PRE-CONGRESS COURSES

Thursday, October 10, 2019

Transaction from 2D to 3D

Sponsored by Dolphin Imaging & Management

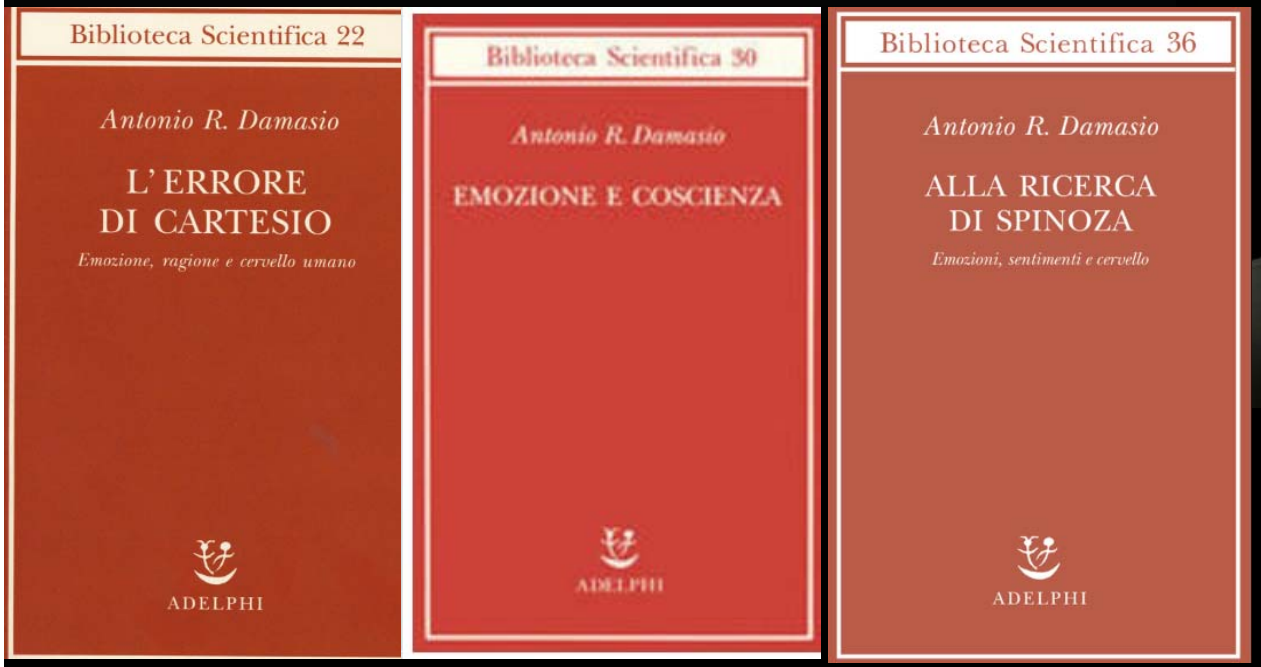
Italian Language Only

9.00-9.15	Welcome	
9.15-10.00	**Festa Felice**	The 3D clinical chart. CBCT low-dose
10.00-11.15	**Festa Felice**	Segmentation, head orientation in space and repeatability of 3D measurements (Part I Theory)
11.15-11.45	**Coffee break**	
11.45-12.30	**Ventorre Dario**	Surgical planning with Dolphin 3D Surgery: from CBCT to SPLINT - Part I
12.30-13.15	**Ventorre Dario**	Surgical planning with Dolphin 3D Surgery: from CBCT to SPLINT - Part II
13.15-14.00	**Conti Davide** **Sartori Orlando**	Completion of 3D Dolphin sofware insertion on participants' computers
14.00-15.00	**Lunch**	
15.00-15.45	**Festa Felice**	Segmentation, head orientation in space and repeatability of 3D measurements (Part II practice on participants' computers with tutor support)
15.45-16.30	**Festa Felice**	Projecting virtual X-rays: comparison and distortions Continuing Part II practice on computers
16.30-17.15	**Festa Felice**	Continuing Part II practice on computers Clinical cases and conclusions

STORIA DELL'ORTODONZIA E GNATOLOGIA

- 1900 E. Angle Forma d'arcata genetica e Class. Maloccl.
- 1915 Pierre Robin attivatore dente>osso>muscolo
- 1932 Rolf Frankel Regolatore di Funzione muscolo>osso>dente
- 1940 C. Tweed Edgewise filo di taglio>bracket>osso>muscolo
- 1950 Celenza Bite acrilico>dente>muscolo
- 1972 L.Andrews Straight-wire filo preformato>bracket>osso>muscolo
- 1979 B. Farrar splint avanzamento acrilico>ATM>muscolo
- 1999 Antonio Damasio L'errore di Cartesio Alla ricerca di Spinoza
- 2000 D. Damon Self-ligating filo>arco preformato> bracket a scorrimento>leg. parodontale>dente>osso>muscolo
- 2010 F.Festa Allineatori passivi ricondizionamento corteccia>muscolo>osso>dente
- 2019 26 Giugno F. Festa Origine corticale/subcorticale DTM e disturbi posturali

ANTONIO DAMASIO



Antonio R. Damasio

Vita, pensiero

Antonio R. Damasio è docente di Neuroscienze, Neurologia e Psicologia presso la *University of Southern California*, dove dirige il *Brain and Creativity Institute*, nonché professore associato al *Salk Institute* e alla *University of Iowa*. Le sue ricerche sulla neurologia della visione, della memoria, del linguaggio, e i suoi contributi allo studio della malattia di Alzheimer gli hanno procurato fama internazionale.

Vita

Nato a Lisbona nel 1944 e laureato in medicina, Antonio Rosa Damasio opera negli USA. Rappresenta una delle figure di maggior spicco a livello mondiale nel campo delle neuroscienze. E' autore di importanti pubblicazioni sulla memoria, sulla fisiologia delle emozioni e sulla malattia di Alzheimer.

I laboratori di ricerca che Damasio e sua moglie Hanna hanno realizzato presso l'Università dello Iowa, sono considerati ormai un punto di riferimento per lo studio dei fenomeni nervosi che sono alla base dei processi cognitivi.

Antonio Damasio è membro di prestigiose associazioni, come l'European Academy of Science and Arts e l'American Neurological Association; fa parte inoltre dei comitati scientifici di importanti periodici dedicati alle neuroscienze e di alcune fondazioni di ricerca.

Pensiero

Il punto di partenza di Damasio, sostenuto dall'osservazione di diversi casi clinici, è che il cervello non può essere studiato senza tener conto dell'organismo a cui appartiene e dei suoi rapporti con l'ambiente.

Per Damasio, lo studio delle funzioni cognitive, e in particolare della **coscienza**, ha subito per lungo tempo l'influsso di una tradizione filosofica che può essere fatta risalire a **Cartesio**. Questi ci propone, infatti, una concezione che separa nettamente la mente dal corpo, attribuendo alla prima, addirittura, un fondamento non materiale.

L'errore di Cartesio è stato quello di non capire che la natura ha costruito l'apparato della razionalità non solo al di sopra di quello della regolazione biologica, ma anche a partire da esso e al suo stesso interno.

Il processo decisionale (ad esempio quello di compiere una scelta tra due o più alternative), per Damasio è condizionato dalle risposte somatiche emotive osservabili, utilizzate dal soggetto come indicatori della bontà o meno di una certa prospettiva: i sentimenti somatici normalmente accompagnano le nostre aspettative del possibile esito delle varie opzioni di una decisione da prendere; in altre parole, i sentimenti fanno parte in qualche modo del contrassegno posto sulle varie opzioni; in tal modo i marcatori somatici ci servono come strumento automatico che facilita il compito di selezionare opzioni vantaggiose dal punto di vista biologico.

Nelle scienze biologiche, l'orientamento cartesiano ha avuto come conseguenza quello di emarginare la mente dal campo della ricerca, ritardando ogni serio tentativo di indagarla mediante un approccio scientifico rigoroso.

La coscienza, nel modello di Damasio, è studiata in funzione di due componenti fondamentali: l'organismo e l'oggetto, insieme alle relazioni che si sviluppano tra loro nel corso delle loro interazioni. In tale prospettiva, la coscienza consiste nella costruzione di conoscenze rispetto a due aspetti:

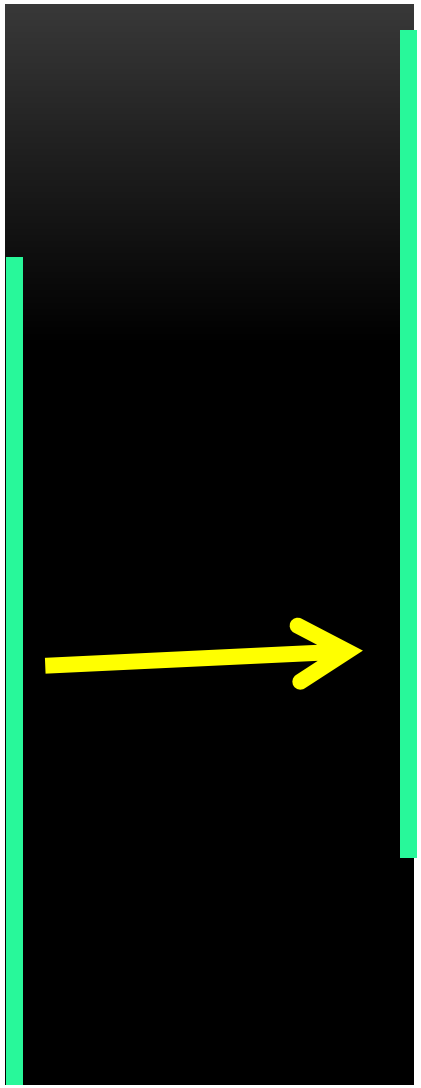
- l'organismo che entra in relazione con qualche oggetto;
- l'oggetto coinvolto nella relazione che causa un cambiamento nell'organismo.

Comprendere la biologia della coscienza significa quindi capire in che modo il cervello riesce a rappresentare le due componenti - organismo e oggetto - e in che modo si stabilisce la relazione tra questi.

Secondo Damasio, la coscienza inizia come un sentimento, un tipo particolare di sentimento, ma comunque qualcosa di assimilabile a questo, anche se non completamente sovrapponibile alle altre modalità sensoriali rivolte al mondo esterno. In ogni caso, coscienza ed emozione non sono separabili, poiché la prima è indissolubilmente legata al sentimento del corpo.

Da un punto di vista evolutivo, le emozioni sono risposte fisiologiche che mirano ad ottimizzare le azioni intraprese dall'organismo nel mondo che lo circonda. A sostegno di queste tesi, il neurofisiologo portoghese riporta alcune prove neurologiche che mostrano come certi meccanismi cerebrali siano comuni sia alle emozioni che alla coscienza, giungendo alla conclusione che la coscienza rappresenti fondamentalmente un aspetto ausiliario della nostra dotazione biologica di adattameno all'ambiente.

Nella concezione di Damasio, la coscienza non è monolitica, ma può essere distinta in:



- Proto-sé

Fenomeno primordiale di autoidentificazione che l'uomo condivide con gli animali superiori, alle cui base sono le emozioni, eventi strettamente biologici, sui quali si sviluppano poi i sentimenti (paura, fame, sesso, rabbia...) che hanno come motore l'interazione tra l'organismo e il mondo oggettuale. Il "proto-sé" non è consapevole di sé: rappresenta semmai quella parte del sé che impara poco per volta a riconoscersi come parte separata dal mondo esterno.

- Coscienza nucleare

Fenomeno biologico nel quale sono contemporaneamente presenti tre elementi: l'oggetto di sui si è coscienti, la posizione del proprio corpo rispetto a quell'oggetto e la relazione che si stabilisce tra queste due entità. La coscienza nucleare fornisce all'organismo un senso di sé qui e ora; non ci dice nulla riguardo al futuro. L'unico passato che possiede è quello, vago, relativo a ciò che è appena accaduto.

- Coscienza estesa

Si forma sulla base della coscienza nucleare ed è all'origine del "sé autobiografico".

Questo livello di coscienza richiede il linguaggio, poiché solo attraverso di esso possiamo formulare la nostra storia personale, in cui prendono posto i ricordi, le speranze, i rimpianti e così via.

