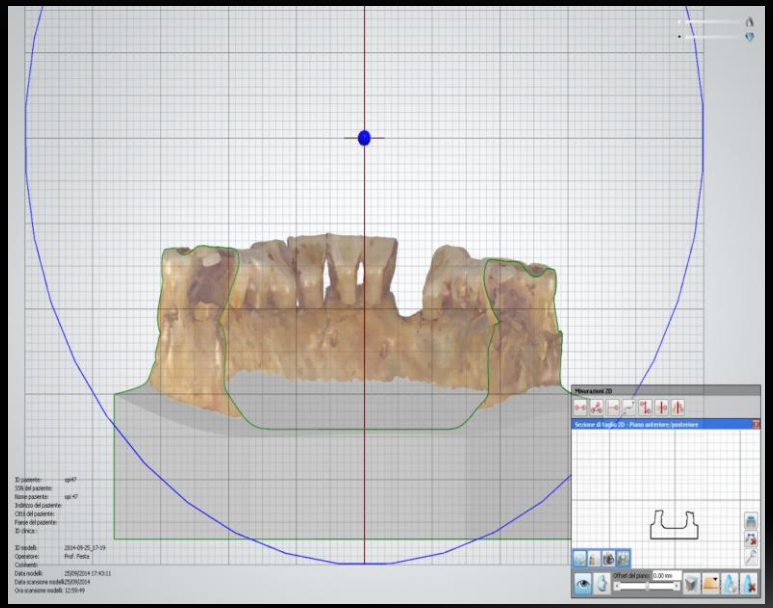
Morphological difference of the upper first molars

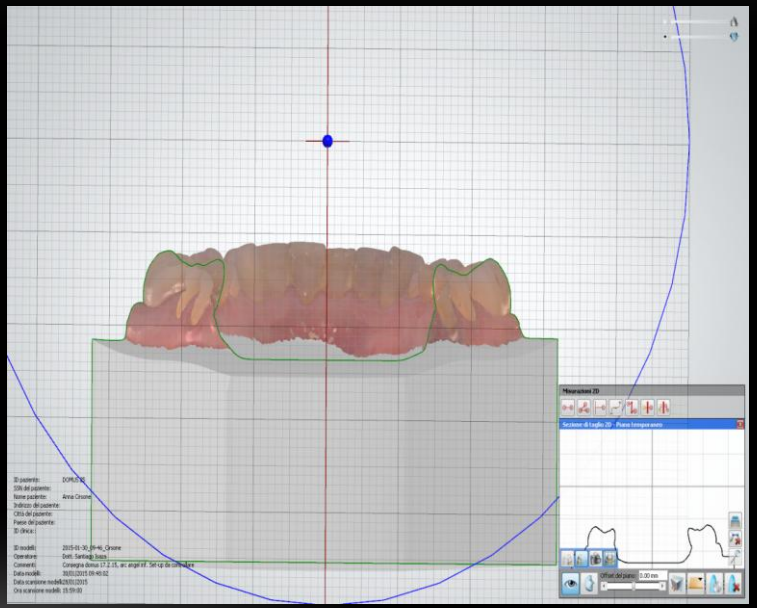




OPI ARCH > CONTEMPORARY ARCH

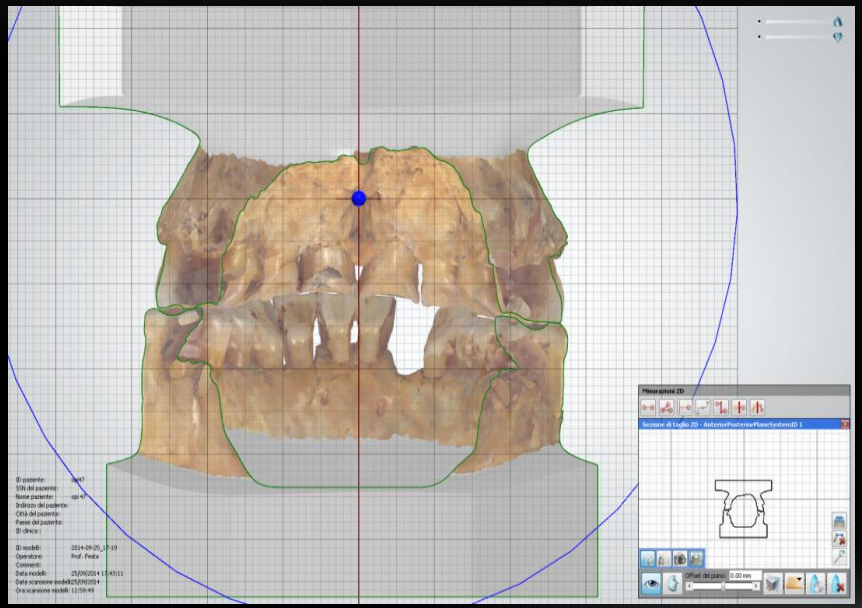
Morphological difference of the lower first molars

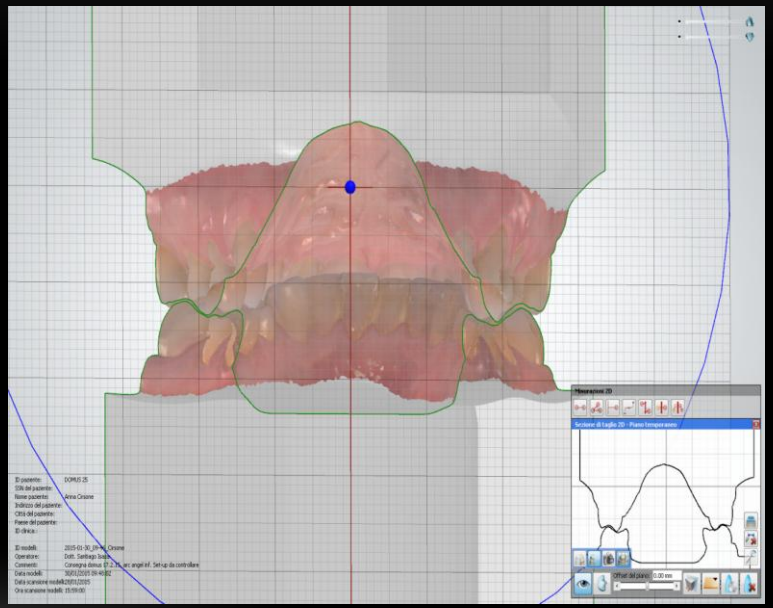




OPI ARCH > CONTEMPORARY ARCH

First molars intermaxillary relationship





University “G. d’Annunzio” Chieti – Pescara
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Director Prof. Sergio Caputi

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Orthopaedic and 3D Functional Therapy

Dr.ssa Monica Macrì

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47th SIDO International Congress

“Patient-important outcomes in Orthodontics”

Florence 13-15 October 2016

ORTHOPAEDIC AND 3D FUNCTIONAL THERAPY

- Frankel Function Regulator
- Expansion cases in 2D and 3D / Changing-P
- TMD in children

PREVENTIVE ORTHODONTICS

Prevent a malocclusion before it occurs
Knowing the etiology of dysgnathia, malocclusions and craniofacial dysmorphoses
Rating in the first 3-5 years of life

INTERCEPTIVE ORTHODONTICS

Malocclusion in place
Aged between 5 and 12 years
- Major increase in growth
- Ability to influence 30% of the residual growth
- It 's possible that we can not improve the situation

LATE ORTHODONTICS

PURPOSE OF INTERCEPTIVE TREATMENT

- Correcting imbalances of skeletal, dental or muscle to improve the environment before full eruption of the permanent teeth
- Minimize the need for subsequent, more complex treatments (extractions, orthognathic surgery)

ORTHOPAEDIC AND 3D FUNCTIONAL THERAPY

- Frankel Function Regulator
- Expansion cases in 2D and 3D / Changing-P
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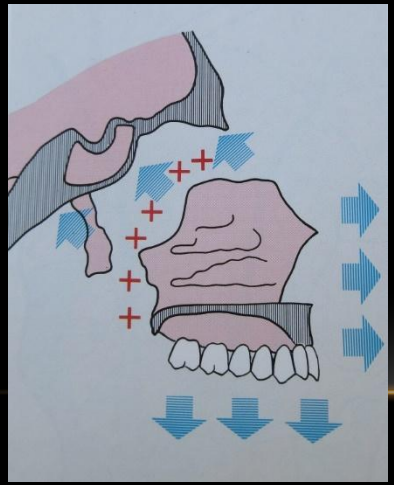
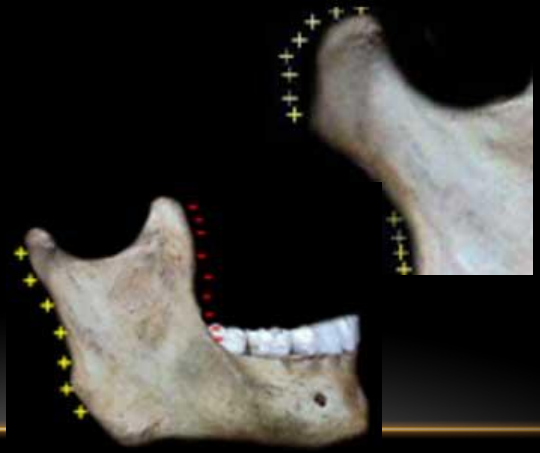
FRANKEL FUNCTION REGULATOR

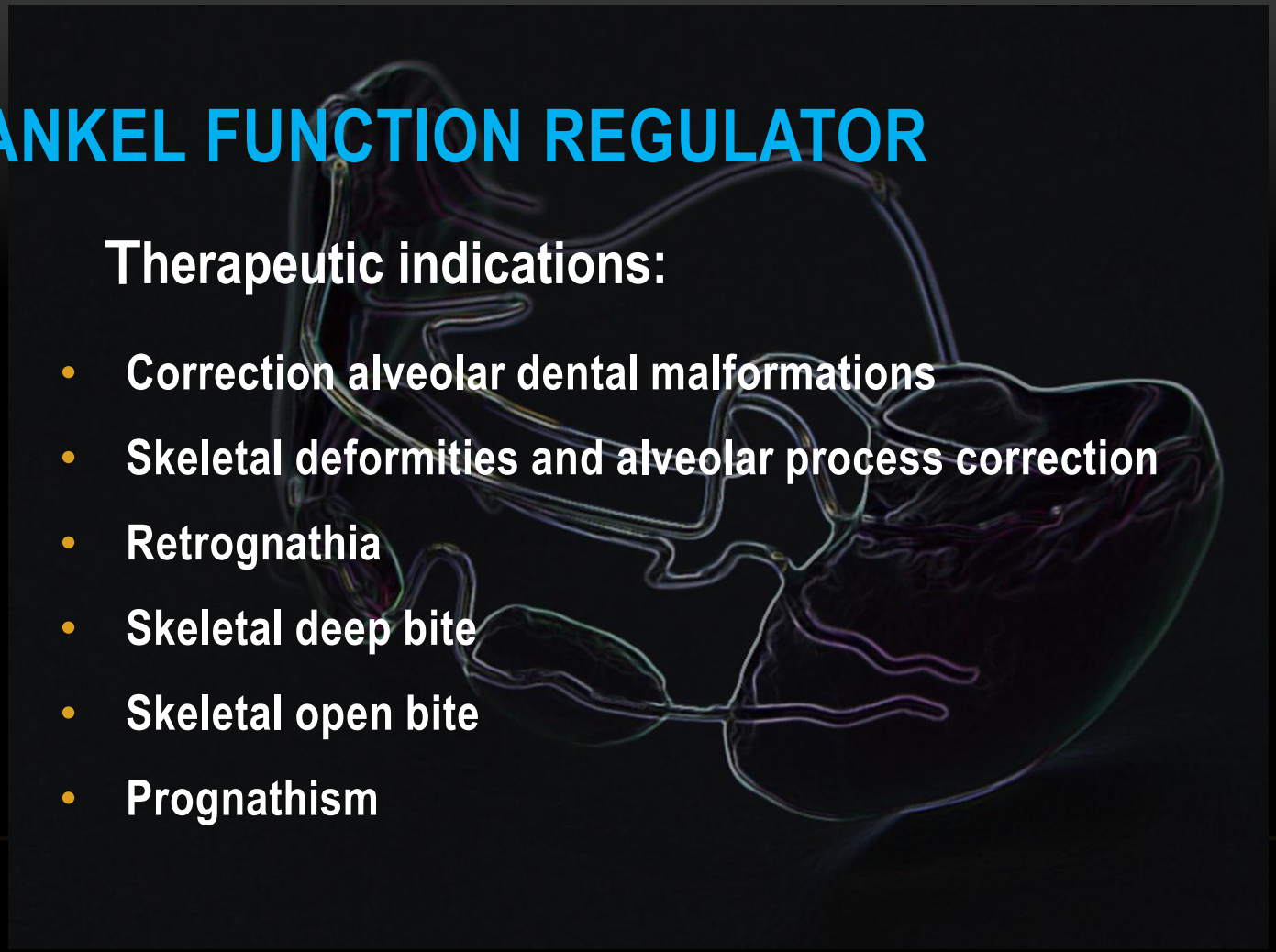
MECHANISMS OF ACTION

1. MUSCULAR ACTIVATION AND STRETCH SOFT TISSUE: tissue viscoelasticity (potential energy) and muscle contraction (kinetic energy)
2. MANDIBULAR DISPLACEMENT AND ACTIVATION OF SOFT TISSUE resulting in induction of stimuli that act on osteogenic tissue (membranous bone growth) and on cartilage (endochondral bone growth)