Il modello di coscienza proposto da Damasio è un modello gerarchico, per cui non può darsi il sé nucleare senza il proto-sé e non può darsi quello autobiografico senza il sé nucleare.

A Damasio va senz'altro riconosciuto il merito di aver contribuito a introdurre il corpo nella discussione scientifica sulla coscienza. L'idea che l'organismo partecipi all'esperienza cosciente rompe nettamente con una tradizione che vuole la mente ben distinta dal corpo e restituisce alla coscienza stessa i requisiti biologici indispensabili per farne un oggetto di studio scientifico.

(Per gentile concessione de "Il Diogene" - www.ildiogene.it)

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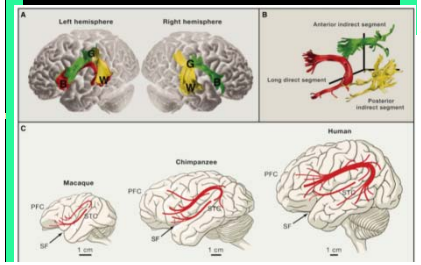

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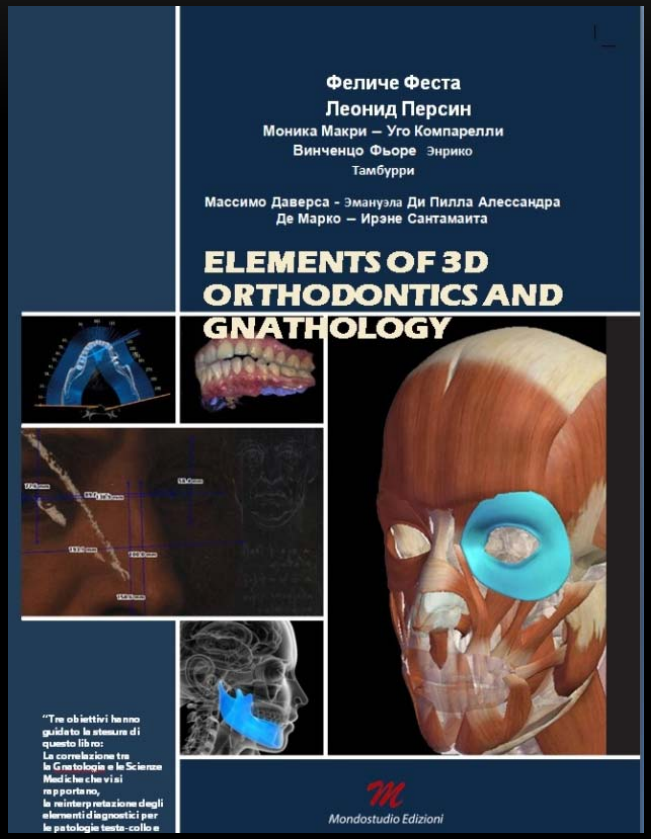
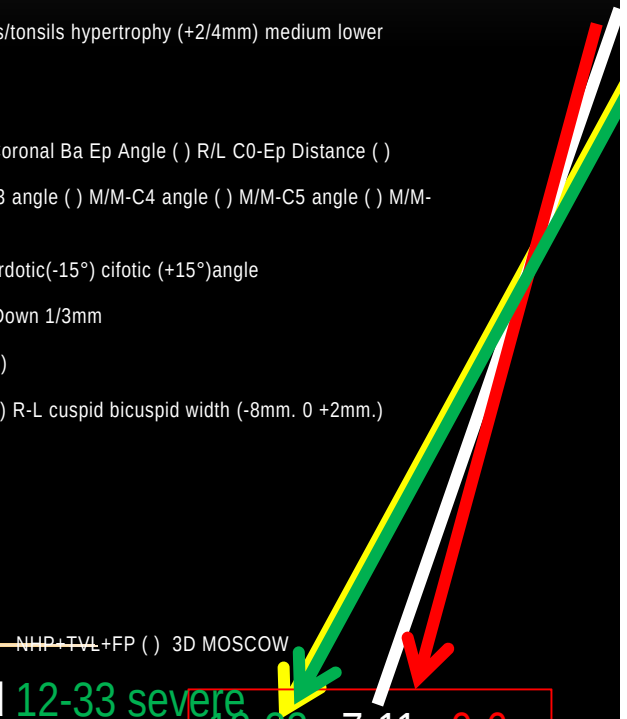
ORTHOGNATHIC ELEMENTS AND 3D GNATOLOGY



FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

- CLINICAL CHART ORTHODONTICS ( ) TMJ ( ) ORT.+TMJ ( )
- LATERAL/FRONTAL TELERADIOGRAPHY ( ) ORTO ( ) LOWDOSE CONEBEAM ( ) SEGMENTATION ALFA ( ) BETA ( ) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
- LATERAL/FRONTAL SLICE TELERADIOGRAPHY Ba-A ( ) Ba-B ( ) R/L condyle head-Gonion distance (+/-15 mm) occlusal plane asimmetry (+/-10mm.) palatal suture Menton asimmetry (+/- 15mm.)
- LATERAL/FRONTAL SLICE TELERADIOGRAPHY UPPER/MEDIUM/LOWER AIRWAYS turbinate hypertrophy (+1/4mm.) adenoids/tonsils hypertrophy (+2/4mm) medium lower airways reduction (-10/20mm) sleep apnea (+/-)
- R/IL PONTICULUS POSTICUS ( )
- LATERAL/CORONAL SLICE CERVICAL SPINE RELATIONSHIP C0 ( ) C1 ( ) C2 ( ) C3 ( ) C4( ) C5 ( ) C6 ( ) Cervical Angle ( ) Coronal Ba Ep Angle ( ) R/L C0-Ep Distance ( )
- SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )
- R/L GONION-CERVICAL SPINE RELASHIONSHIP third cervical vertebra distance (+/-10mm.) first/fifth cervical vertebra angle lordotic(-15°) cifotic (+15°)angle
- CORONAL/LATERAL SLICE CONDYLE FOSSA RELATIONSHIP (2mm. Back 0mm. Centered 2mm. Forward 1/3mm. Up 1/3mm. Down 1/3mm
- CORONAL/LATERAL SLICE CONDYLE SHAPE/ANATOMY curvature(5°-45°) flattening(1-3) cortical collapse(1-3) osteofitosis (1-4)
- CORONAL /SLICE MAXILLARY/MANDIBULAR CROSS-SECTIONS BONE REDUCTION/INCREASE cortical plate width (+/-1 mm.) R-L cuspid bicuspid width (-8mm. 0 +2mm.)
- MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE (+/-10 mm)
- SMV SLICE MAXILLO/MANDIBULAR contraction (+/- 7 mm.) expansion (+/- 7 mm.)
- CORTICAL/SUBCORTICAL fMRI PAIN NETWORKS (+5 increase -4 decrease)
- R/L CORONAL/LATERAL MASSETER/STERNOCLEIDOMASTOIDEUS STERNAL INSERTION width/lenght (+/-10mm.)
- McLAUGHLIN CEPHALOMETRICS ( ) FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT McLAUGHLIN CEPHALOMETRICS NHP+TVL+FP ( ) 3D MOSCOW CEPHALOMETRICS ( )



OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

R/L GONION-CERVICAL SPINE RELASHIONSHIP third cervical vertebra distance (+/-10mm.) first/fifth cervical vertebra angle lordotic(-15°) cifotic (+15°)angle

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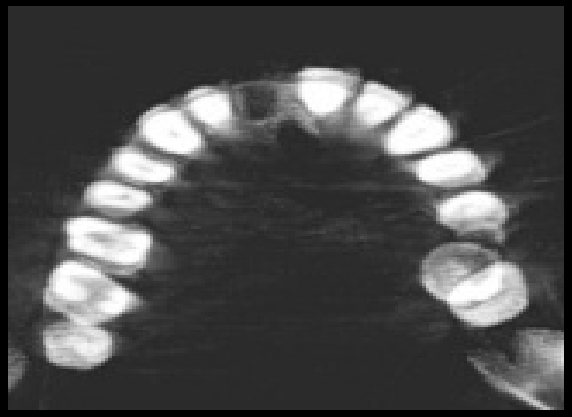
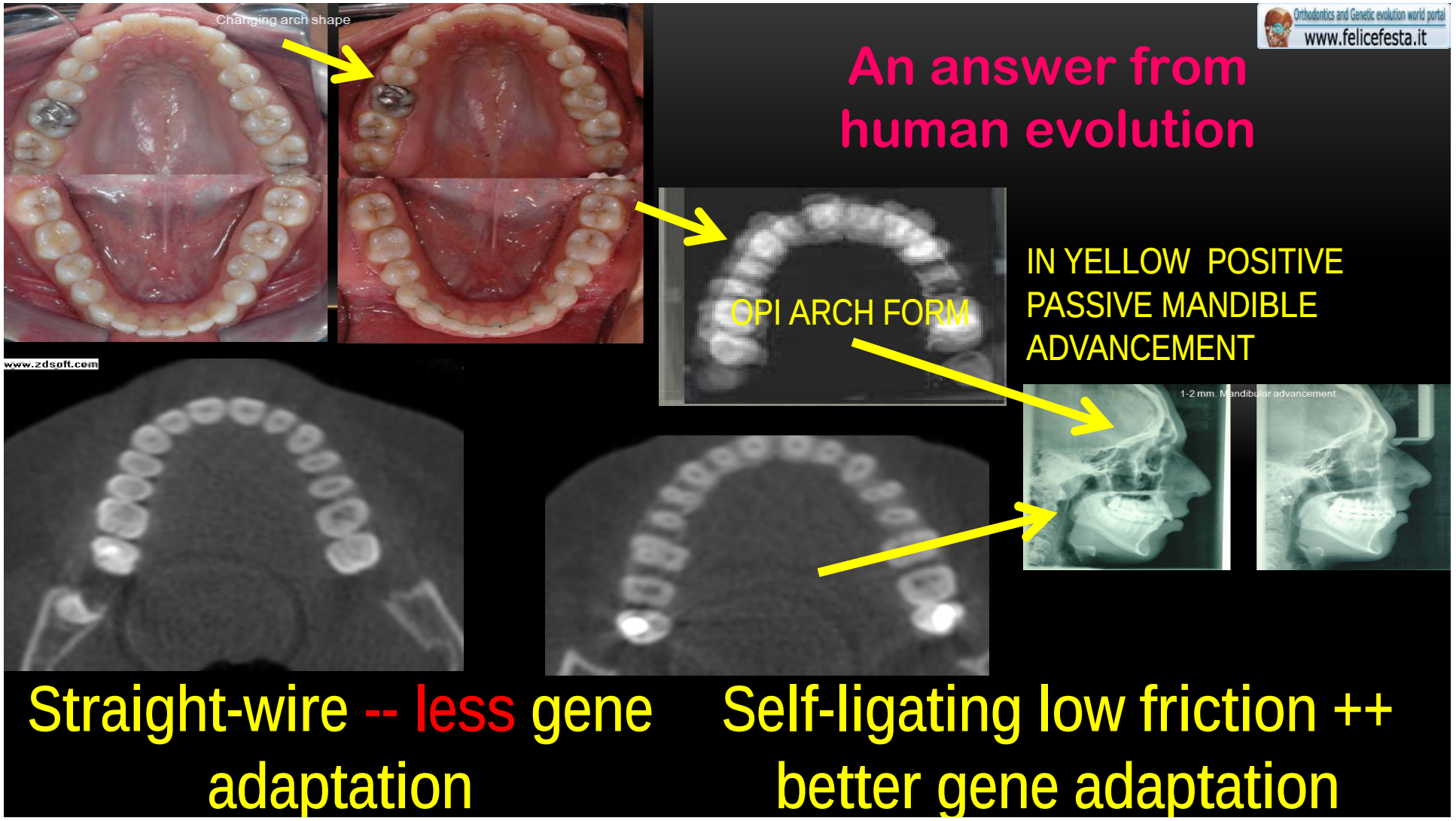
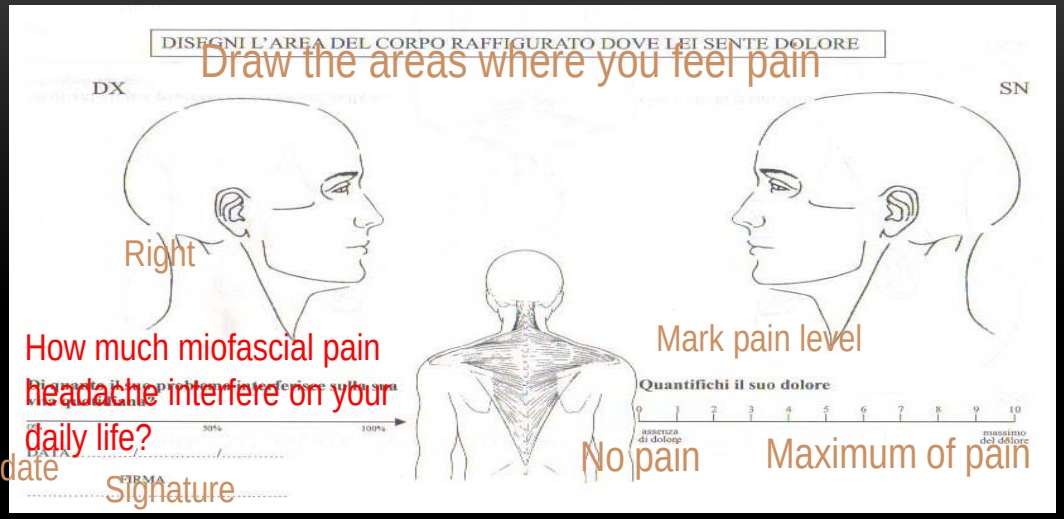
OPI ARCH FORM

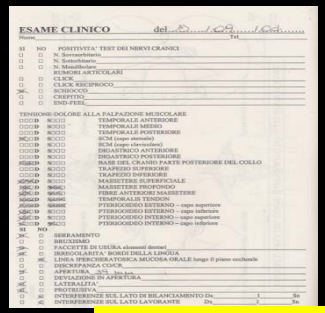


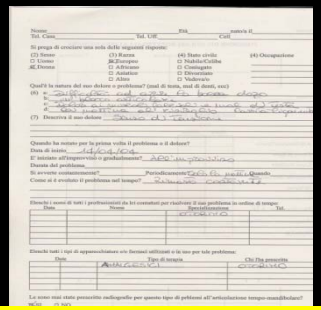
4000 YEARS

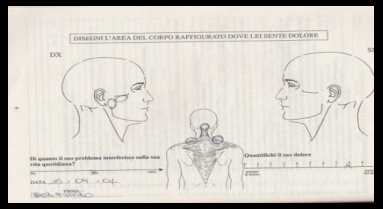
The upper arch has contracted above all in the canine, premolar and first molar area


Changing arch shape
Orthodontics and Genetic evolution world portal
www.felicefesta.it
An answer from human evolution
OPI ARCH FORM
IN YELLOW POSITIVE PASSIVE MANDIBLE ADVANCEMENT
1-2 mm. Mandibular advancement
www.2dsoft.com
Straight-wire -- less gene adaptation
Self-ligating low friction ++ better gene adaptation









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
ly
ical

The Tanaka-Chieti Clinical Chart

TMJ CLINICAL DIAGNOSIS: INTRAARTICULAR

EXTRAARTICULAR

ESAME CLINICO del 5/09/04

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
☐	☐	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 5/09/04

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

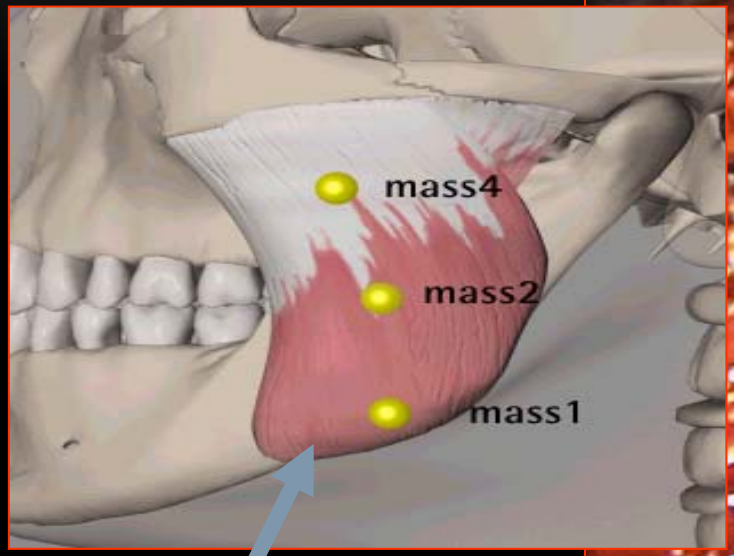
SI	NO	
☒	☐	SERRAMENTO
☐	☐	BRUXISMO
☒	☐	FACCETTE DI USURA elementi dentari
☒	☐	IRREGOLARITA' BORDI DELLA LINGUA
☐	☒	LINEA IPERCHERATOSICA MUCOSA ORALE lungo il piano occlusale
☐	☐	DISCREPANZA CO/CR
☒	☐	APERTURA 39 mm
☐	☐	DEVIAZIONE IN APERTURA
☒	☐	LATERALITA'
☒	☐	PROTRUSIVA
☐	☒	INTERFERENZE SUL LATO DI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

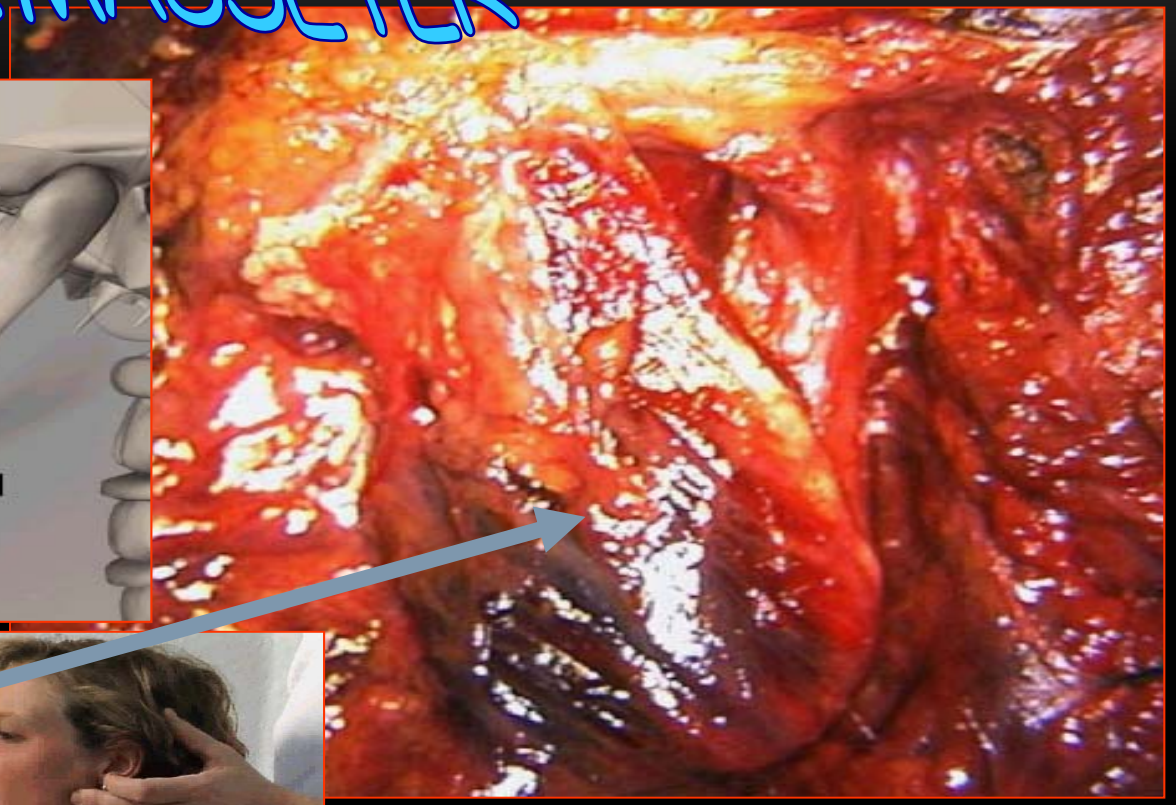
the aligners therapy. These aligners don't force the mandible to an anterior position for 24 hours a day. This therapy is associated with tongue exercises. Once the symptoms are reduced (2 months) the clinician can go on to the second step.

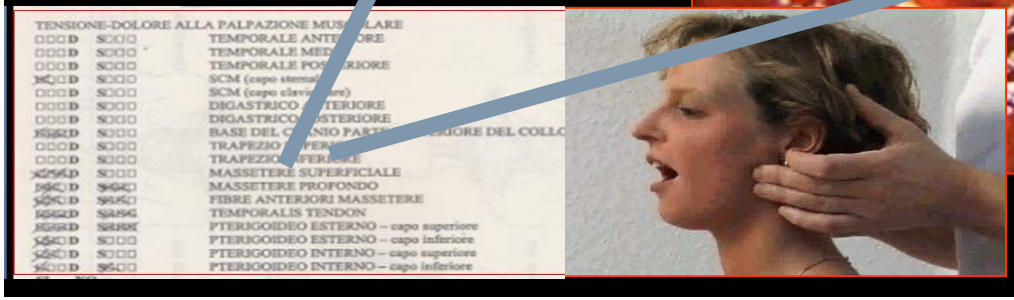
Phisical therapy. Tongue exercises+ spine exercises. 2 months.