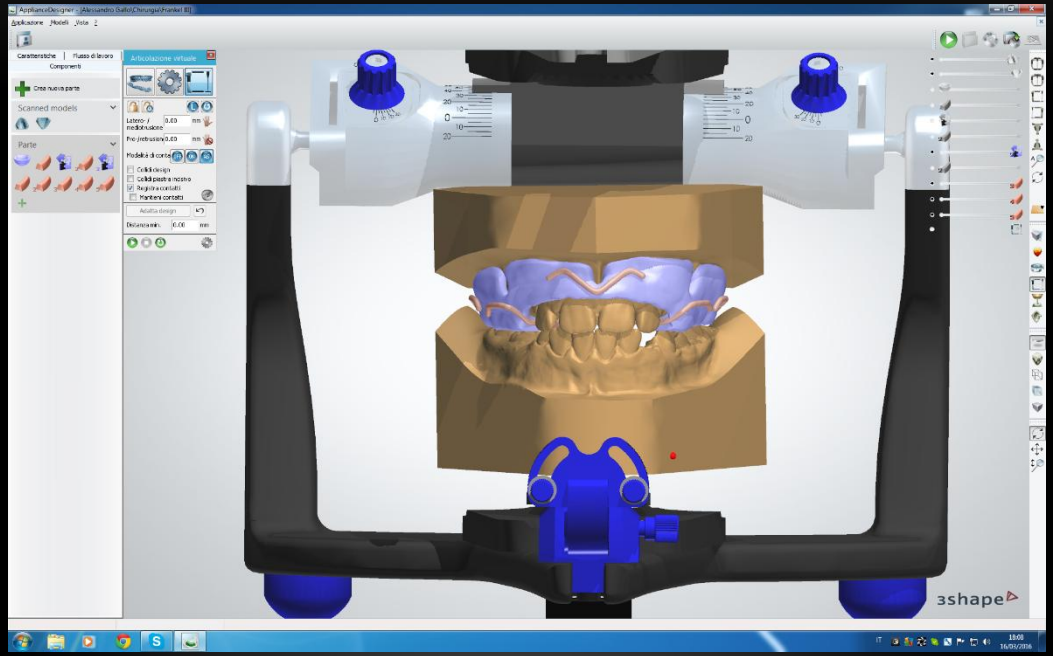
FRANKEL FUNCTION REGULATOR

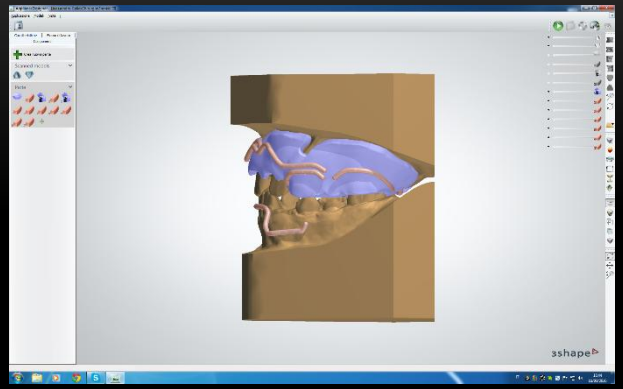


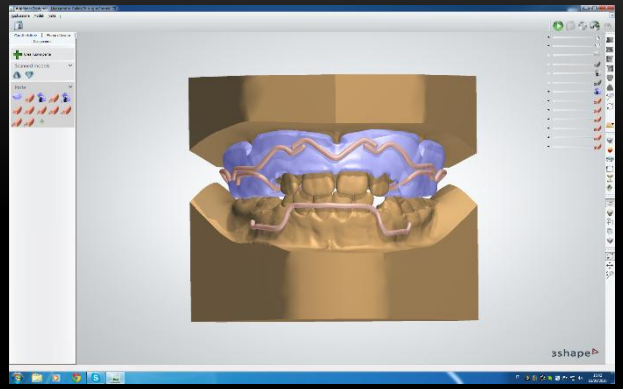
Therapeutic indications:

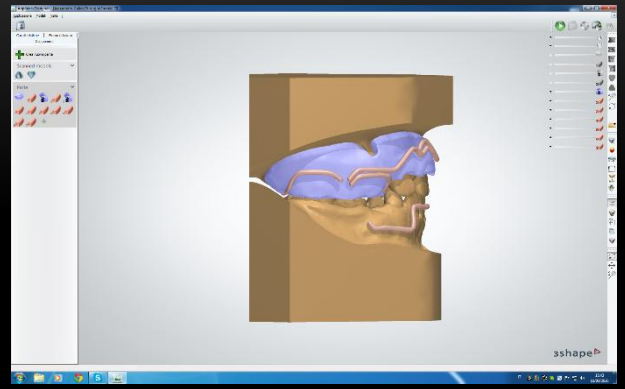
- Correction alveolar dental malformations
- Skeletal deformities and alveolar process correction
- Retrognathia
- Skeletal deep bite
- Skeletal open bite
- Prognathism

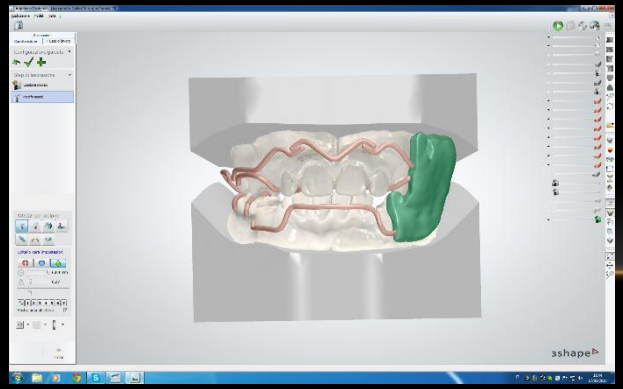
3D FRANKEL FUNCTION REGULATOR

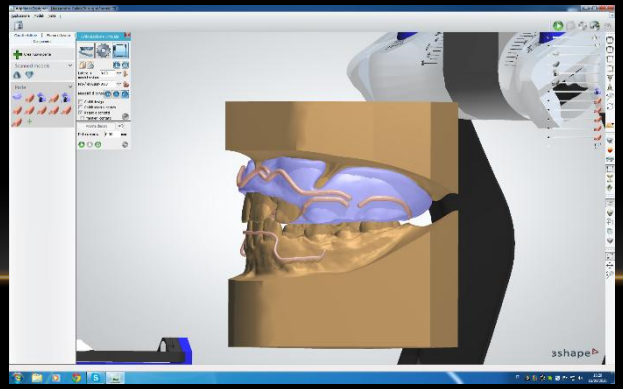


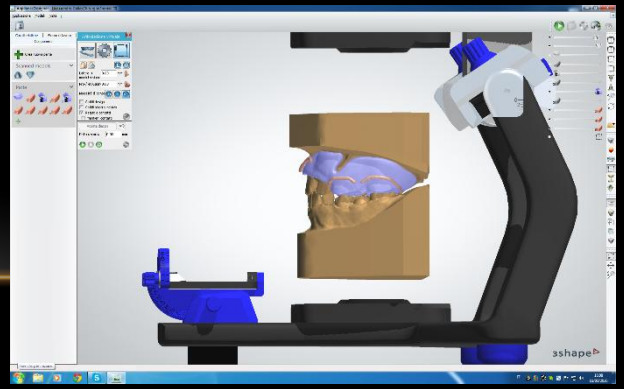


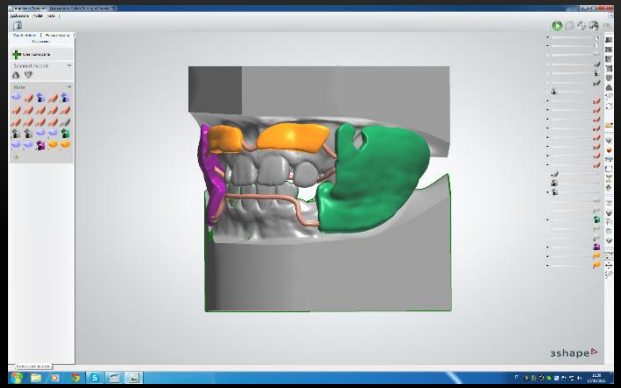


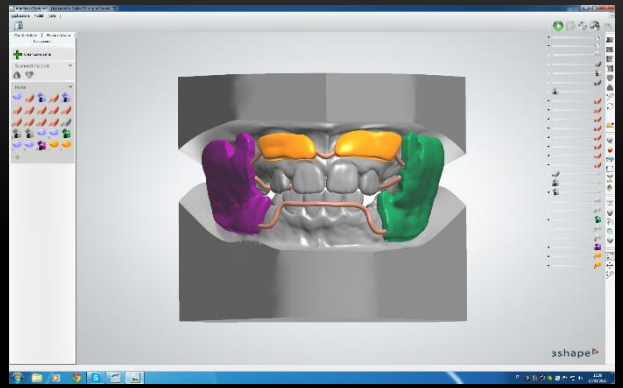


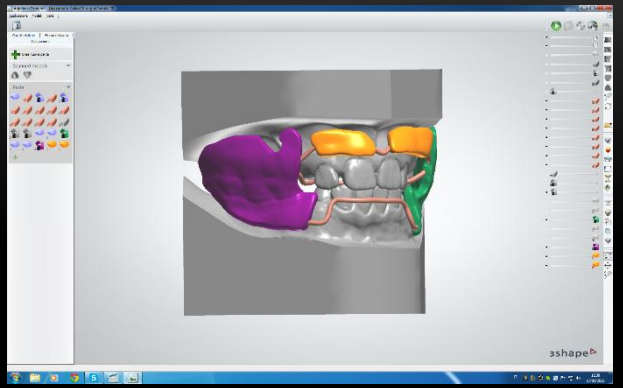


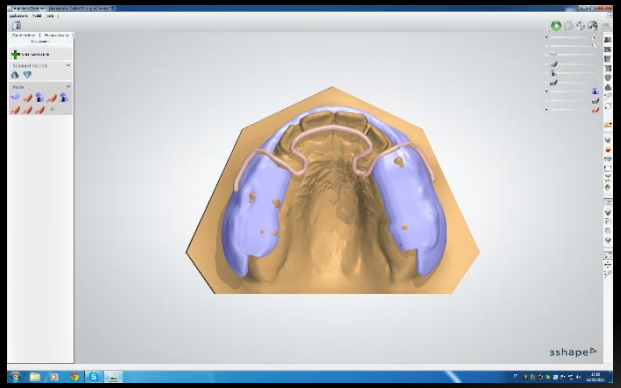


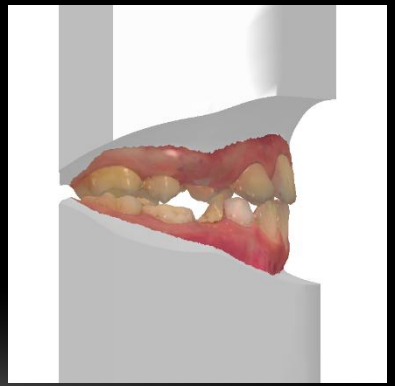


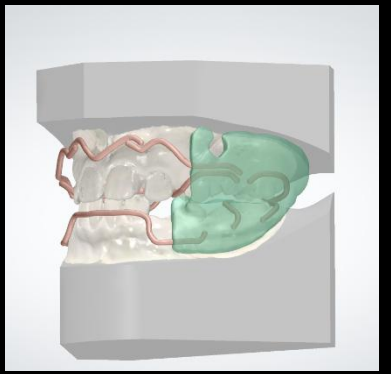


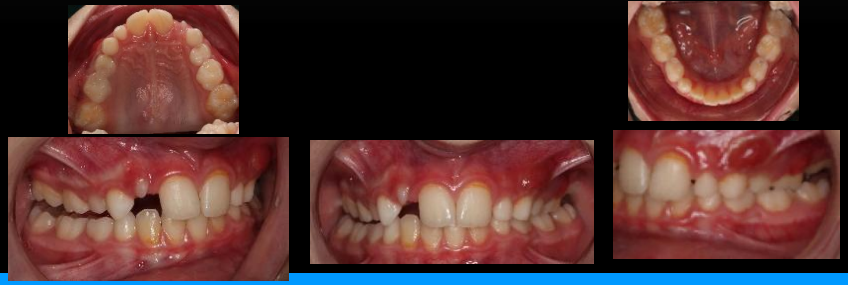










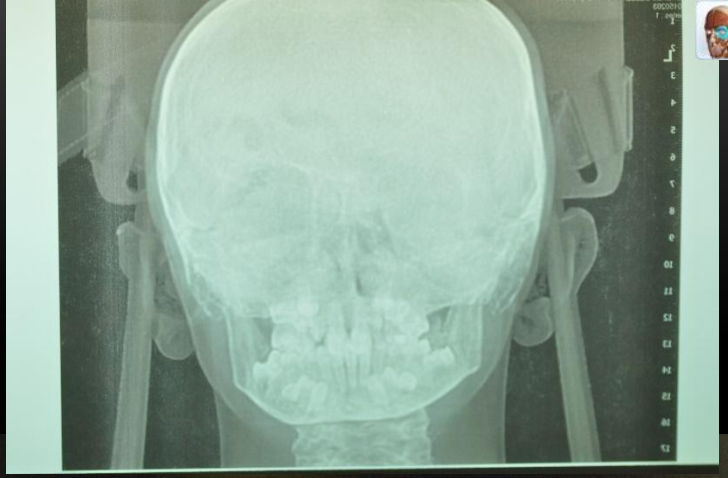


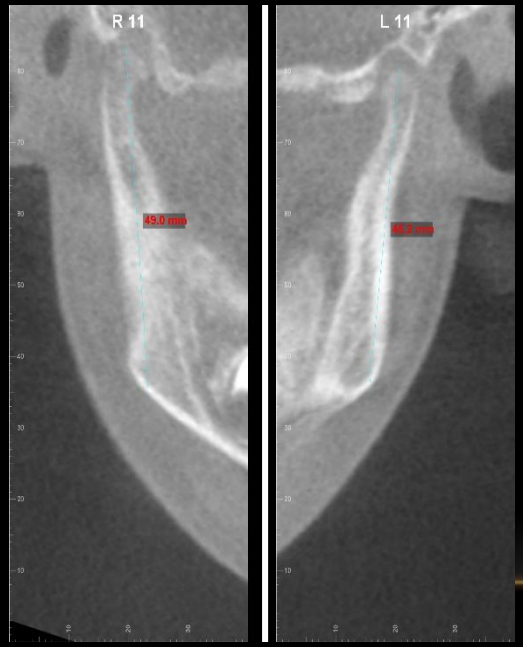
Case 1: Class II, Deep Bite,Right Mandible Ramus Hyperplasia, Frankel Function Regulator