The finishing step. During this phase braces or aligners

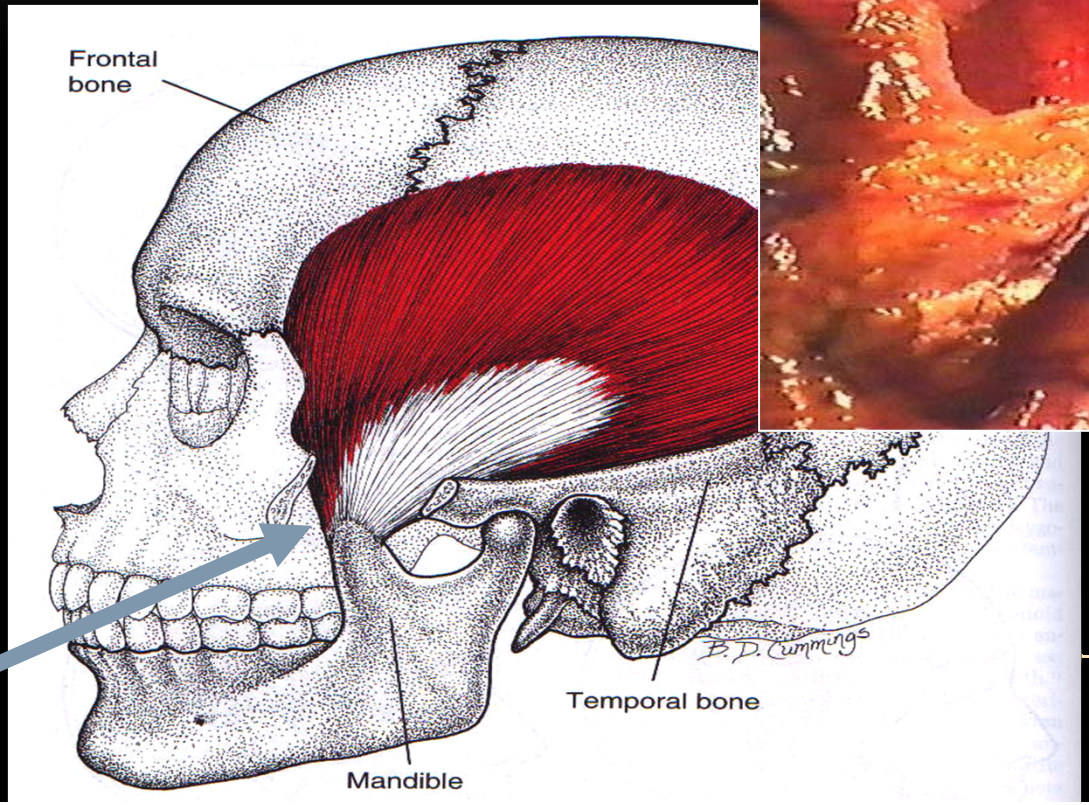
SUPERFICIAL MASSETER

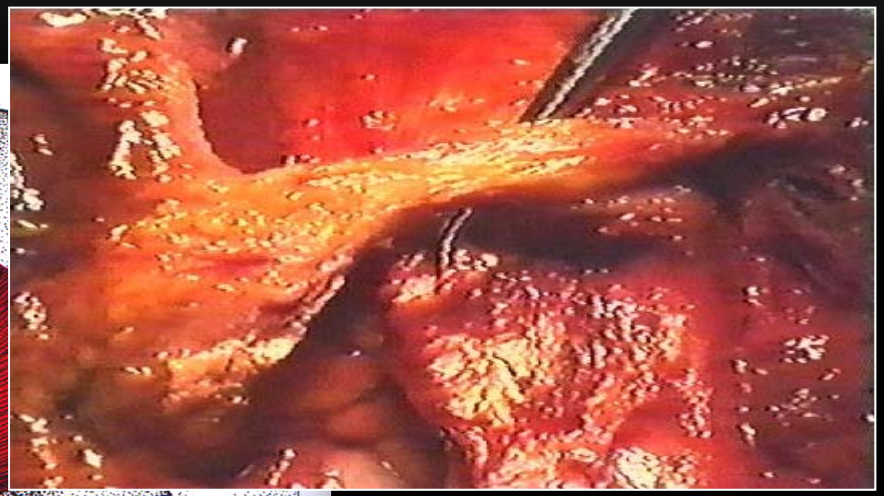


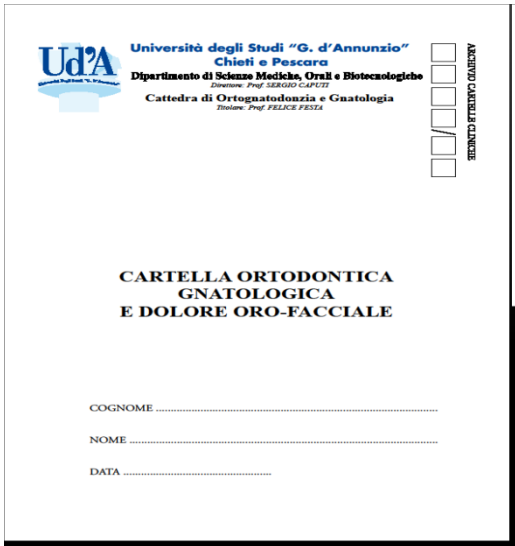




TEMPORALIS TENDON






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

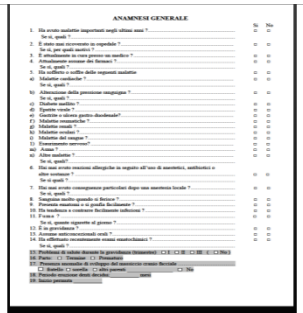
ACCETTO CARTELLA CLINICA

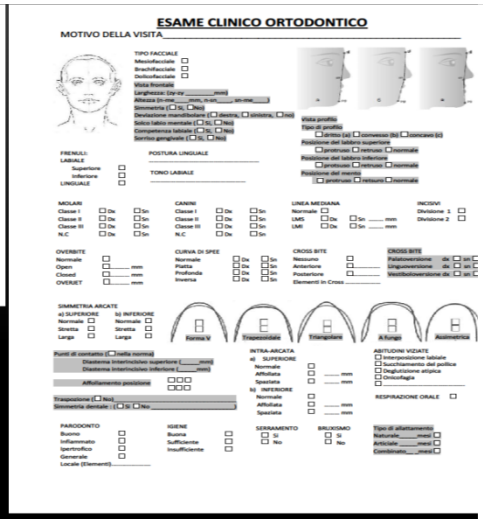
CARTELLA ORTODONTICA
GNATOLOGICA
E DOLORE ORO-FACCIALE

COGNOME .....

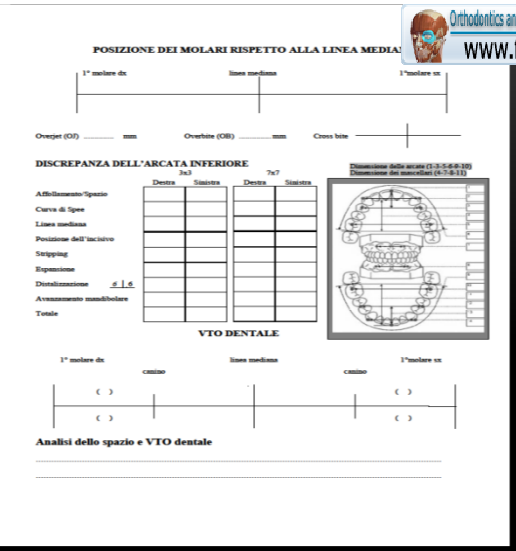
NOME .....

DATA .....


ANAMNESI GENERALE


ESAME CLINICO ORTODONTICO

MOTIVO DELLA VISITA

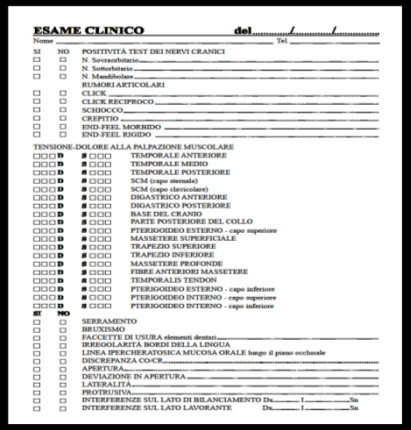

POSIZIONE DEI MOLARI RISPETTO ALLA LINEA MEDIA

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 ...../...../.....

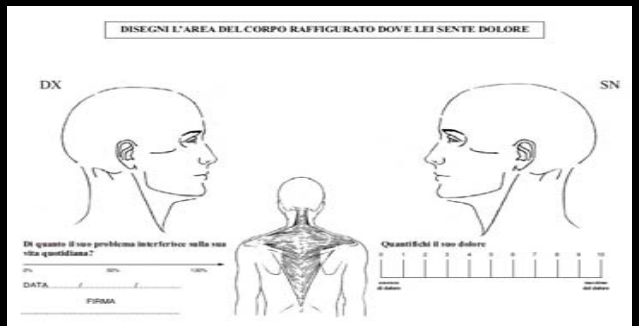
Nome ..... Tel .....

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 SPERICHERATOSICA MUCOSA ORALE lungo il piano occlusale
DISCREPANZA CO/CR
APERTURA
DEVIAZIONE IN APERTURA
LATERALITÀ
PROTRUSIVA
INTERFERENZE SUL LATO DI BILANCIAMENTO Dx ..... I ..... Sn
INTERFERENZE SUL LATO LAVORANTE Dx ..... I ..... Sn


DISEGNI L'AREA DEL CORPO RAFFIGURATO DOVE LEI SENTE DOLORE

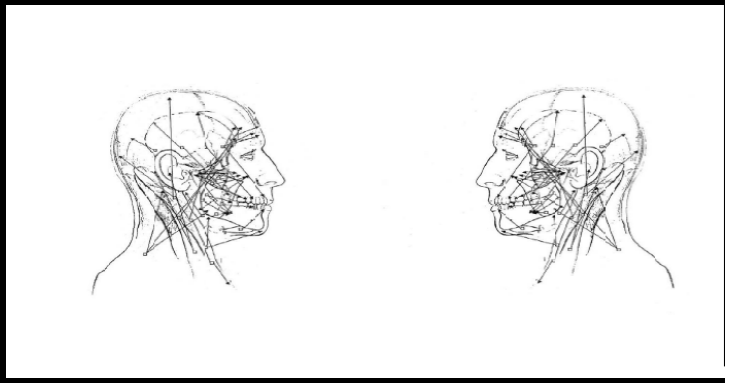
DX SN

Di quanto il suo problema interferisce sulla sua vita quotidiana?

Quantifichi il suo dolore

DATA

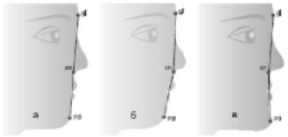
FIRMA



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 ☐ retsuso ☐ 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 ☐

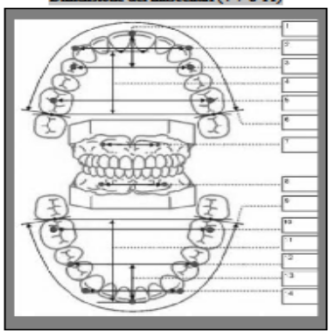
POSIZIONE DEI MOLARI RISPETTO ALLA LINEA MEDIANA

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

DISCREPANZA DELL'ARCATA INFERIORE

	3x3 Destra	3x3 Sinistra	7x7 Destra	7x7 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

.....

.....

DISEGNO DELLO STUDIO

RECLUTAMENTO SOGGETTI

- 3 SOGGETTI CON PATOLOGIA INTRA-ARTICOLARE
- 2 SOGGETTI CON PATOLOGIA EXTRA- ARTICOLARE

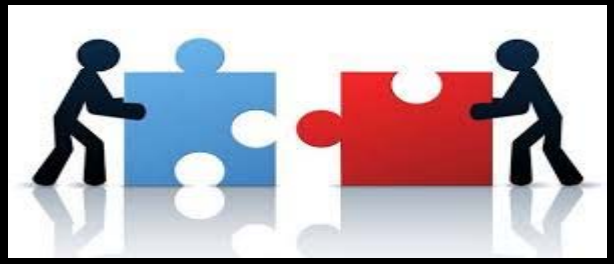
TRATTAMENTO

- TRATTAMENTO MEDIANTE SPLINT PASSIVI ED ESERCIZIO DI BIOFEEDBACK,SOLO AD UNO DEI DUE PAZIENTI CON PATOLOGIA EXTRA-ARTICOLARE NON VIENE ASSEGNATO L'ESERCIZIO
- CONTROLLI MENSILI

VALUTAZIONE DEI RISULTATI DELLA RISONANZA PRIMA E DOPO IL TRATTAMENTO

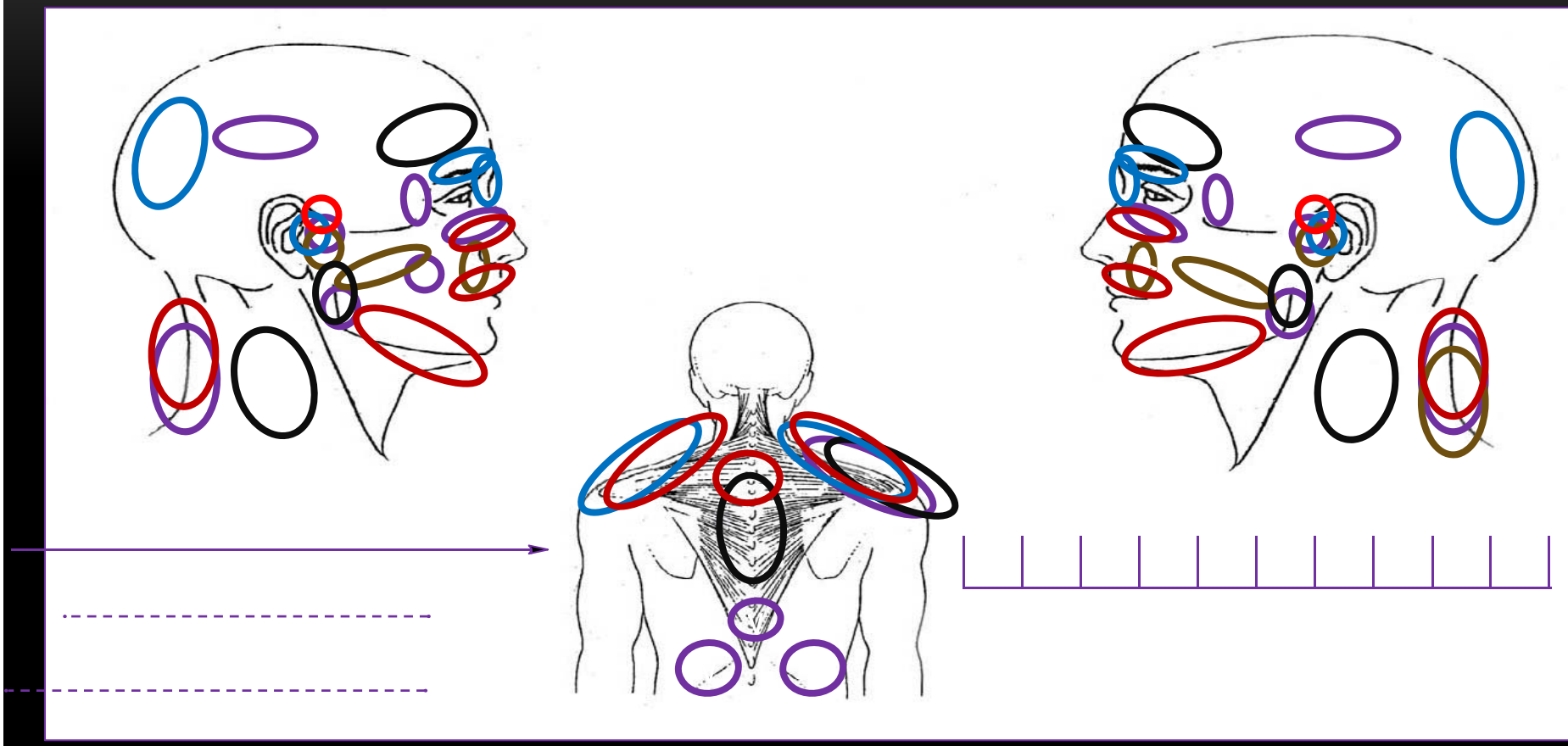
- RISONANZA MAGNETICA DELL'ATM PRIMA E DOPO IL TRATTAMENTO
- RISONANZA MAGNETICA FUNZIONALE DELL'ENCEFALO PRIMA E DOPO IL TRATTAMENTO

RISULTATI CLIUNICI

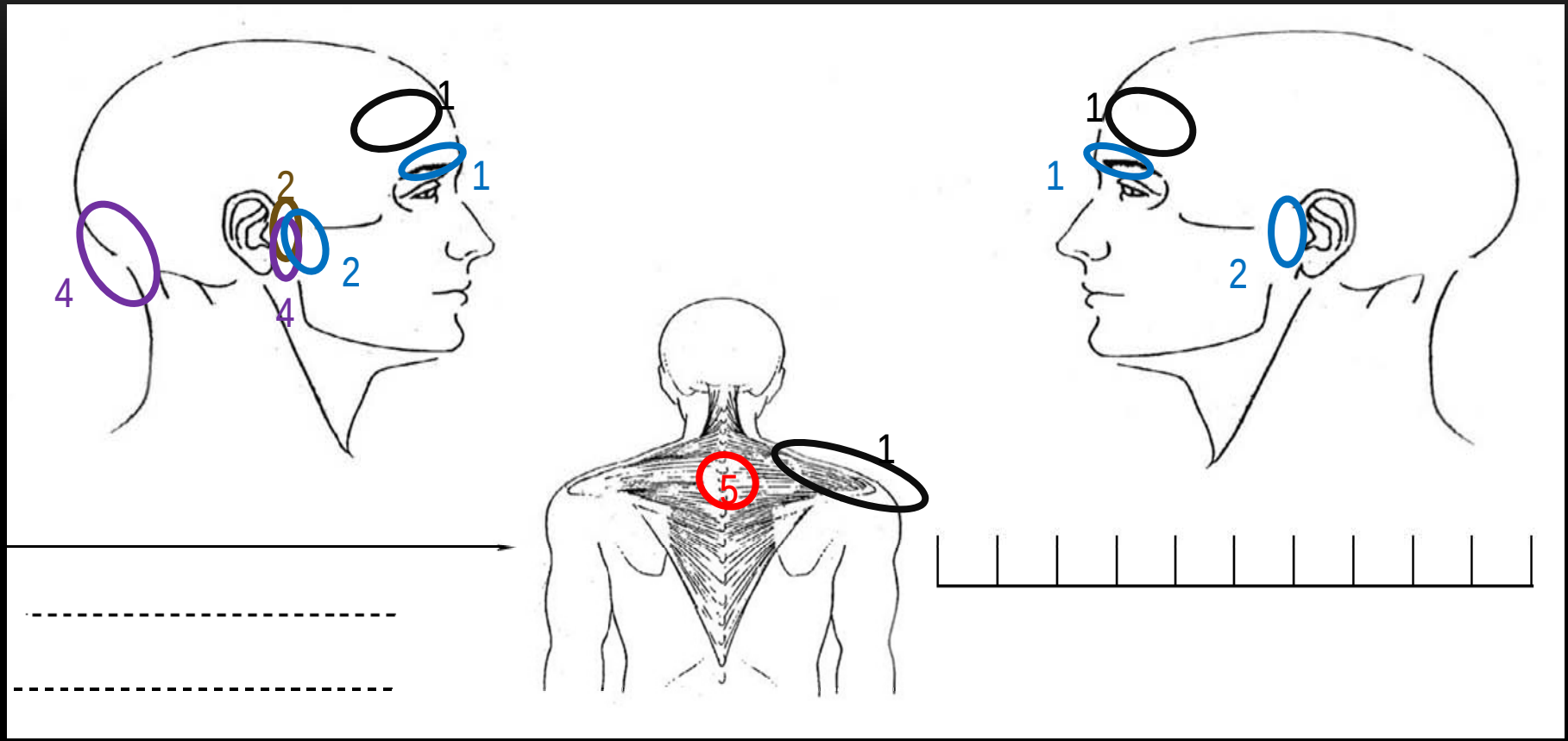


RISULTATI RADIOLOGICI

RISULTATI CLINICI



RISULTATI CLINICI



AREE ANALIZZATE NELLA RISONANZA MAGNETICA FUNZIONALE DELL'ENCEFALO

AREE DMN

- Lobo occipitale dx (DMN-RIGHT-OCC)
- Lobo occipitale sx (DMN-LEFT-OCC)
- Lobo temporale dx (DMN-RIGHT-TEMP)
- Lobo temporale sx (DMN-LEFT-TEMP)
- Corteccia cingolata posteriore (DMN-PCC)
- Precuneo (DMN-PRECUNEUS)
- Corteccia pre-frontale mediale (DMN-MPFC)

DEFAULT MODE NETWORK

MODULAZIONE DELLA PERCEZIONE DEL DOLORE .
PROCESSI DI TEORIA DELLA MENTE CHE NON SONO INDOTTI DA STIMOLI ESTERNI.

NETWORK CORTICALE DELLA FISIOLOGIA DEL DOLORE

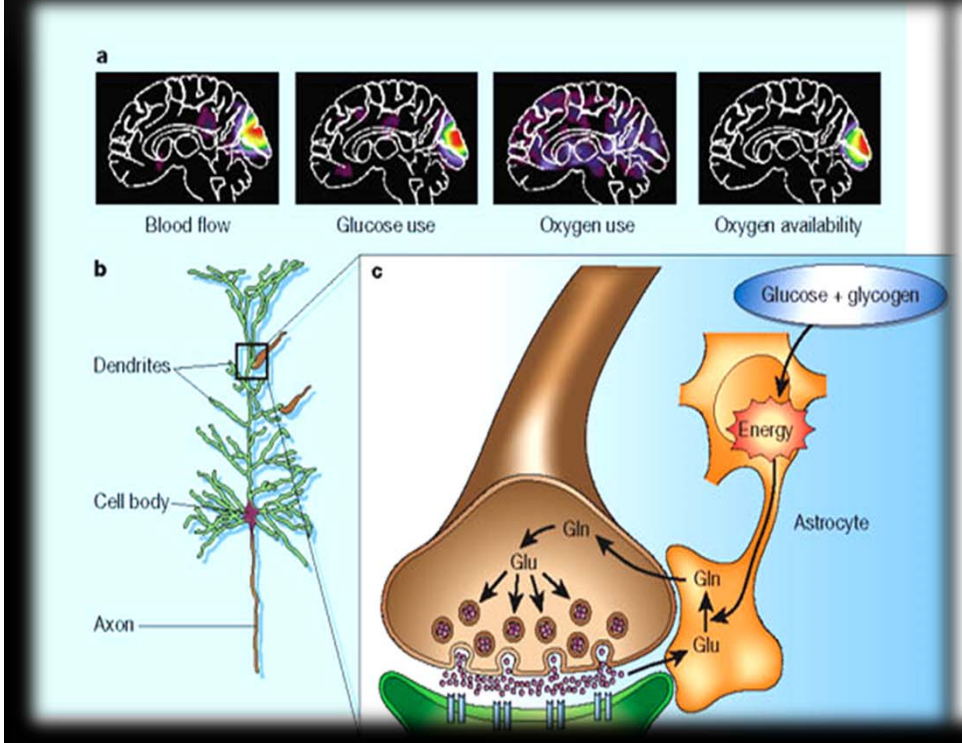
AREE PAIN

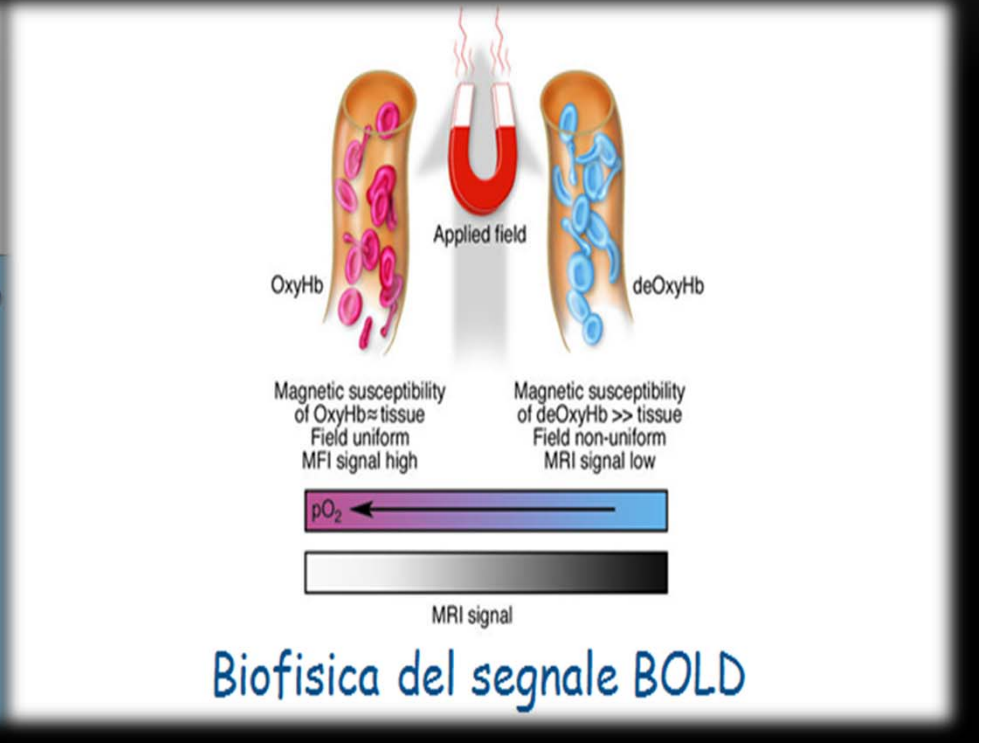
- Corteccia cingolata anteriore (PAIN-ACC)
- Insula destra (PAIN-RIGHT-INSULA)
- Insula sinistra (PAIN-LEFT-INSULA)
- Corteccia somatosensoriale 1 destra (PAIN-RIGHT-S1)
- Corteccia somatosensoriale 1 sinistra (PAIN-LEFT-S1)
- Corteccia somatosensoriale 2 destra (PAIN-RIGHT-S2)
- Corteccia somatosensoriale 2 sinistra (PAIN-LEFT-S2)

Nebel, M. B., Folger, S., Tommerdahl, M., Hollins, M., McGlone, F., & Essick, G. (2010). Temporomandibular disorder modifies cortical response to tactile stimulation. The Journal of Pain, 11(11), 1083-1094.