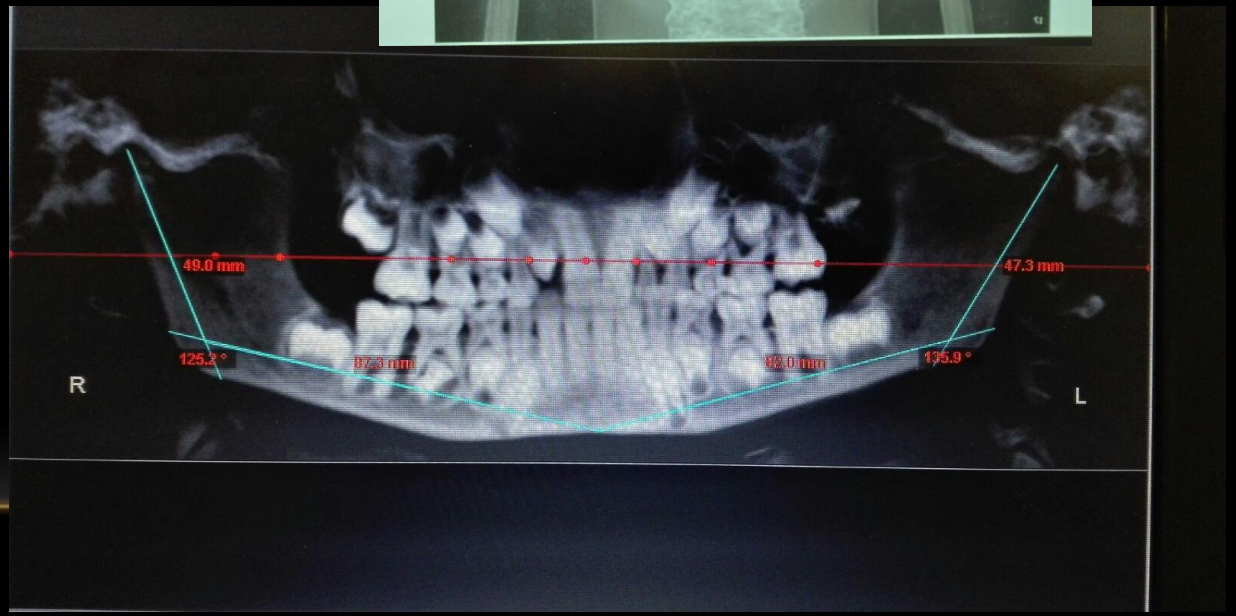
Age:10 years

12 months Frankel Function Regulator

MEASUREMENTS 2015







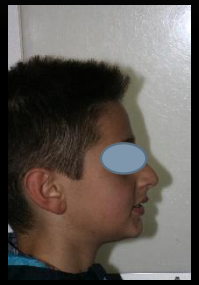
Frankel Function Regulator

We are faced with a case of hemi mandible HYPERPLASIA that, according to our classification, has a right mandibular branch with increased growth at the bottom, a corner gonial more closed, the right condyle retrusive and higher than the left, and a deviation ipsilateral of the midline

MODIFIED FRANKEL FUNCTION REGULATOR WITH A DISTRACTION SPRING

- The construction bite was taken without providing for the correction of the midline to avoid unwanted condylar displacements and intracapsular diseases

AFTER A YEAR OF TREATMENT

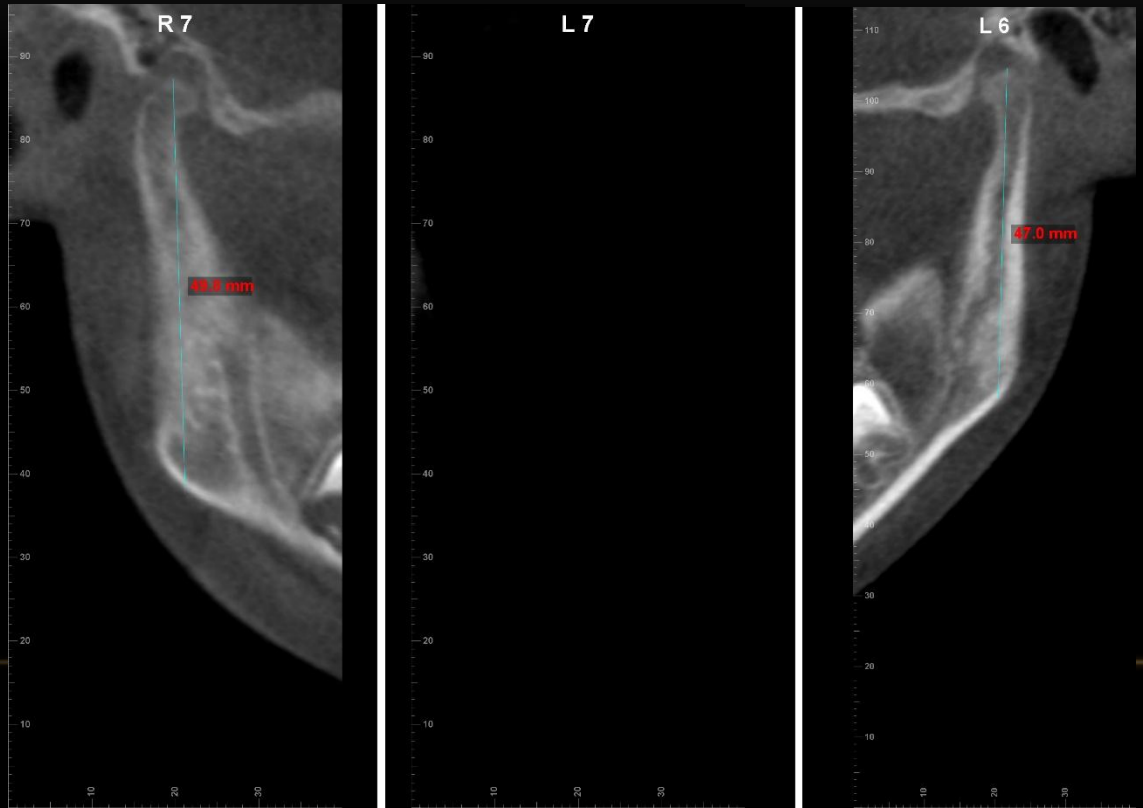




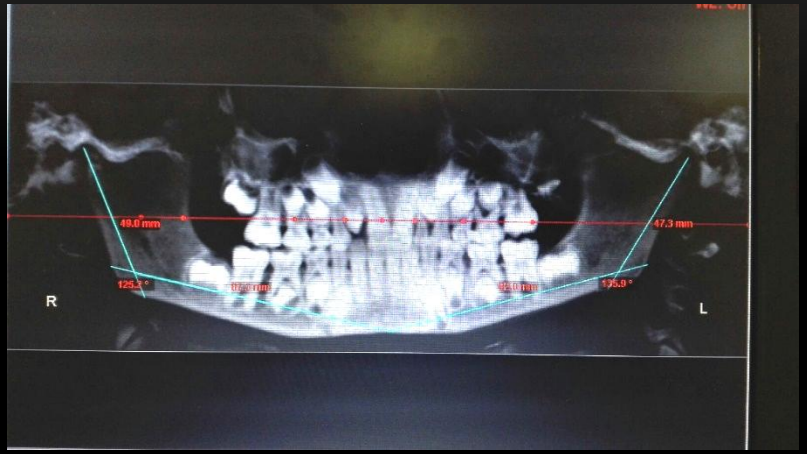

The thesis work was developed by **Dr. E. Tamburri**

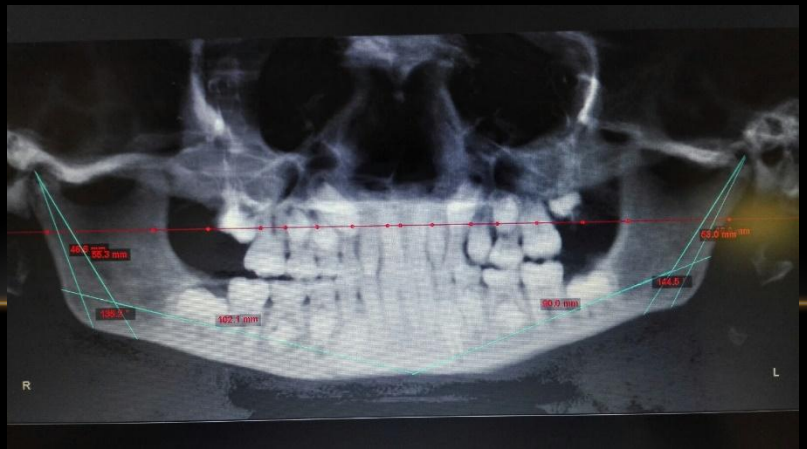
http://www.felicefesta.it/team.html

MANDIBULAR BRANCHES 2016



Pre and post treatment





FRANKEL FUNCTION REGULATOR

- In a year of treatment there were positive results. The left hemimandible has grown more than hypertrophic right
- The vestibular shields along the upper lip bumper have enabled a greater maxillary development, allowing a mandibular anterior translation with a significant improvement in aesthetics and functionality, as well as in the inclination of the upper incisors. Such anterior translation of the jaw has improved the curvature of the cervical spine, which we know to be important for the purposes postural and to avoid the onset of headaches muscle-tensive, limiting the inversions of the column to which it is subject in cases of mandibular retrusion.

ORTHOPAEDIC AND 3D FUNCTIONAL THERAPY

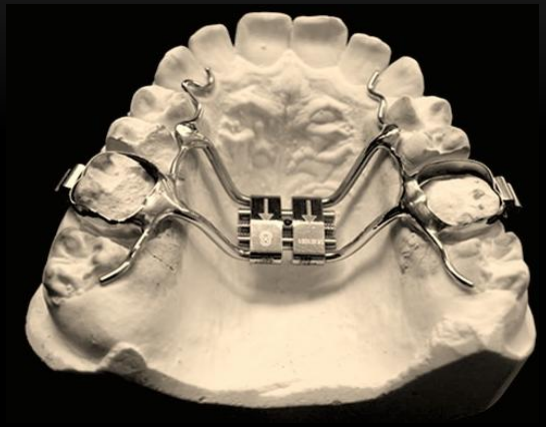
- Frankel Function Regulator
- Expansion cases in 2D and 3D / Changing-P
- TMD in children

Changing-P®

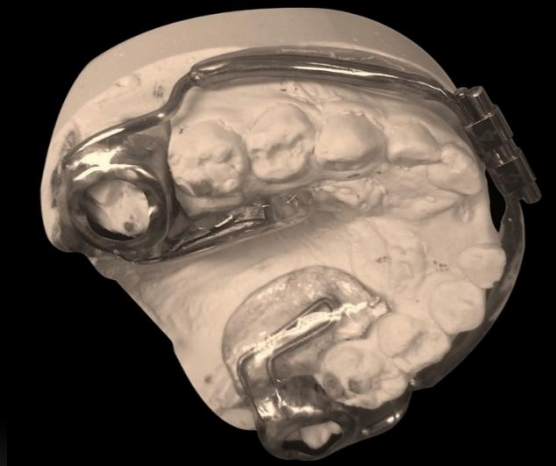
The First Rapid Palatal Expander With Vestibular Approach

In the Department of Orthodontics, University "G. d'Annunzio "of Chieti-Pescara, directed by Prof. Felice Festa, a rapid palatal expander was applied with vestibular approach, denominated Changing-P® by **dr. M. Porseo** which he patented in June 2013. The thesis work was conducted by **Dr. E. Paciaffi.**

Rapid Palatal Expander With Palatal Approach

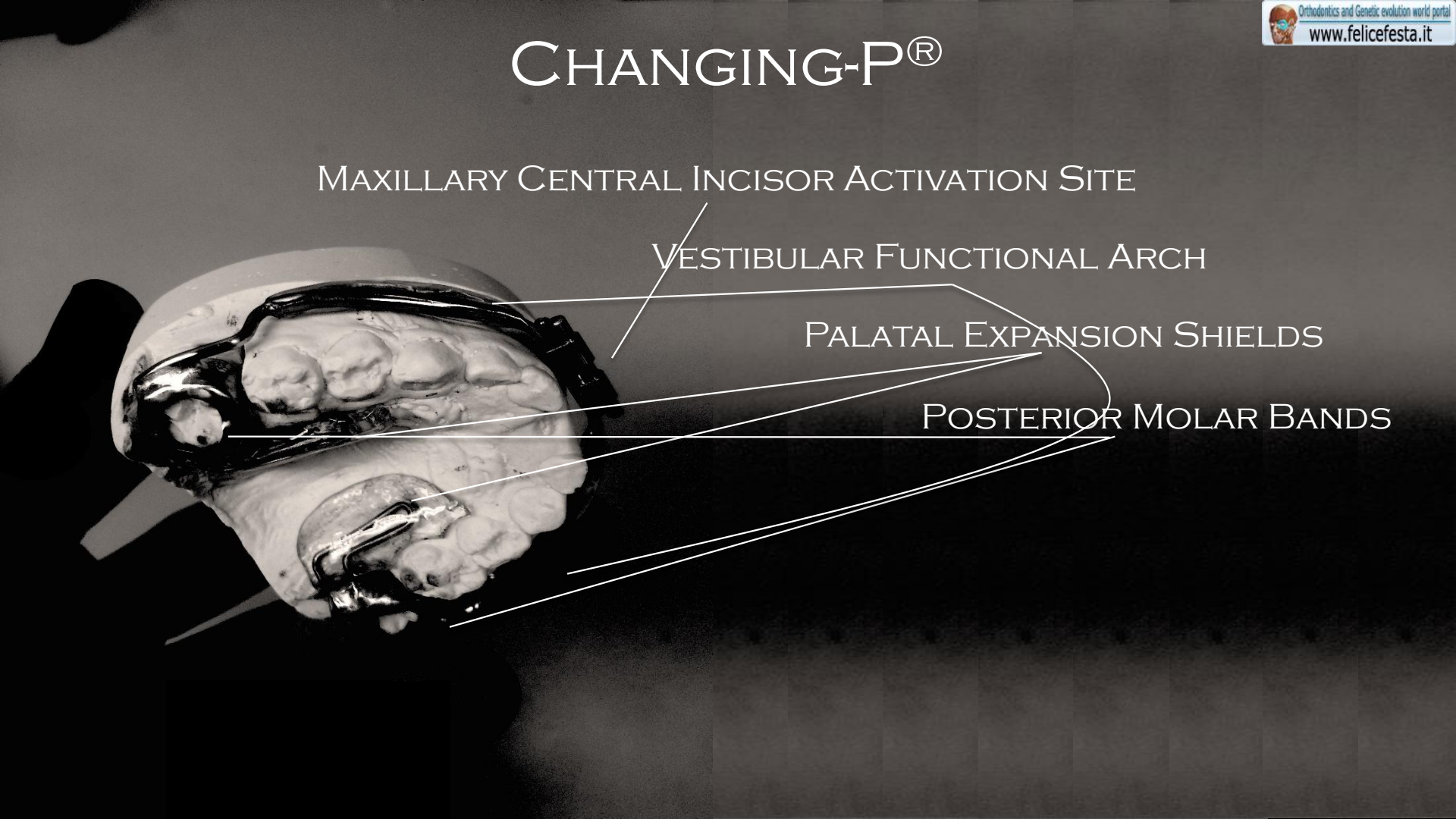


Vs



Rapid Palatal Expander With Vestibular Approach

Changing-P®



Maxillary Central Incisor Activation Site
&
Vestibular Functional Arch

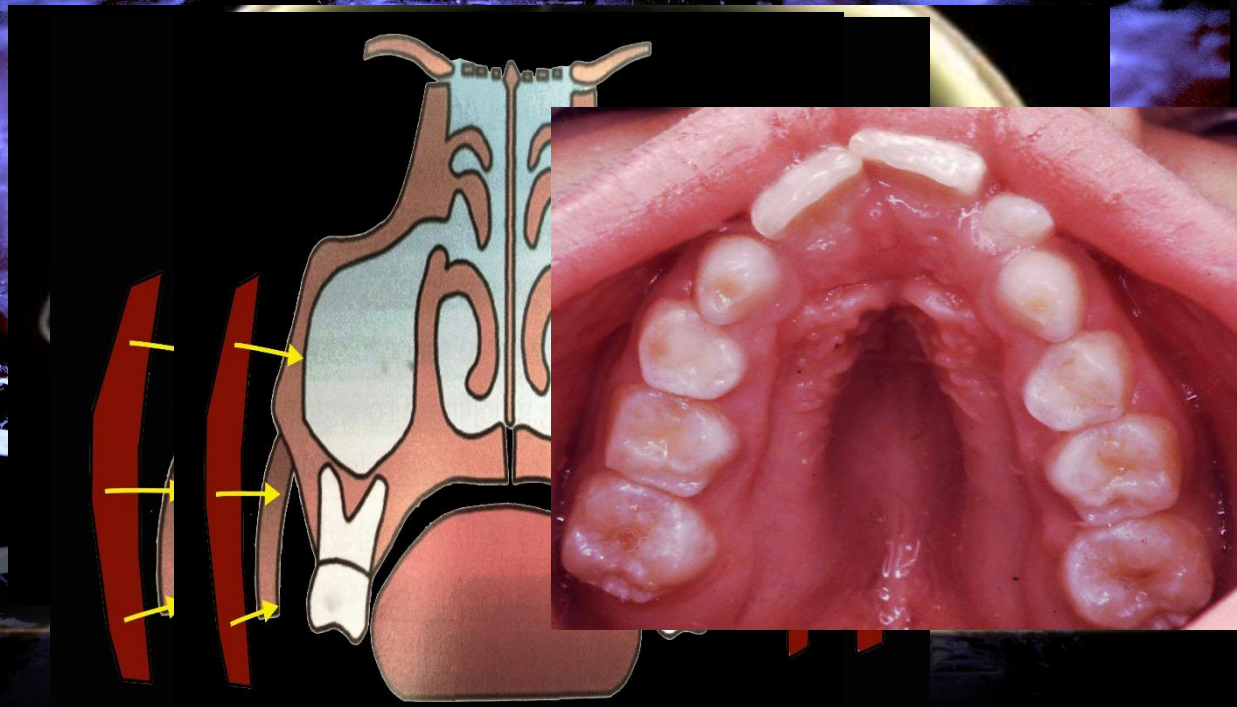
Palatal Expansion Shields

Berwig LC1, Silva AM, Côrrea EC, Moraes AB, Montenegro MM, Ritzel RA. *Hard palate dimensions in nasal and mouth breathers from different etiologies.* J Soc Bras Fonoaudiol. 2011 Dec; 23(4): 308-14.

Harari D1, Redlich M, Miri S, Hamud T, Gross M. *The effect of mouth breathing versus nasal breathing on dentofacial and craniofacial development in orthodontic patients.* Laryngoscope. 2010 Oct;120(10):2089-93.

Proffit WR. *Equilibrium theory revisited: Angle Orthod* (St Louis) 175:186, 1978

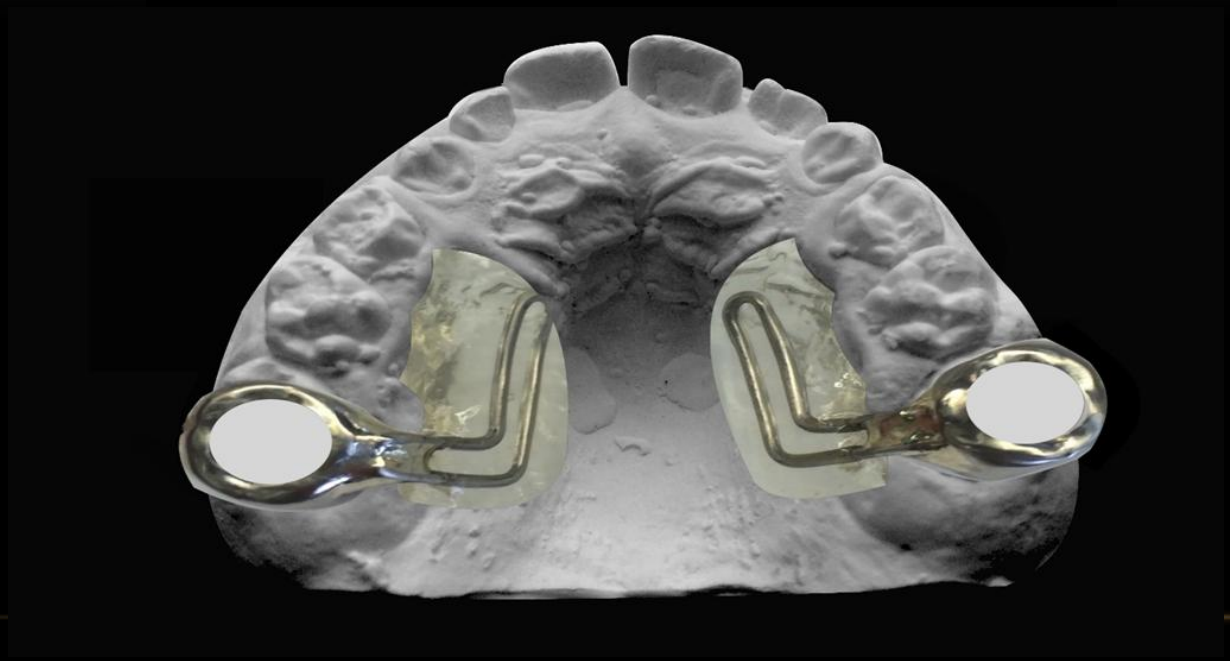
Stefănescu IM1, Zetu I, Rusu M. Effect of adverse oral habits on the development of the dentomaxillary system. Rev Med Chir Soc Med Nat Iasi. 2011 Apr-Jun;115(2):567-71.



Palatal Expansion Shields

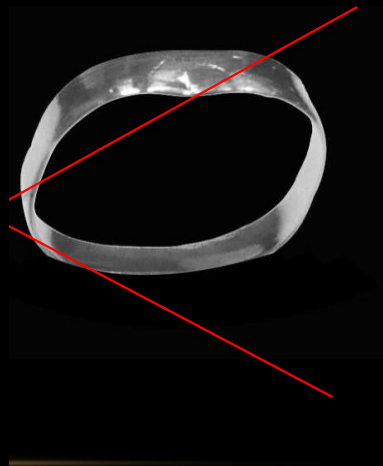
Palatal Expansion Shields

Haas Rapid Palatal Expander



Posterior Molar Bands

Roll o Bands

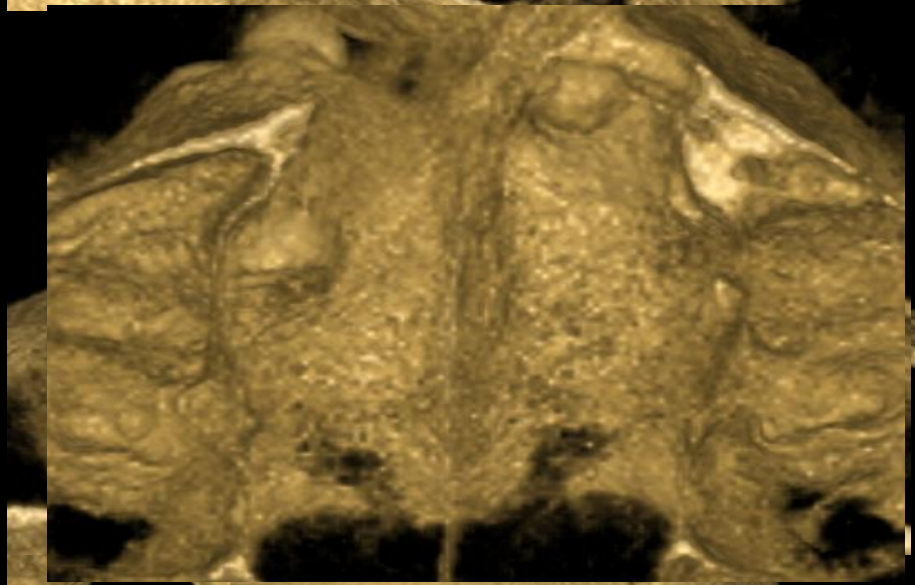


THE FIRST CASE

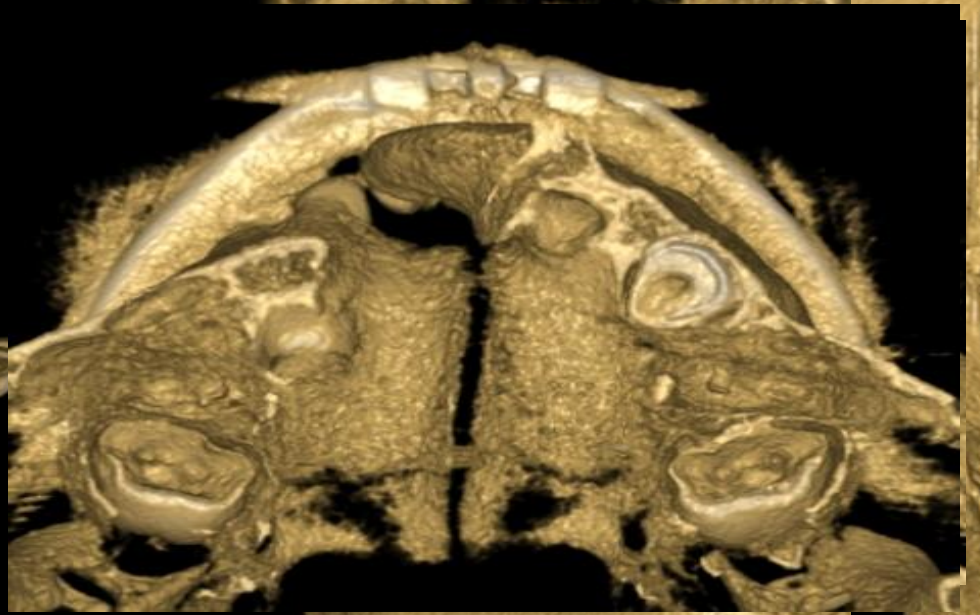
"Does the Changing-P succeed in opening the mid-palatal suture?"

YES, IT DOES!