SEGNALE BOLD

Prendiamo info dal cervello, in funzione della sua attività





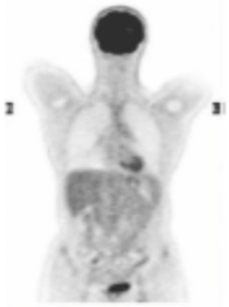
RISULTATI RADIOLOGICI

CONNETTIVITA' FUNZIONALE

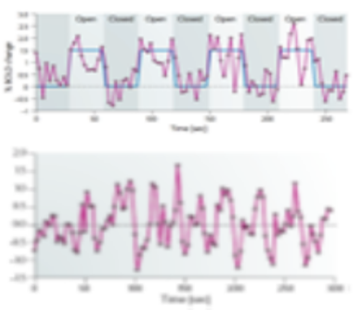
Correlazione temporale a riposo

Attività spontanea

Dell' energia consumata dal corpo
20% Cervello
(2% Peso Corporeo)



Dell' energia consumata dal cervello
Attività Evocata 5-10%



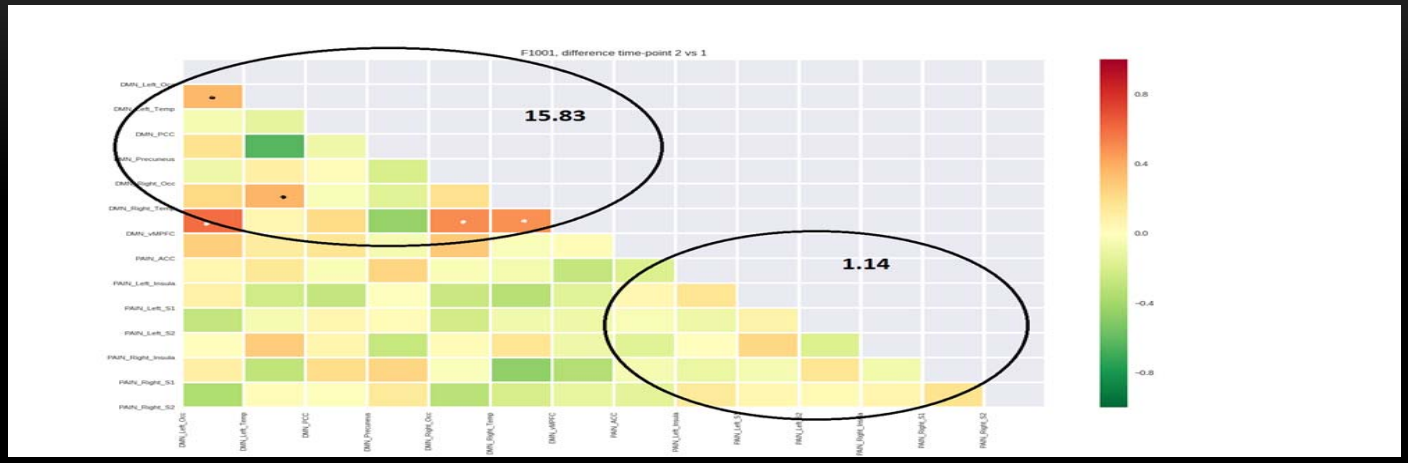
Attività Spontanea 70-80%

L' attività spontanea BOLD rappresenta la frazione maggiore dell' attività funzionale del cervello. Non è rumore casuale ma attività organizzata in maniera spazialmente specifica.

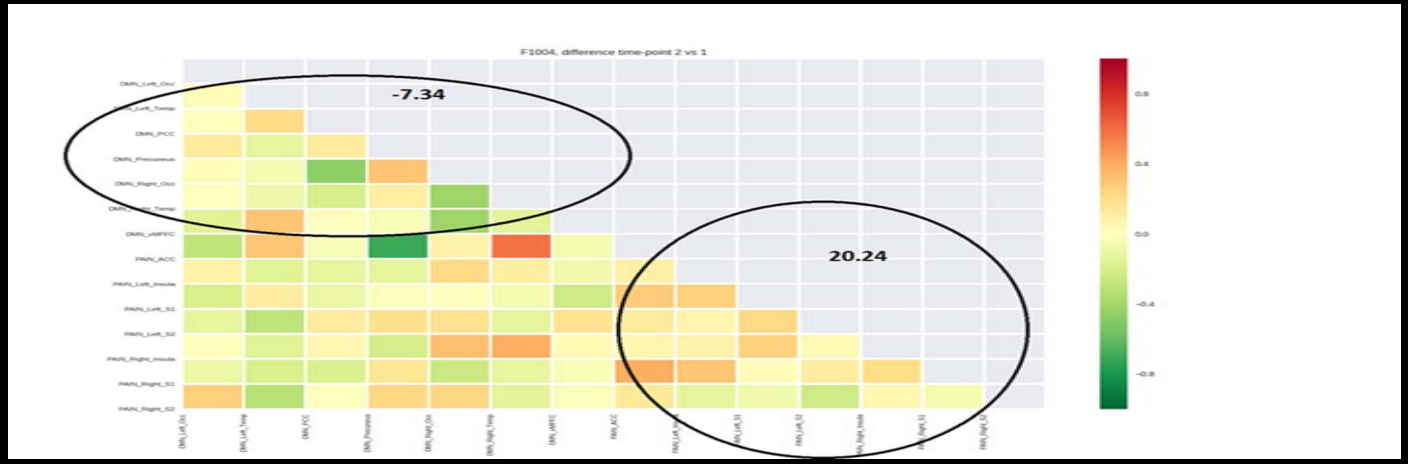
Raichle & Mintun 2006; Annu Rev Neurosci

DIFFERENZA T2-T1
CONNETTIVITA' FUNZIONALE MEDIA

PZ 1 (CS)

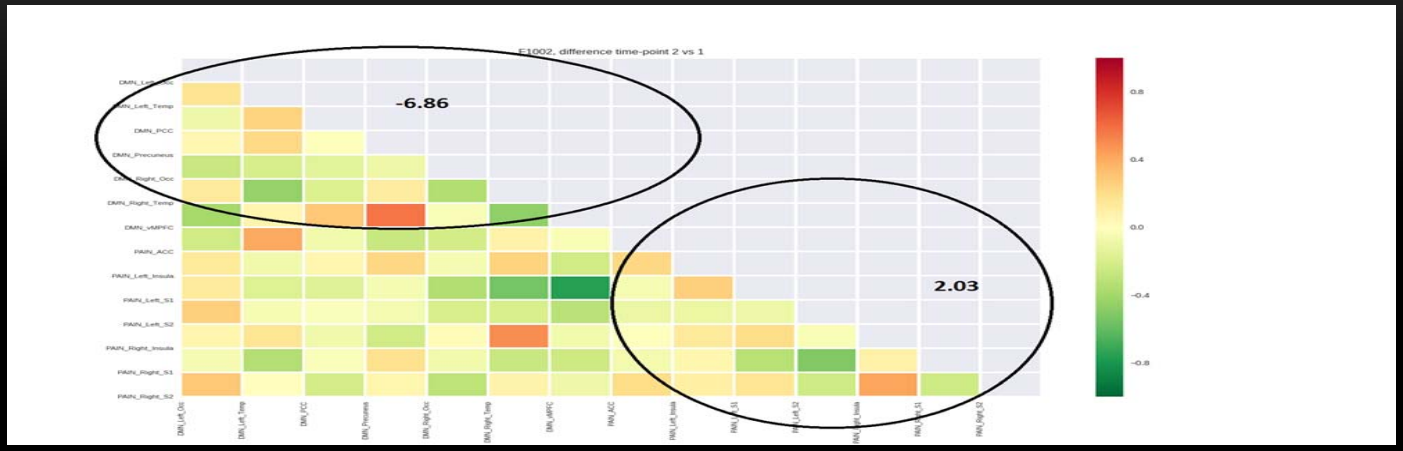


PZ 2 (SS)

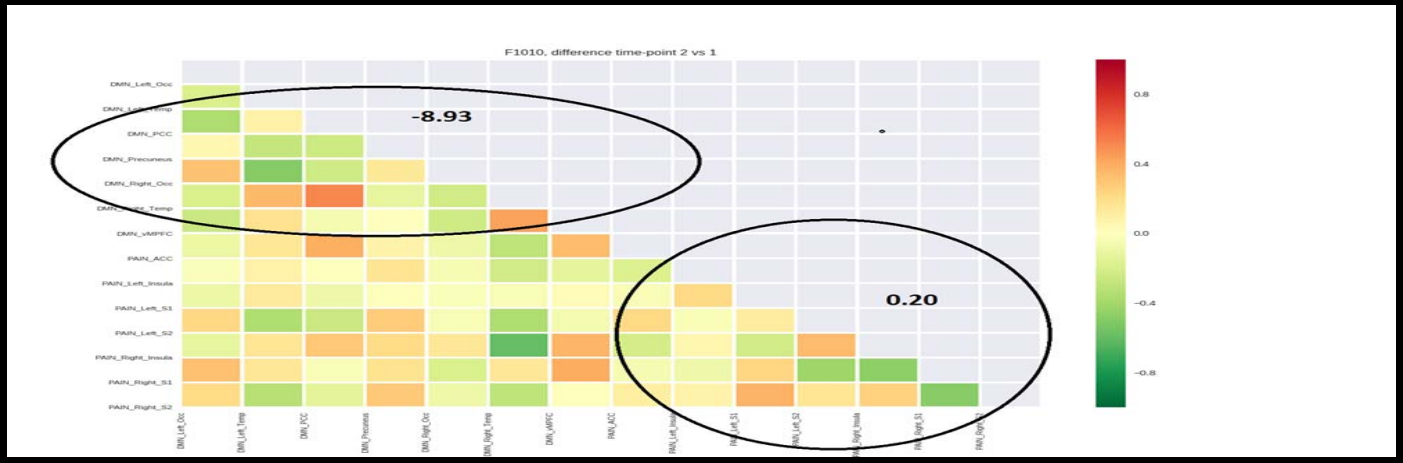


DIFFERENZA T2-T1
CONNETTIVITA' FUNZIONALE MEDIA

PZ 3 (RF)

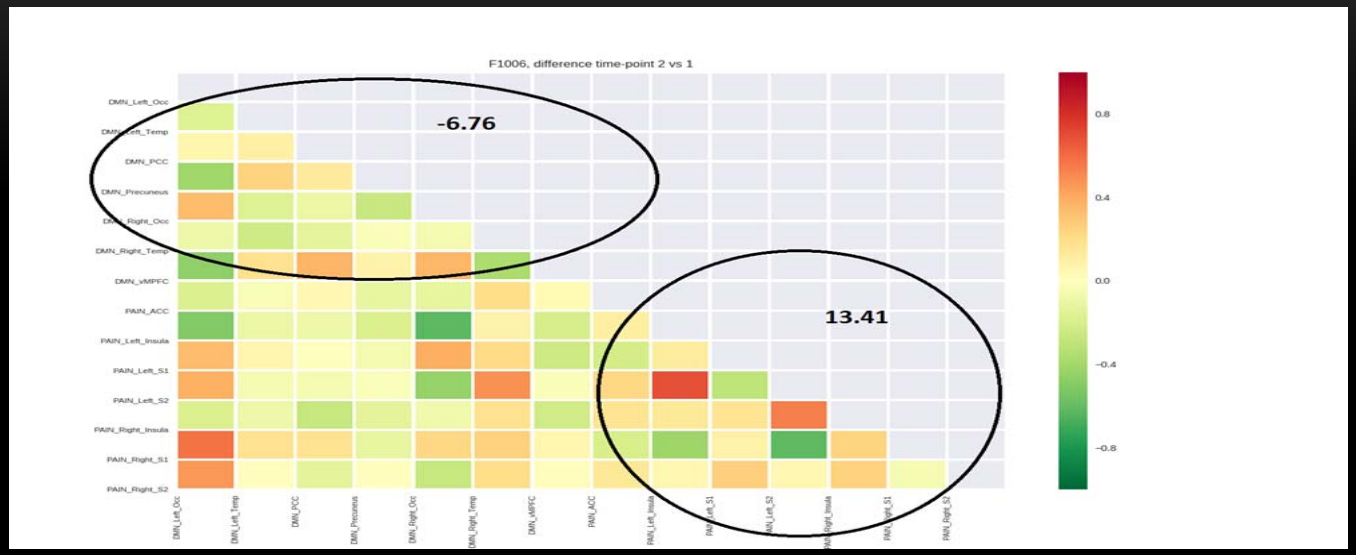


PZ 4 (AN)