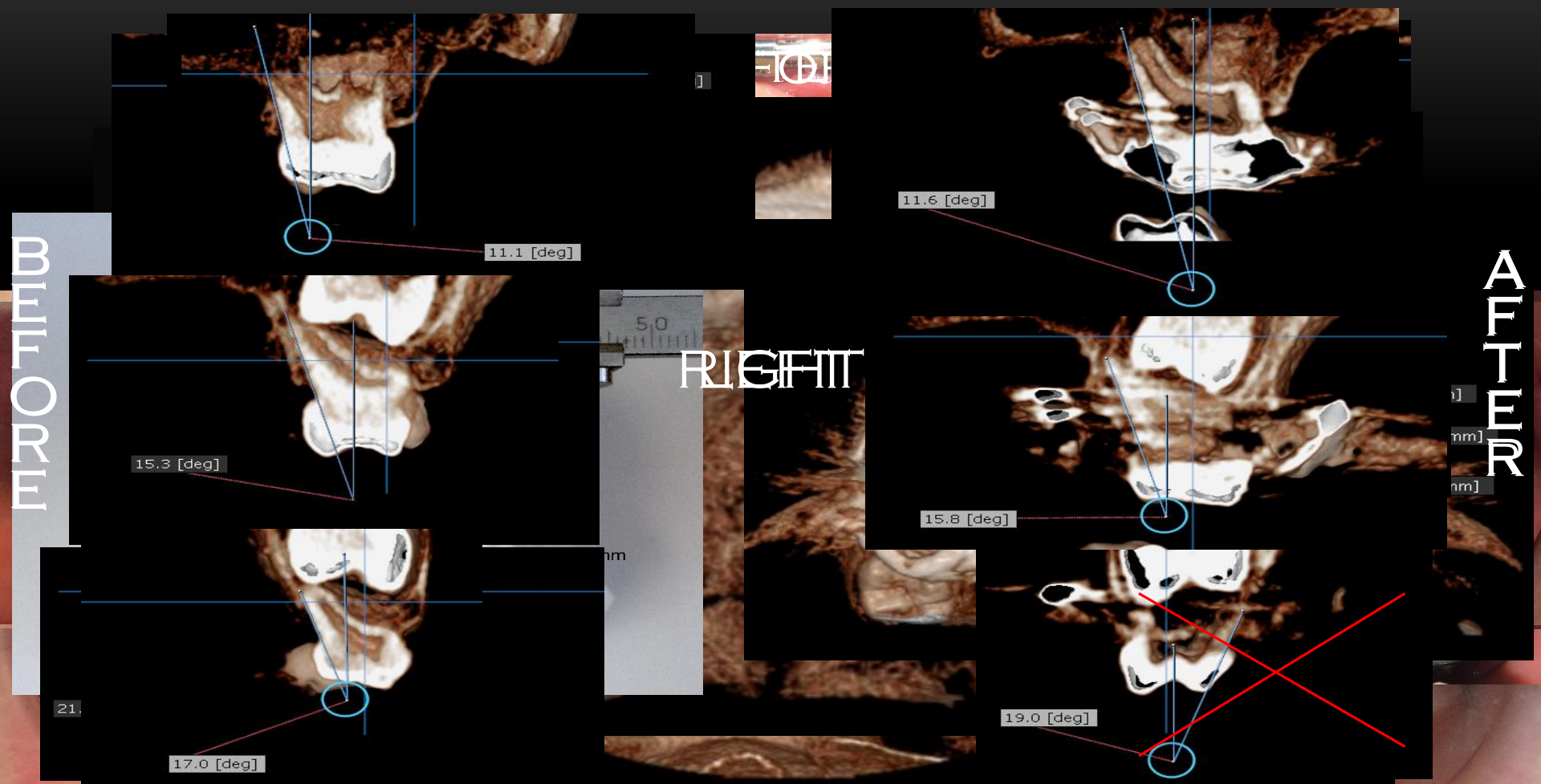
Before



after



CASE TWO



CASE THREE

NO HYPERCORRECTION

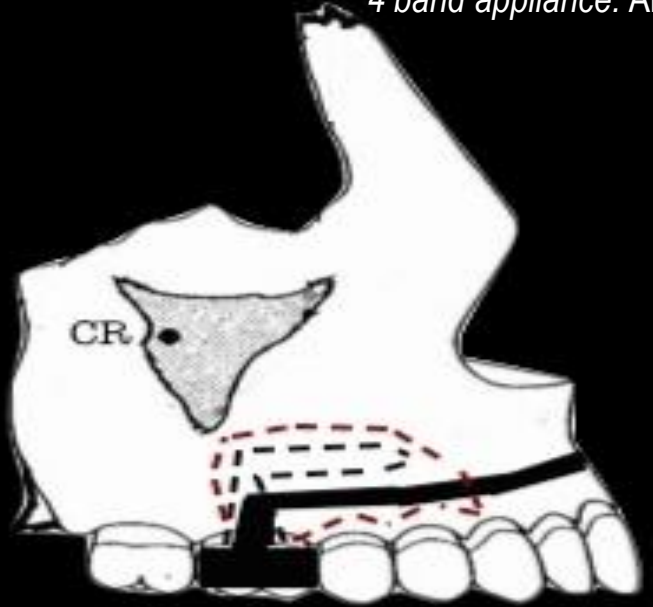
Langford SR, Sims MR. Root surface resorption, repair, and periodontal attachment following rapid maxillary

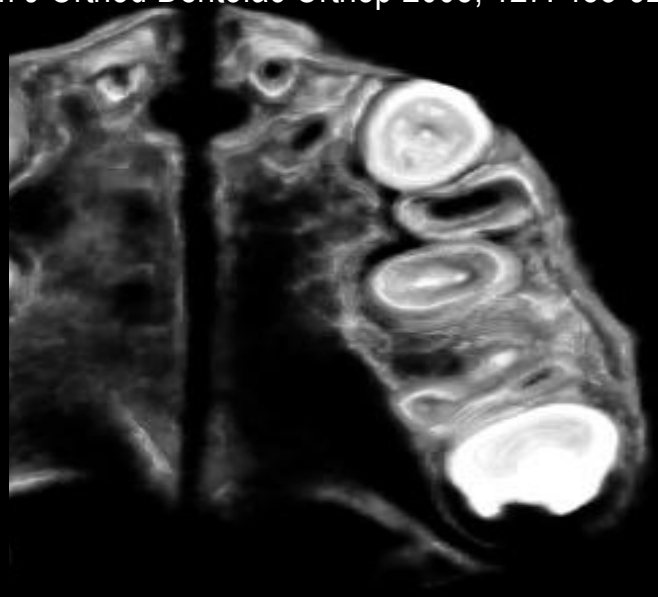
Baysal A, Kara pid maxillary expansion usir tomography. A

Barber AF, Sim n: a scanning electron microscope study. Am J Orthod. 1981; 79:630–652.

"In order to provide a completely uniform opening it is necessary a surgical distraction of the pterygomaxillary process"

Davidovitch M, Efstathiou S, Sarne O, Vardimon AD. *Skeletal and dental response to rapid maxillary expansion with 2 vs. 4 band appliance.* Am J Orthod Dentofac Orthop 2005; 127: 483-92.



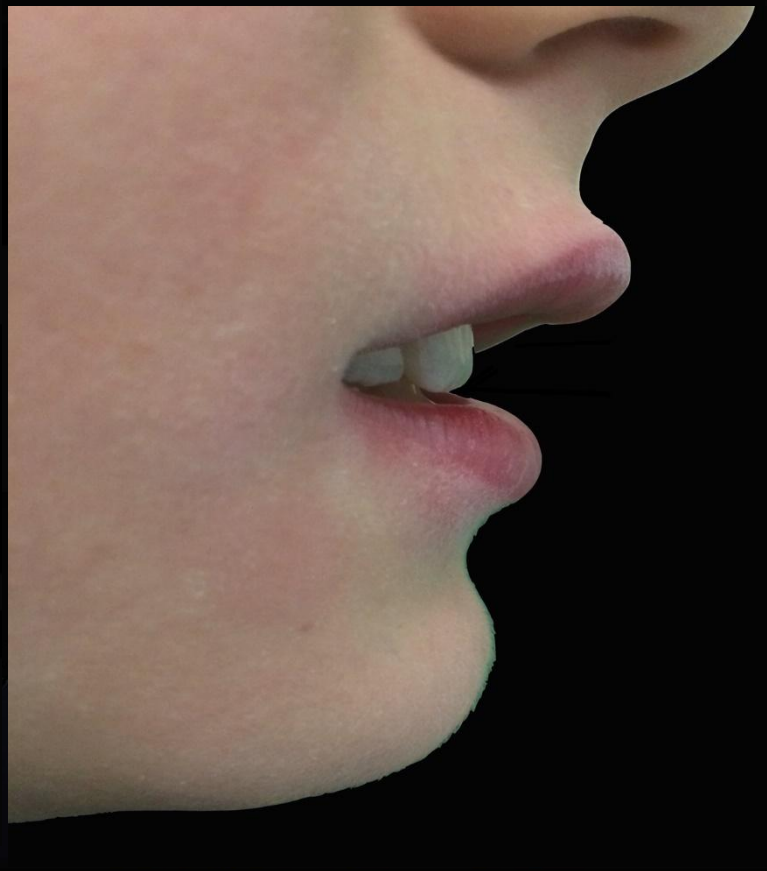


Papadopoulos MA, Christou PK. *Centers of resistance of the maxillary complex: Theoretical models and practical applications in orthodontics.* Hellenic Orthodontic Review 2000;3(1)35-51

CASE FIVE

ESTHETIC IMPACT

BEFORE



AFTER

J C O
February 2016 Issue

A Vestibular Rapid Palatal Expander

MAURO PORSEO, DDS
BARBARA MONACO, DDS
FELICE FESTA, DDS
GIANLUIGI FIORILLO, DDS

Various types of rapid maxillary expanders have been introduced; while they all have their advantages and disadvantages, each is built around an expansion screw in the palatal area. This article describes a different approach to the orthopedic treatment of a maxilla with transverse bone deficiency. A vestibular expander called the Changing-P was developed to address some of the drawbacks of traditional expanders and to optimize the disjunctive action of the appliance during its entire period of use in the oral cavity.

Appliance Design

The Changing-P is a rapid maxillary expander with the activation system placed in the vestibule at the incisal level. An expansion screw that turns in opposing helical directions is connected to two .059" stainless steel arms, which follow the curve of the upper alveolar ridge and are welded to the gingival third of the first permanent or second deciduous molar bands (Fig. 1A). The buccal arms are covered with acrylic bumpers; these should not contact the mucosa, but will exert a significant pressure-relieving and muscle-shielding action that prevents pressure sores from developing. They also make the appliance more rigid and efficient during activation. Two acrylic shields with metal frames are extended from the palatal surfaces of the molar bands to the canine region and from the gingival margin toward the palatal raphe, with a clearance of about 3mm from the gingival margin and 10mm from the palatal raphe (Fig. 1B).

Because traditional orthodontic bands have a tendency to deform during installation and activation, we use Rollo® bands, which are more rigid and occlusally extended. This allows the palatal shields to maintain proper contact with the mucous membranes without creating gaps that would allow the accumulation of food residue, and without causing excessive pressure or irritation.

*Trademark of American Orthodontics, Sheboygan, WI; www.americanortho.com.

Dr. Porseo | Dr. Monaco | Dr. Festa | Dr. Fiorillo

Dr. Porseo is Medical Director, Studio Porseo Dental Centre, 2 Via Giovanbattista Simoncelli, 03022 Boville Ernica, Frosinone, Italy, and the inventor and patent owner of the appliance described in this article; e-mail: maumporseo@studioporseo.it. Dr. Monaco is Chief Physician, Paediatric Dentistry Division, San Camillo Hospital of Rome, and in the private practice of orthodontics in Rome. Dr. Festa is a Professor of Orthodontics and Gnathology and Director of the Graduate School of Orthodontics, and Dr. Fiorillo is a Visiting Professor of Orthodontics, Gabriele d'Annunzio University of Chieti–Pescara, Italy. Dr. Fiorillo is also in the private practice of orthodontics in Rome.

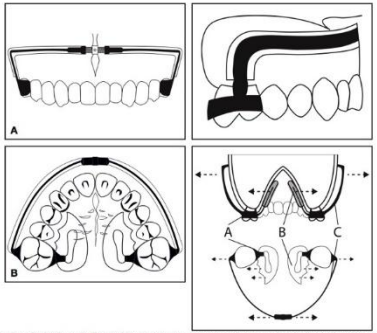


Fig. 1 Changing-P design. A. Buccal expansion screw turns in opposing helical directions; two .059" stainless steel arms, coated with acrylic bumpers, connect screw to upper first permanent or second deciduous molar bands. B. Acrylic shields with metal frames extend from palatal surfaces of molar bands to canine region and from gingival margin toward palatal raphe (A = Rollo® bands, B = palatal shields, C = buccal arch).

ORTHOPAEDIC AND 3D FUNCTIONAL THERAPY

- Frankel Function Regulator
- Expansion cases in 2D and 3D / Changing-P
- TMD in children

TMD in children

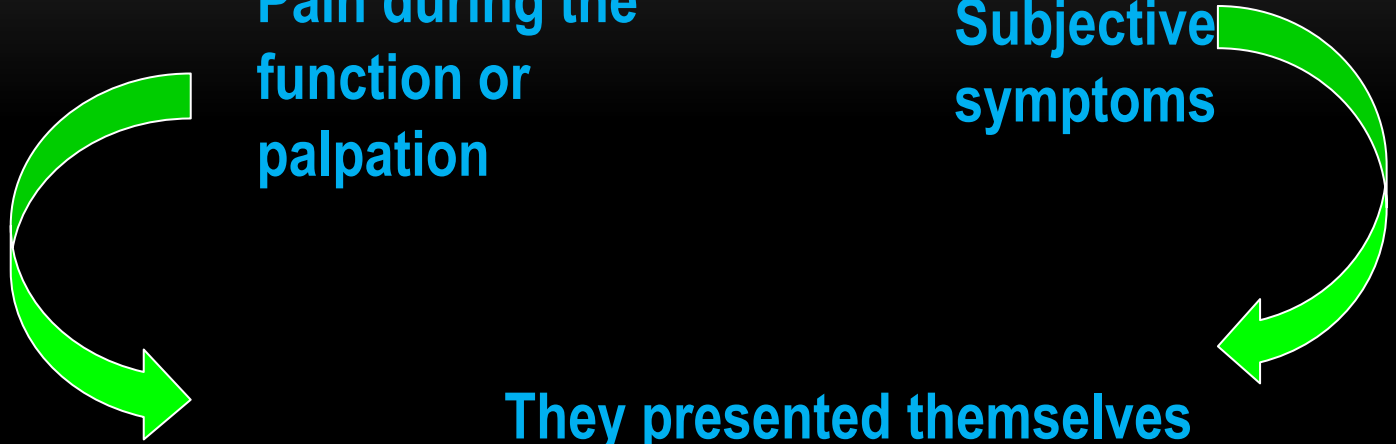
In 1989, two conferences were held concerning the temporomandibular disorders in Children. Dr. Jeffrey Okeson defined the TMDs as all disorders related to the function of the masticatory system.

The intention was to highlight that the TMDs are found in children and adolescents, as much as in adults.

- ✓ Okeson JP:Temporomandibular disorders in children.Pediatric Dent 1989;11:325-329
- ✓ American Academy of Pediatric Dentistry:Treatment of temporomandibular disorders in children:Summary statements and recommendations.JADA 1990;120:265-269
- ✓ President's Conference on the Examination,Diagnosis and Management of Temporomandibular Disorders. JADA 1983;106:75
- ✓ Padamsee M . et al.: Functional disorders of the stomatognathic system Part II .J Pedodont 1985;10:1-21

Pain during the function or palpation

Subjective symptoms

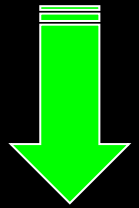


They presented themselves with an average of 40%

✓ Helkimo M : Epidemiological surveys of dysfunction of the masticatory system . In Zarb GA, Carlsson GE (eds), Temporomandibular Joint Function and Disfunction. Copenhagen: Munksgaard 1979; 175-192

TMD in children

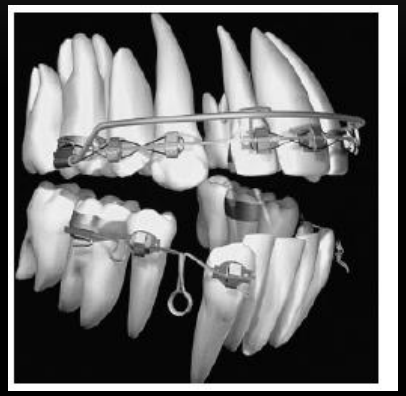
There is objective presence of signs and symptoms in about 40% of children and adolescents.



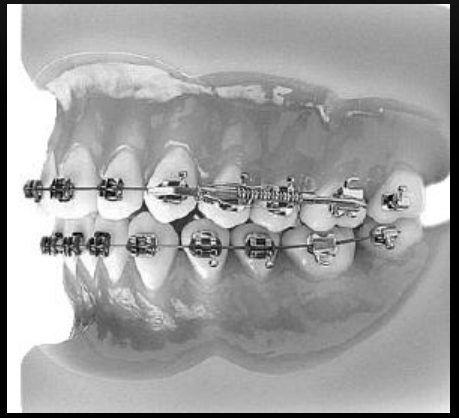
Of these, only 5% requires a treatment.

✓ Bureau of the Census: Current Population Reports: Projections of the Population of States by Age, Sex, Race: 1988 to 2010. Series P-25 ,No. 1017. Washington, D. C.: Government Printing O ffice, 1988

TMD



Orthodontic treatment

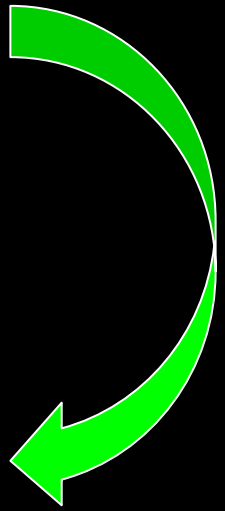


Occlusion

✓ Sadowsky C. The risk of orthodontic treatment for producing temporomandibular disorders: a literature review. Am J Orthod Dentofac Orthop 1992; 101: 79-83.

What factors are associated with TMDs?

The factors of the TMJ dysfunction in children and adolescents as well as adults is considered multifactorial, in this aetiology these factors can be found :



- Eating habits
- Trauma
- Malocclusions
- Neuromuscular disorders
- Particular emotional states

The potential confusions in determining the characteristics of craniomandibular disorders shows that:

The TMJ disorders are not a single disorder, but rather the classification of a number of diseases that can affect different tissues within the TMJ and structures associated with it.

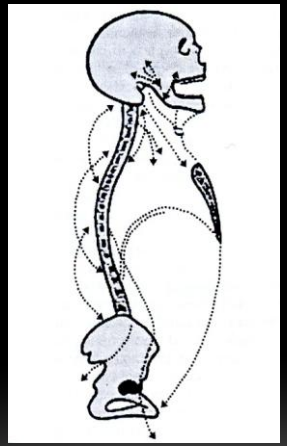
In the large classification of disorders there is no consensus about what is the best diagnostic approach. This often leads to disagreements about the aetiology and what are the affected tissues.

The TMDs must be understood in the context of growth and adaptive responses of cells and tissues that make up the TMJ and the masticatory system.

- Orthodontic treatment can not be a form of prevention but rather alleviate withdrawal symptoms once they occur.
- An important question is the possibility that orthodontic treatment will lead to a greater incidence of temporomandibular disorders.
- The literature provides support to the theory that in general orthodontic treatment during adolescence does not increase or decrease the risk of developing the temporomandibular disorders later in life.

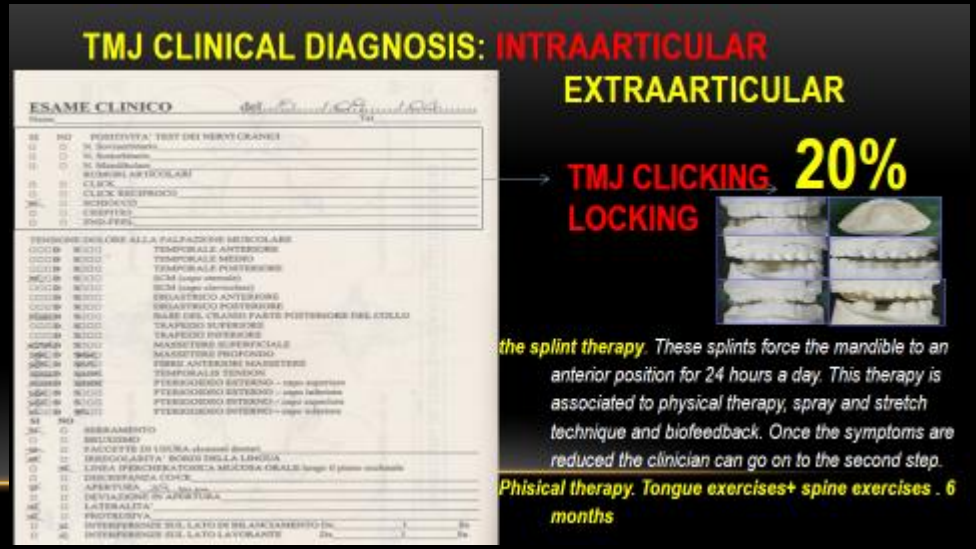
- Sadowsky C. The risk of orthodontic treatment for producing temporomandibular disorders: a literature review. Am J Orthod Dentofac Orthop 1992; 101: 79-83.

General neuromuscular disorders can affect the neck area and shoulders, as well as more distant districts.



The prognostic value of the signs and symptoms.

To prevent or treat temporomandibular dysfunction a splint therapy in combination with gymnastics can be implemented



Thank You

D.D.S.
Ph.D.
Specialist in Orthodontics

http://www.felicefesta.it/team.html#monicateam

University “G. d’Annunzio” Chieti – Pescara
Department of Medical , Oral and Biotechnological Science
Director Prof. Sergio Caputi

Orthodontics Specialty School
Director Prof. Felice Festa

Terapia ortodontica 3D dell'ATM, pre-chirurgica e dei casi complessi 3D

Prof Felice Festa

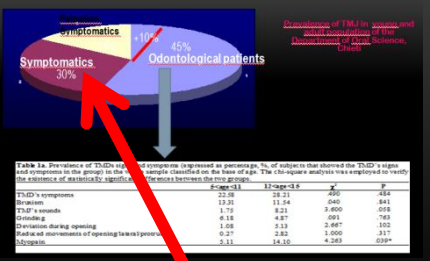
47th SIDO International Congress
“Patient-important outcomes in Orthodontics”
Florence 13-15 October 2016

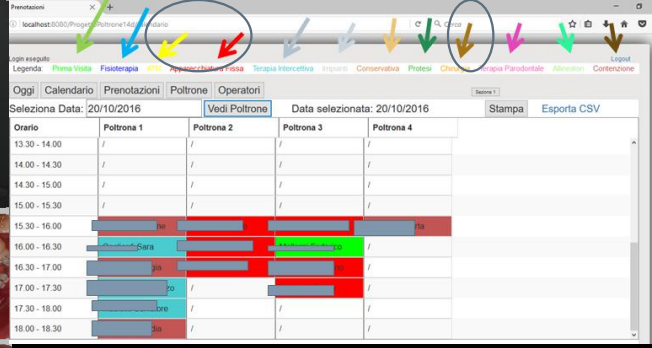
- Terapia ortodontica 3D dell'ATM
- Terapia ortodontica 3D pre-chirurgica
- Terapia ortodontica dei casi complessi 3D

- Terapia ortodontica 3D dell'ATM
- Terapia ortodontica 3D pre-chirurgica
- Terapia ortodontica dei casi complessi 3D

Genomic Anthropology applications to orthognatic surgery

PROF. G. IANNETTI
Dr. M. PAGNONI



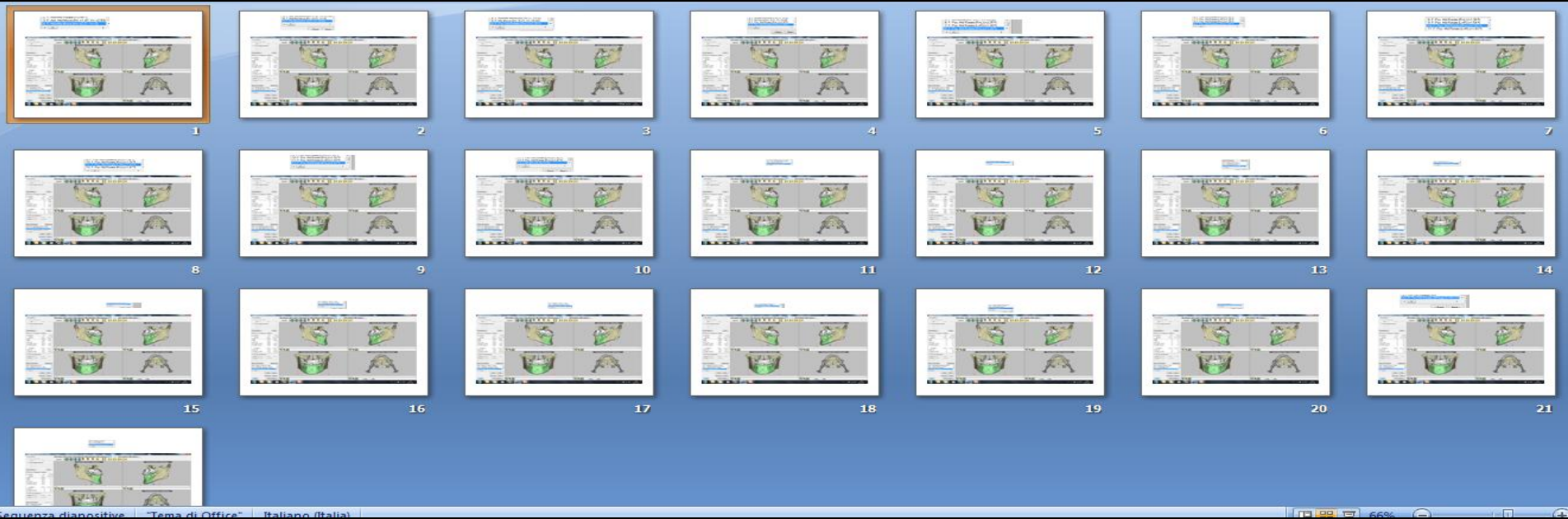


Case 20 TMJ Extrarticular:Class III, severe Asymmetrical Long face syndrome, Passive Aligners + straight wire + virtual Splint + Orthognatic Surgery

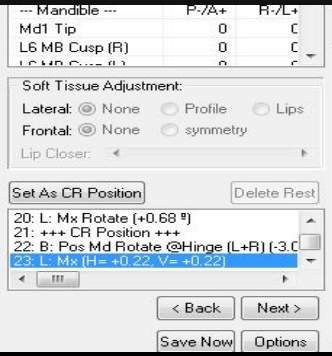
TMJ: Severe pain Temporalis Tendon L, Right Upper Trapezius

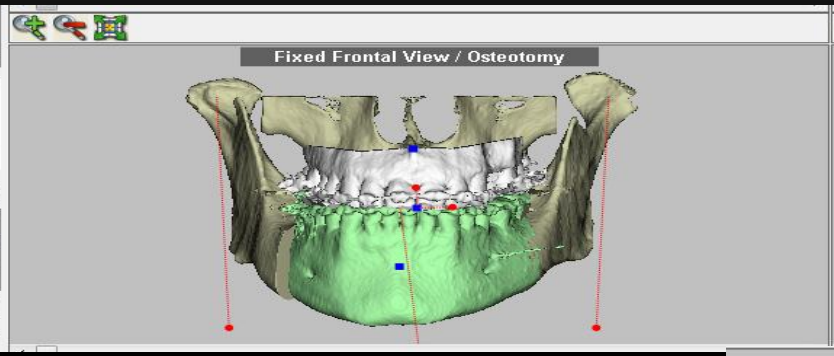
Age:23 years 2 Months Passive Aligners 6 Months low-friction 12 Months retention Ppassive Aligners

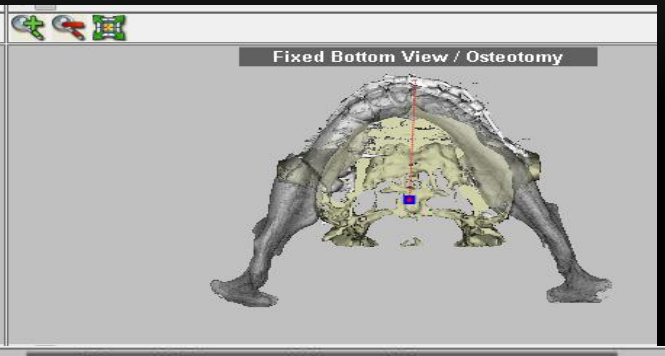
Surgical VTO for Virtual splint Upper (mandibular traslation) and Lower (Maxillary traslation) needed 29 VTO microadjustments to adapt maxillo-mandibular asymmetry