DIFFERENZA T2-T1
CONNETTIVITA' FUNZIONALE MEDIA

PZ 5 (CT)

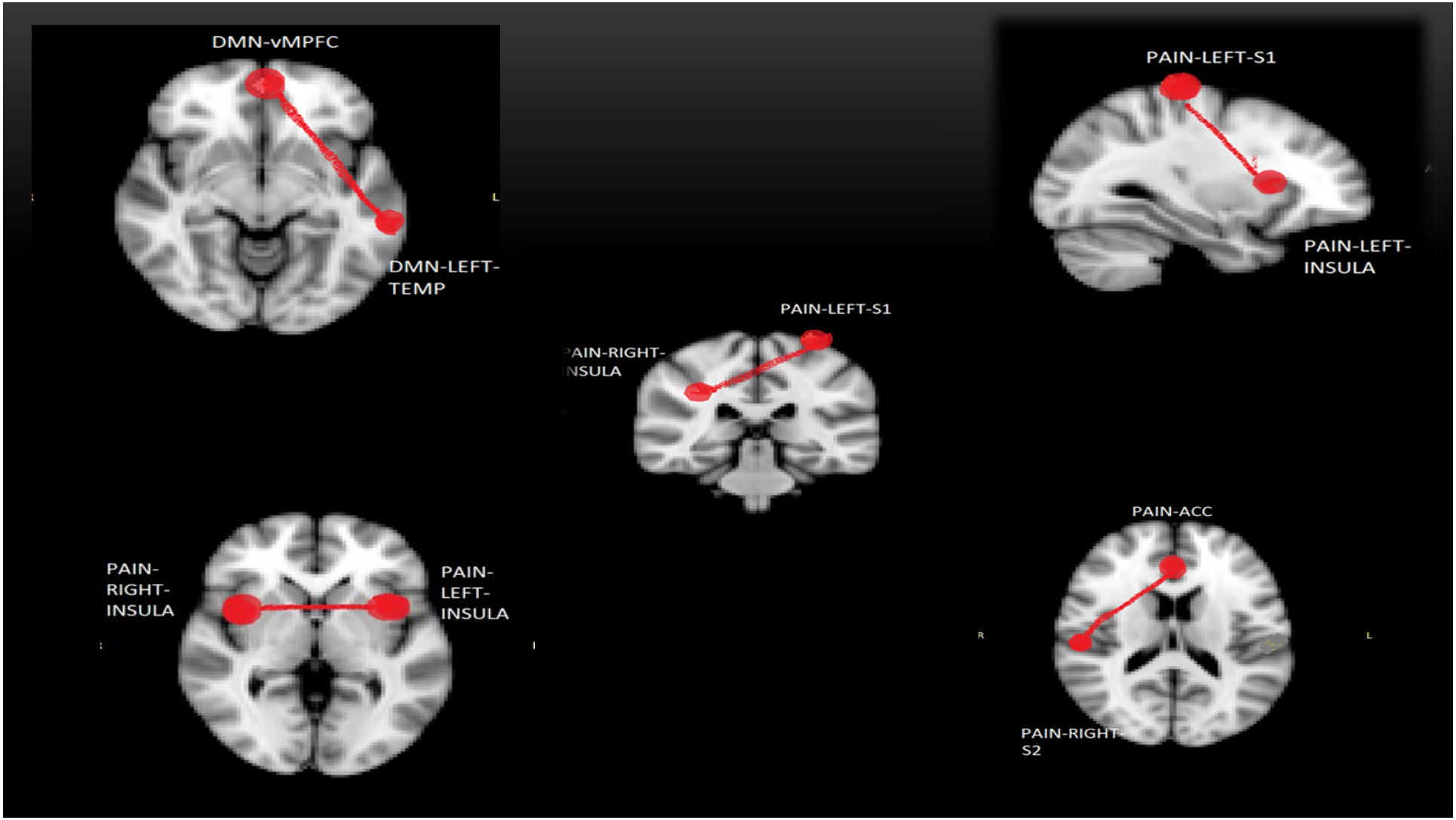


AREE CHE CORRELANO DIVERSAMENTE DOPO IL TRATTAMENTO, IN 4 PAZIENTI SU 5

1. Il lobo temporale sinistro (DMN-LEFT-TEMP) con la corteccia pre-frontale mediale (DMN-MPFC);

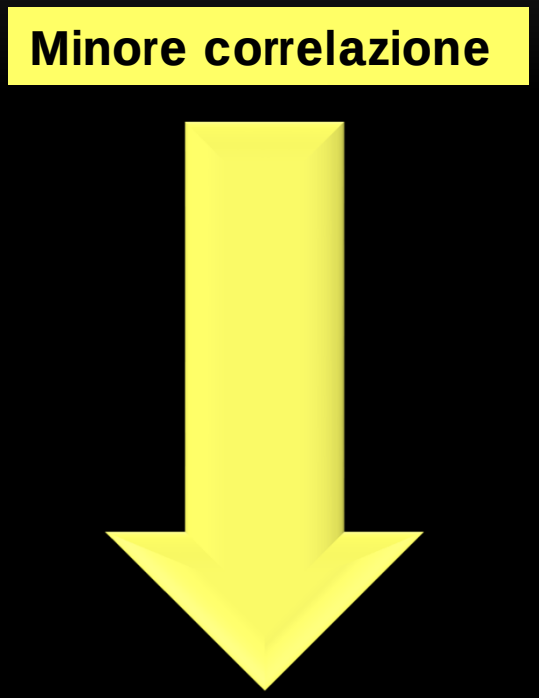
1) L'insula sinistra (PAIN-LEFT-INSULA) con la corteccia somatosensoriale primaria sinistra (PAIN-LEFT-S1);
2) L'insula destra (PAIN-LEFT-INSULA) con l'insula sinistra (PAIN-RIGHT-INSULA);
3) La corteccia somatosensoriale primaria sinistra (PAIN-LEFT-S1) con l'insula destra (PAIN-RIGHT-INSULA);
4) La corteccia cingolata anteriore (PAIN-ACC) con la corteccia somatosensoriale secondaria destra (PAIN-RIGHT-S2).

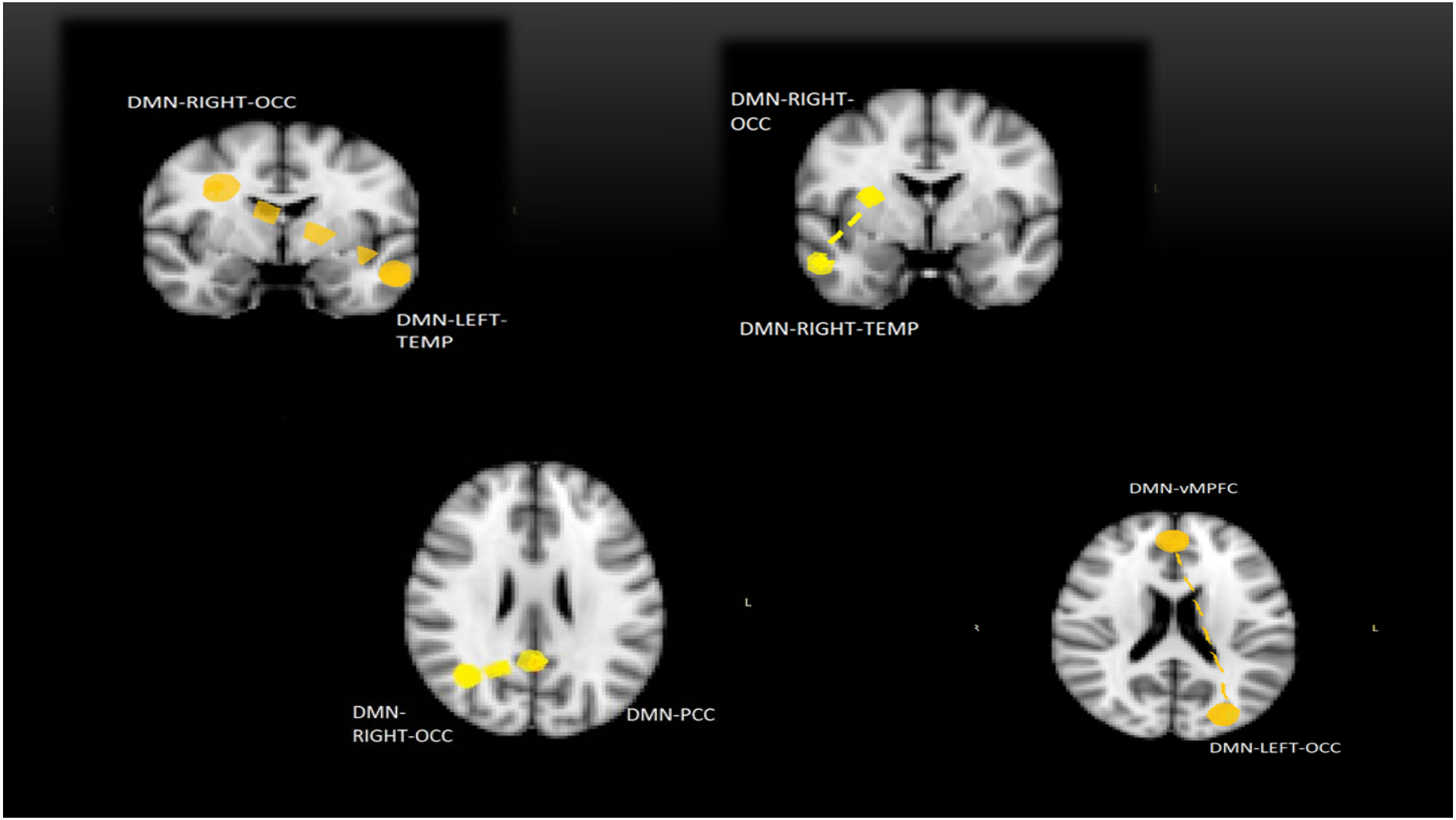
Maggiore correlazione


DMN-vMPFC
DMN-LEFT-TEMP
PAIN-LEFT-S1
PAIN-LEFT-INSULA
PAIN-LEFT-S1
AIN-RIGHT-NSULA
PAIN-RIGHT-INSULA
PAIN-LEFT-INSULA
PAIN-ACC
PAIN-RIGHT S2

AREE CHE CORRELANO DIVERSAMENTE DOPO IL TRATTAMENTO, IN 4 PAZIENTI SU 5

1. Il lobo temporale sinistro (DMN-LEFT-TEMP) con il lobo occipitale destro (DMN-RIGHT-OCC);
2. La corteccia cingolata posteriore (DMN-PCC) con il lobo occipitale destro (DMN-RIGHT-OCC);
3. Il lobo occipitale destro (DMN-RIGHT-OCC) con il lobo temporale destro (DMN-RIGHT-TEMP);
4. Il lobo occipitale sinistro (DMN-LEFT-OCC) con la corteccia pre frontale mediale (DMN-MPFC);




DMN-RIGHT-OCC
DMN-LEFT-TEMP
DMN-RIGHT-OCC
DMN-RIGHT-TEMP
DMN-RIGHT-OCC
DMN-PCC
DMN-vMPFC
DMN-LEFT-OCC

CONCLUSIONI

- I risultati clinici dimostrano l'efficacia in termini di riduzione della sintomatologia del protocollo oggetto di studio.

- Dai risultati radiologici emerge che 4 coppie di ROI del PAIN NETWORK correlano maggiormente in 4 pazienti su 5 dopo il trattamento, e 4 coppie di ROI del DMN correlano meno in 4 pazienti su 5 dopo il trattamento(risultato in linea con uno studio condotto dal prof Caulo, nel quale si nota che le aree della DMN e della matrice del dolore sono funzionalmente collegate ma mostrano una modulazione temporale inversa).

- In particolare, in tutti i pazienti è aumentata la connettività funzionale media del PAIN NETWORK dopo il trattamento, e in 4 pazienti su 5 è diminuita la connettività media del DEFAULT MODE NETWORK .

- Questo risultato è molto importante perché permette di associare un dato esterno e del tutto soggettivo, come il dolore da cefalea, ad una attività oggettivamente ripetibile a livello di precisi network cerebrali.