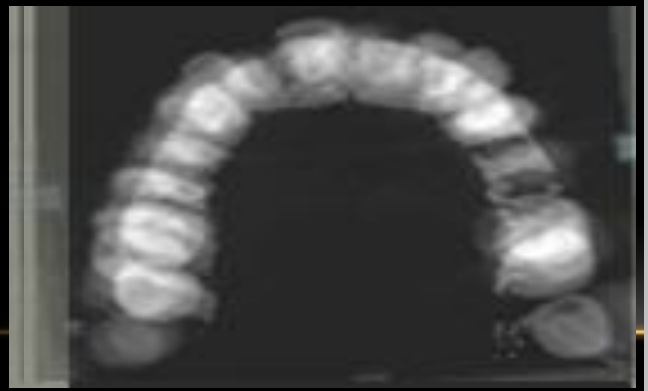


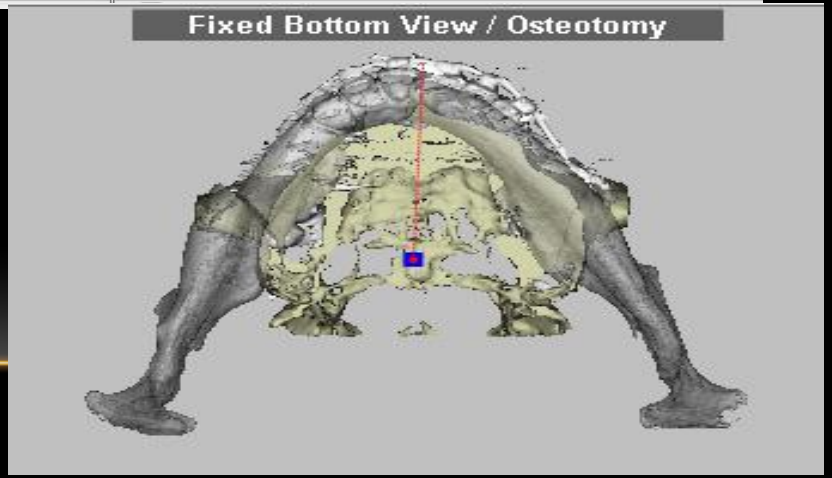
DOLPHIN 3D VTO > OPI



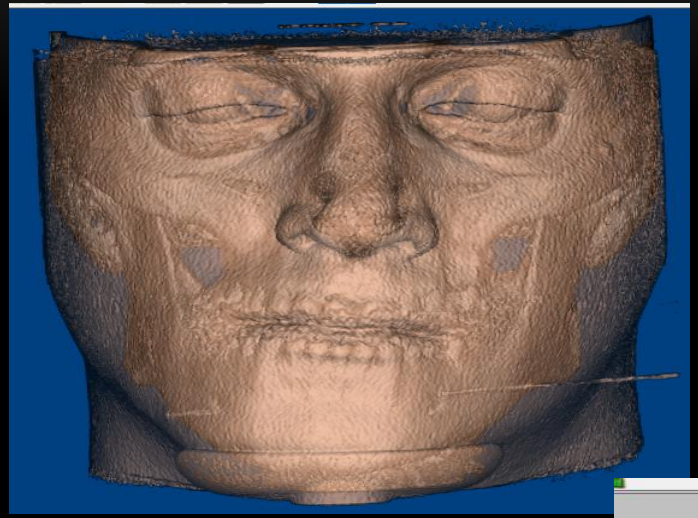


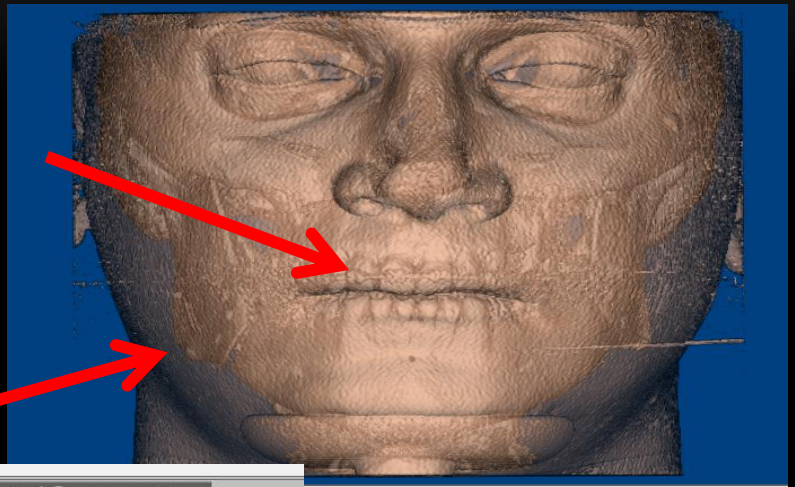


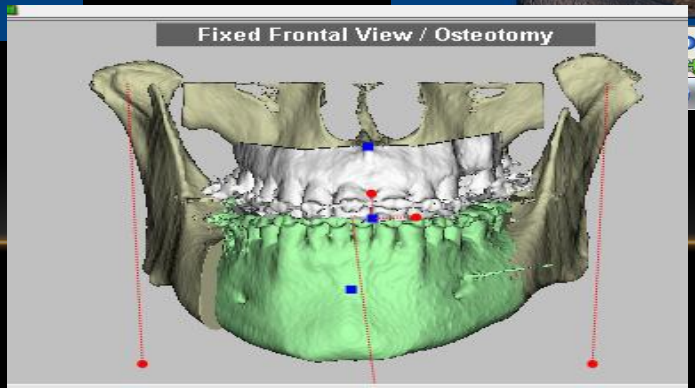




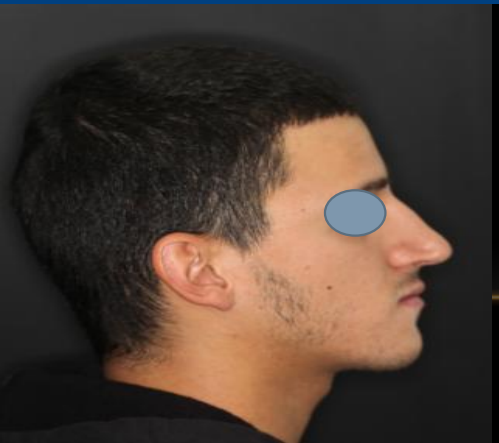
ORTHOGNATIC SURGERY PERFORMED FROM PROF. G. IANNETTI AND DR. MARIO PAGNONI

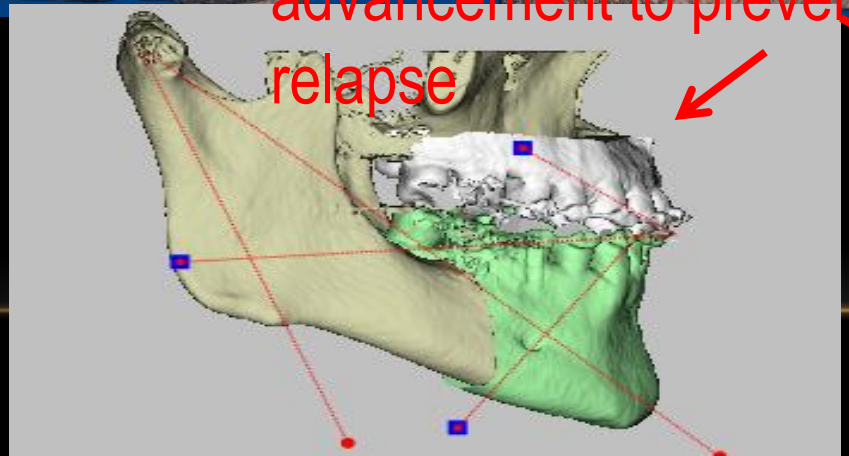




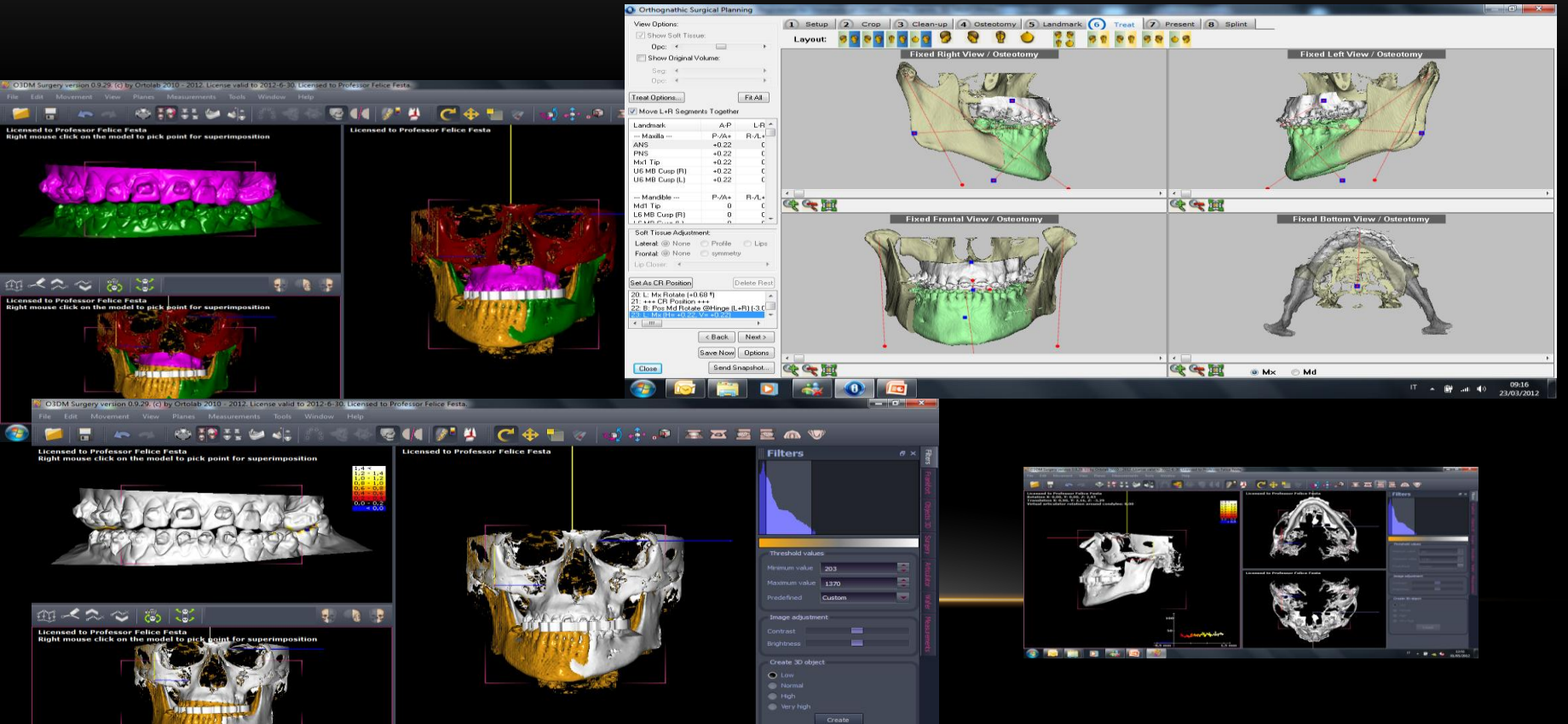


Maxilla overcorrected in advancement to prevent relapse





O3DM SOFTWARE (PL)+DOLPHIN BETA VERSION TO REALIZE VIRTUAL SPLINTS



BEFORE

AFTER

- Terapia ortodontica 3D dell'ATM
- Terapia ortodontica 3D pre-chirurgica
- Terapia ortodontica dei casi complessi 3D

- Terapia ortodontica 3D dell'ATM
- Terapia ortodontica 3D pre-chirurgica
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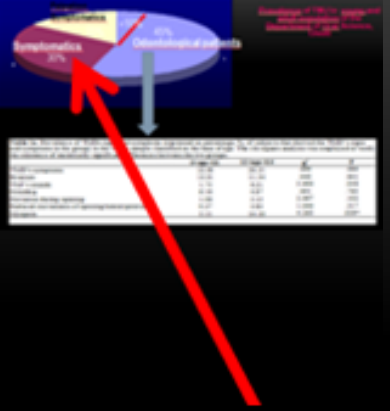
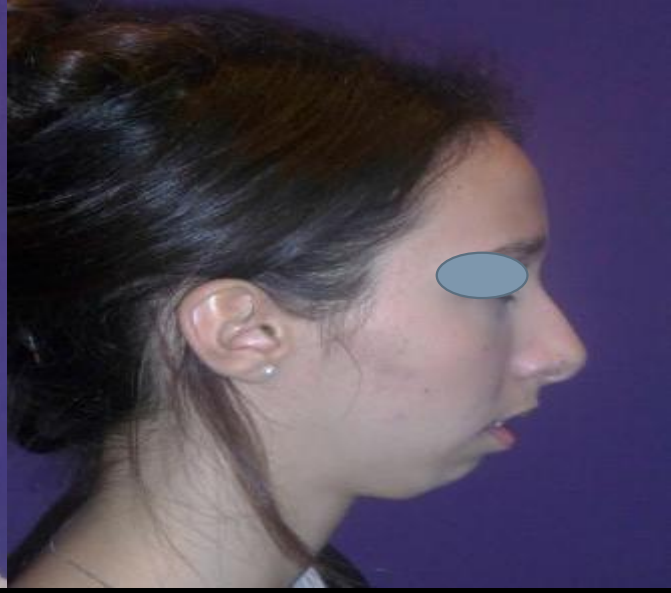


Case 28 TMJ Intrarticular: Caucasian Class II, severe Symmetrical short mandible, Condylar reumatoid Arthritis, Severe Dolicofacial, Surgery First + Straight wire+ virtual Splint + Orthognatic Surgery

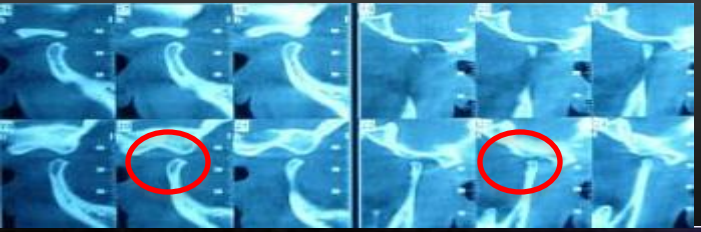
TMJ: Bilateral reciprocal late clicking, Severe pain LExternal Upper Pterygoid Tendon and R Upper Trapezius

Age:28 years Surgery First + 6 Months straight-wire 12 Months retention Passive Aligners+ Tongue /spine exercises

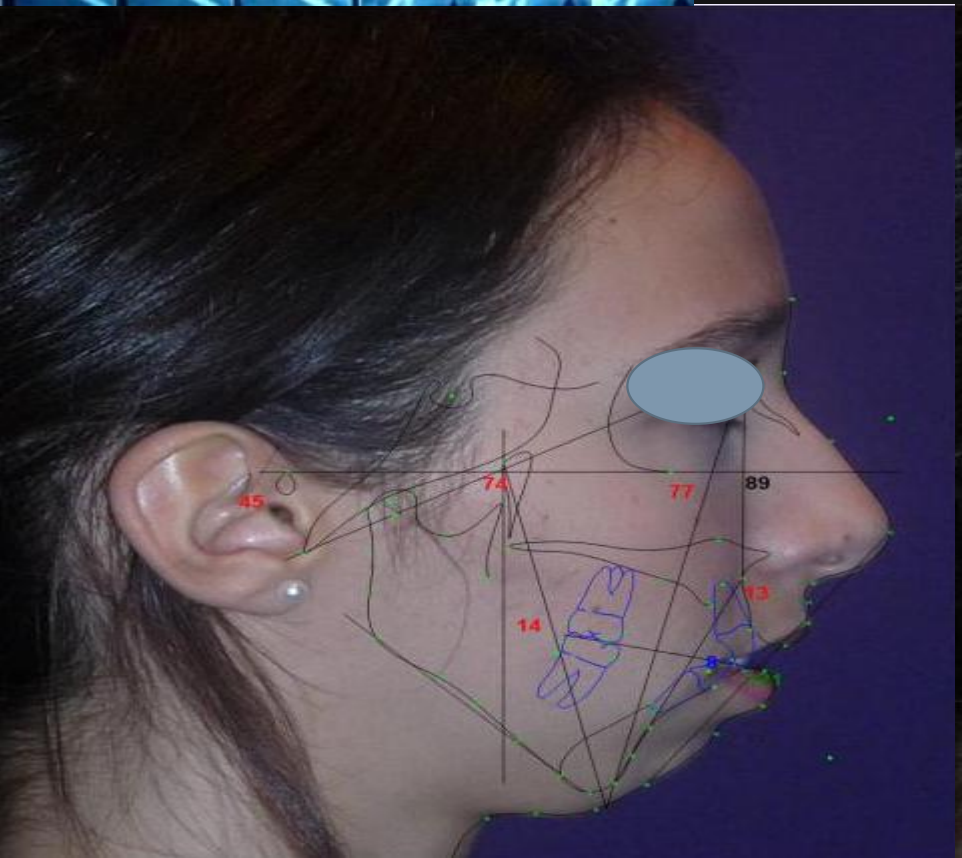


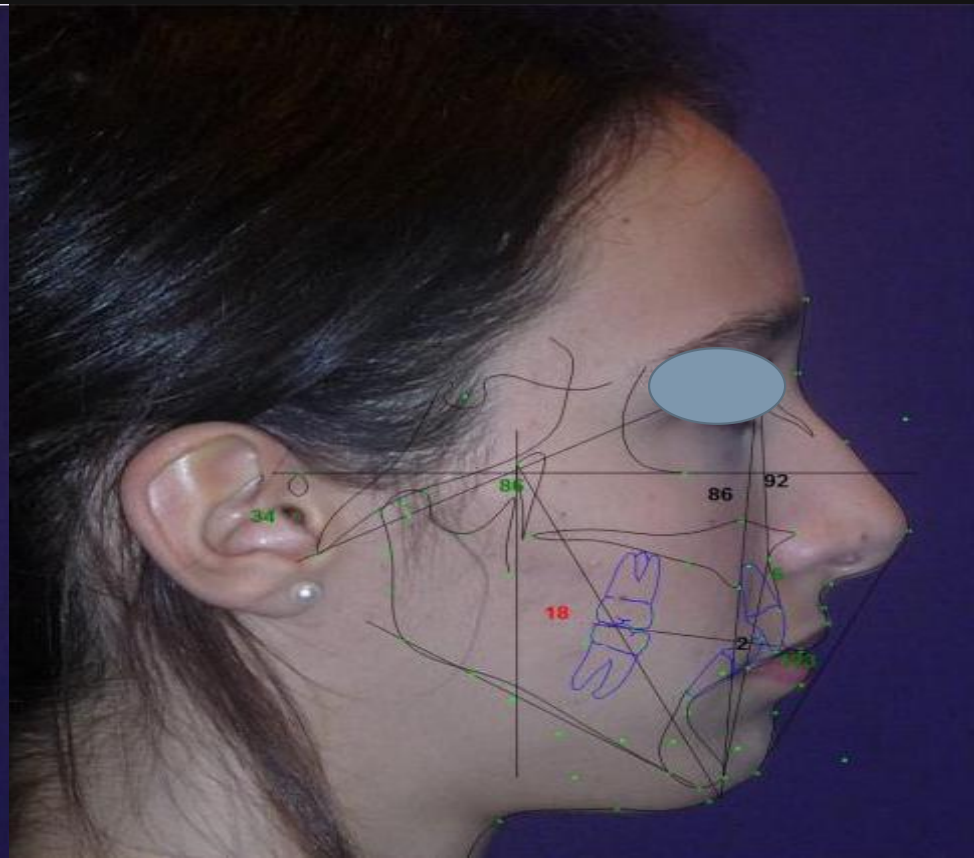
CONDYLAR REUMATOID ARTRITIS
RIGHT CLASS II

SEVERE DOLICOFACIAL
GUMMY SMILE



LE FORT I & CHIN SURGERY
DOLPHIN 2D SIMULATION



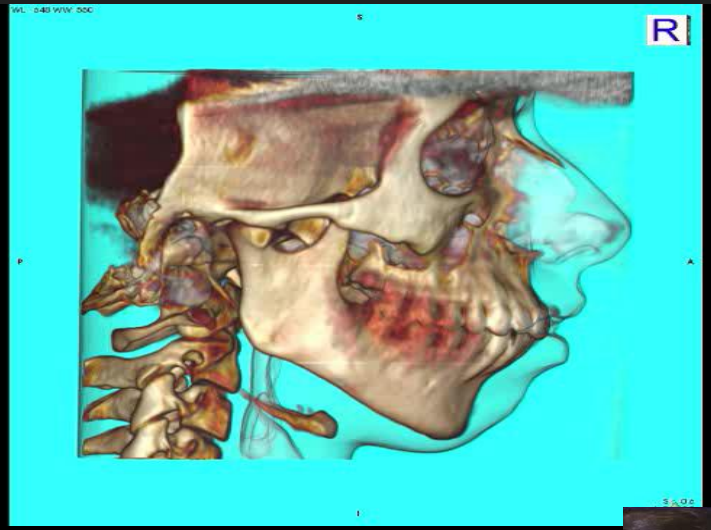


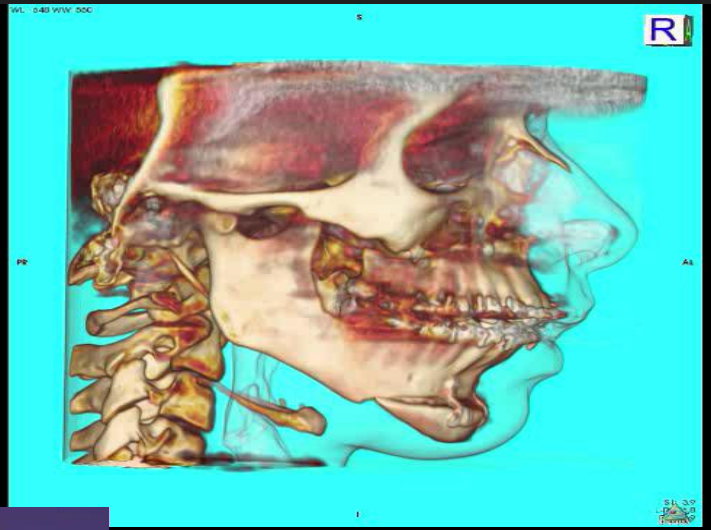
12/03/2012






LE FORT I & GENIOPLASTY
VTO SIMULATION

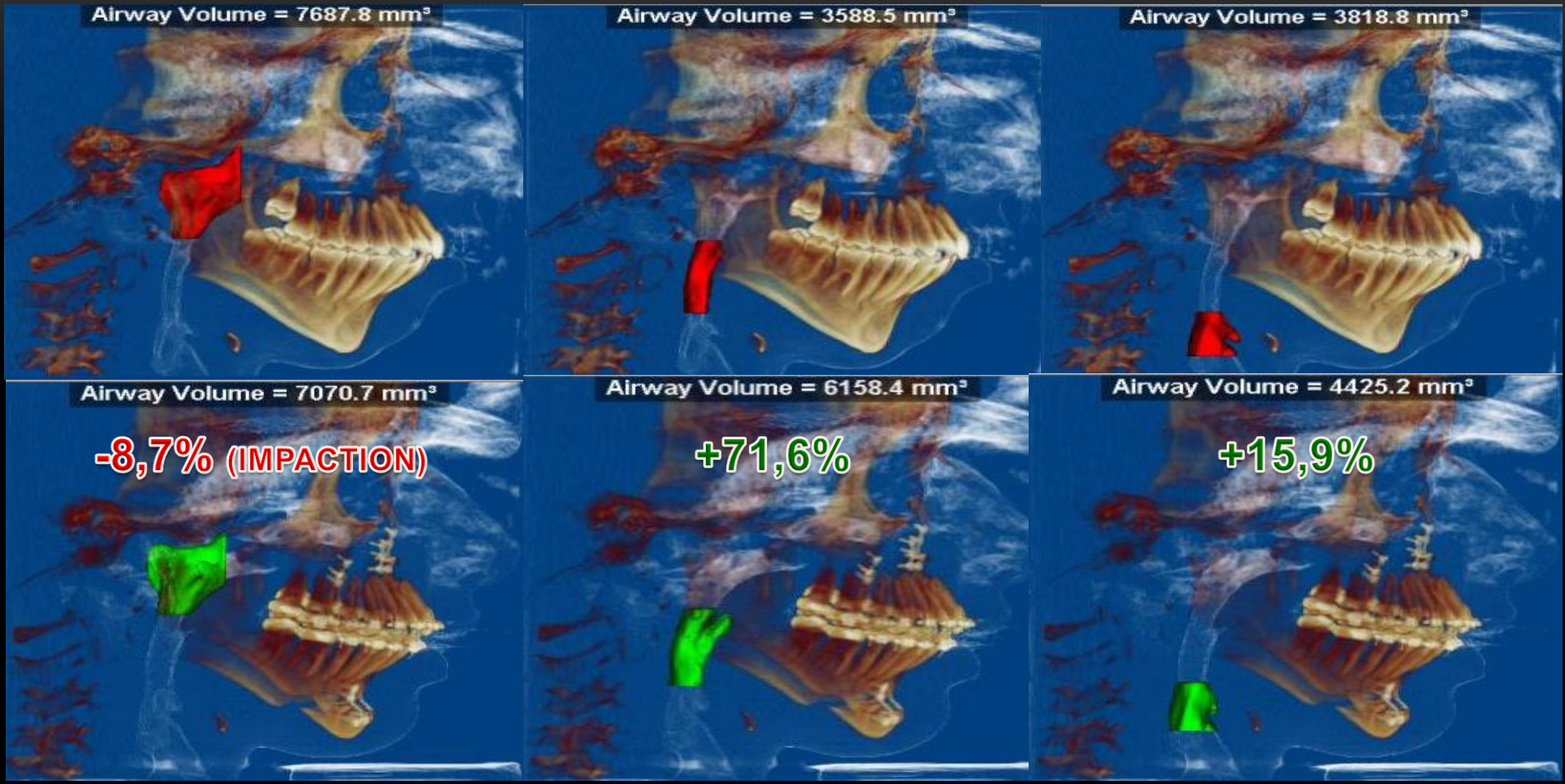




PRE

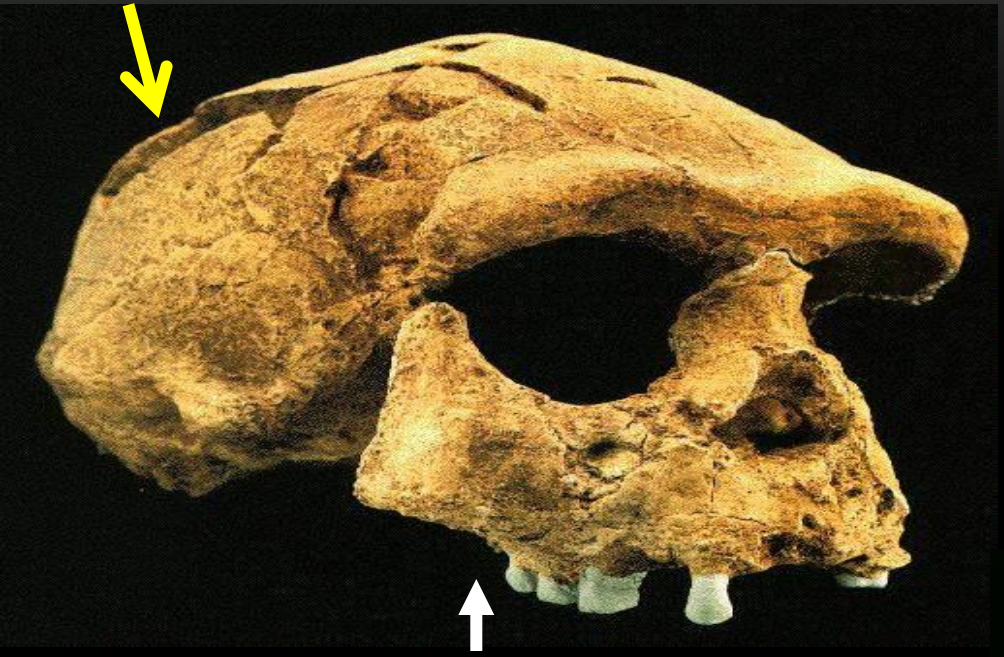
POST


11/05/2012
Orthodontics and Genetic evolution world portal
www.felicefesta.it



- Terapia ortodontica 3D dell'ATM
- Terapia ortodontica 3D pre-chirurgica
- Terapia ortodontica dei casi complessi 3D

Asiatic Homo Erectus



IN ASIA Hominids had a flatter and larger maxilla related to Caucasians

Caucasic Homo Erectus

Sangiran 17, "Pithecanthropus VIII", *Homo erectus*

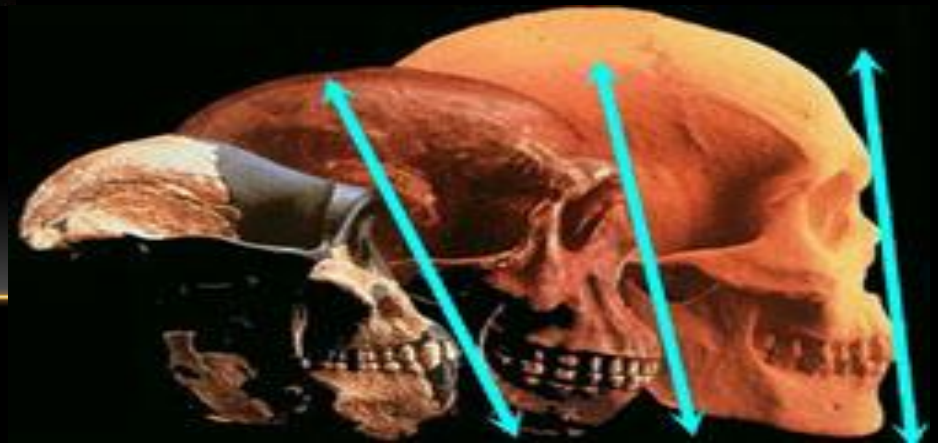
Discovered by Sastrohamidjojo Sartono in 1969 at Sangiran on Java. This consists of a fairly complete cranium, with a brain size of about 1000 cc. It is the most complete *erectus* fossil from Java. This skull is very robust, with a slightly projecting face and huge flaring

…ANCHE SE GLI OMINIDI DIFFERISCONO TRA LE VARIE AREE

Sangiran 17, "Pithecanthropus VIII", *Homo erectus*
Discovered by Sastrohamidjojo Sartono in 1969 at Sangiran on Java. This consists of a fairly complete cranium, with a brain size of about 1000 cc. It is the most complete *erectus* fossil from Java. This skull is very robust, with a slightly projecting face and huge flaring cheekbones. It has been thought to be about 800,000 years old.

↑

ASIAN HOMINIDS HAD A FLATTER AND LARGER MAXILLA



THANK YOU FOR THE ATTENTION

S.I.D.O.
SOCIETÀ ITALIANA DI ORTODONZIA

SIDO 2016

Welcome to Florence