PRE-CONGRESS COURSES

Thursday, October 10, 2019

Transaction from 2D to 3D

Sponsored by Dolphin Imaging & Management

Italian Language Only

9.00-9.15	Welcome	
9.15-10.00	**Festa Felice**	The 3D clinical chart. CBCT low-dose
10.00-11.15	**Festa Felice**	Segmentation, head orientation in space and repeatability of 3D measurements (Part I Theory)
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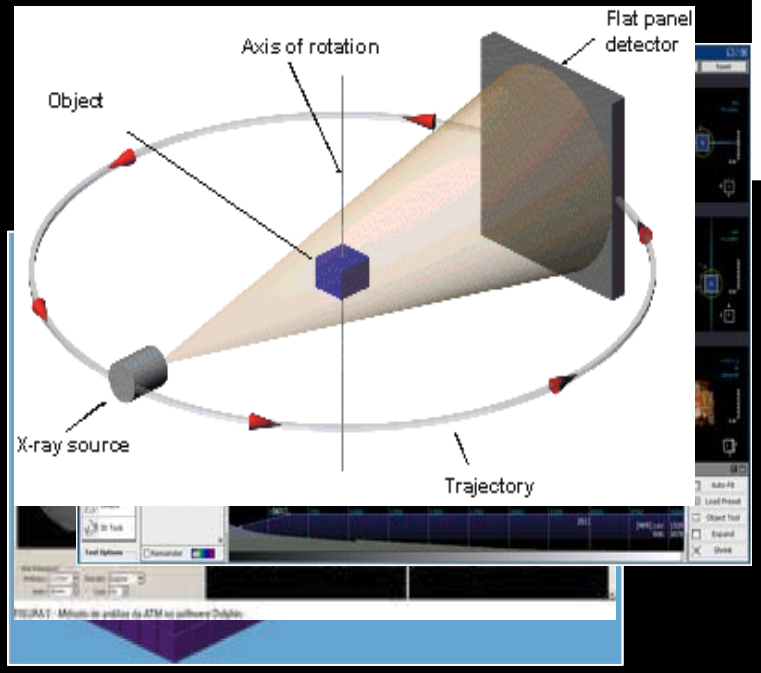
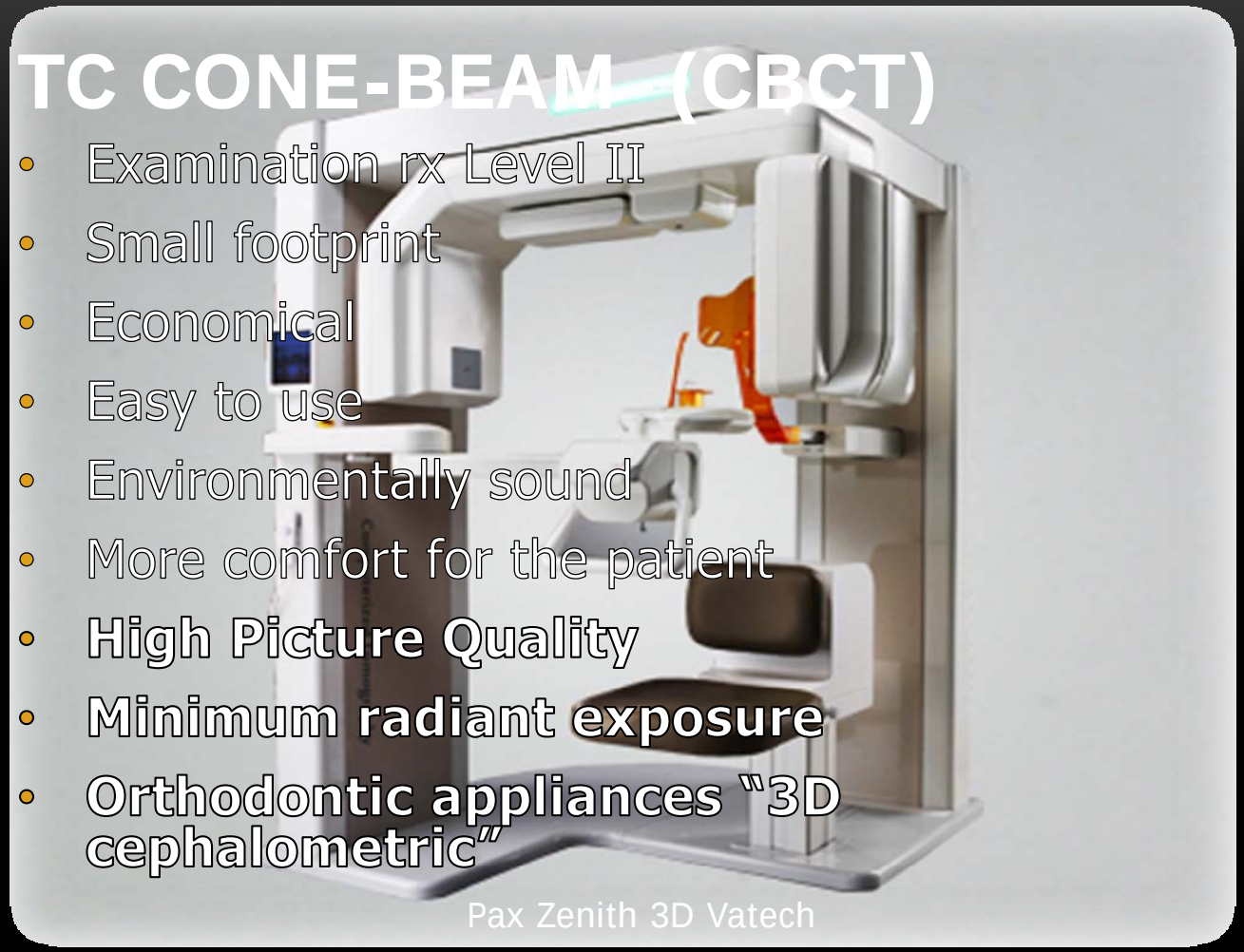
12.30-13.15	**Ventorre Dario**	Surgical planning with Dolphin 3D Surgery: from CBCT to SPLINT - Part II
13.15-14.00	**Conti Davide Sartori Orlando**	Completion of 3D Dolphin sofware insertion on participants' computers
14.00-15.00	**Lunch**	
15.00-15.45	**Festa Felice**	Segmentation, head orientation in space and repeatability of 3D measurements (Part II practice on participants' computers with tutor support)
15.45-16.30	**Festa Felice**	Projecting virtual X-rays: comparison and distortions Continuing Part II practice on computers
16.30-17.15	**Festa Felice**	Continuing Part II practice on computers Clinical cases and conclusions

All subjects were undergo to CBCT by Pax Zenith 3D Vatech



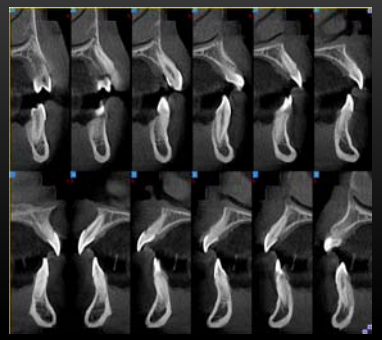
TC CONE-BEAM (CBCT)

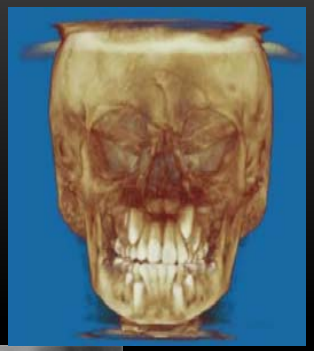
- Examination rx Level II
- Small footprint
- Economical
- Easy to use
- Environmentally sound
- More comfort for the patient
- **High Picture Quality**
- **Minimum radiant exposure**
- **Orthodontic appliances "3D cephalometric"**

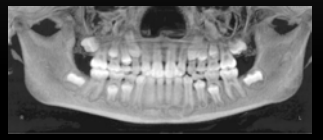


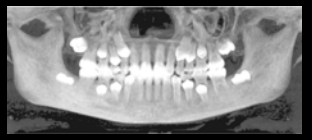
Pax Zenith 3D Vatech

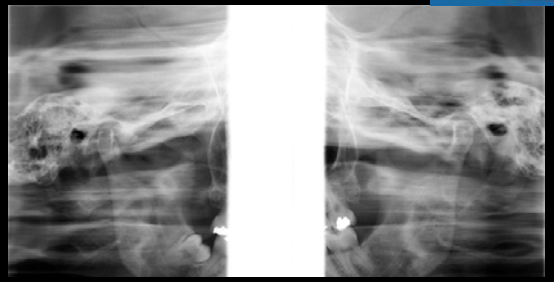
CBCT RECONSTRUCTIONS

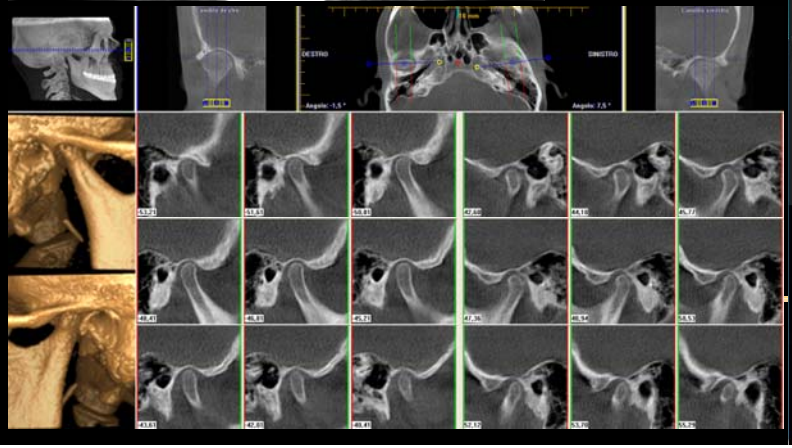




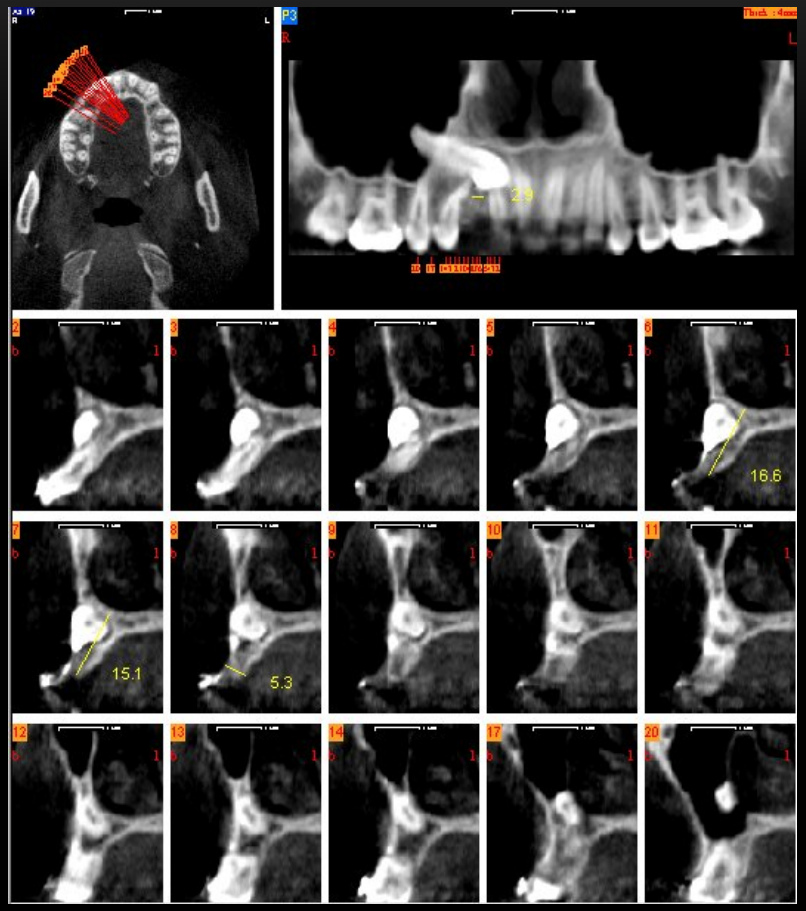




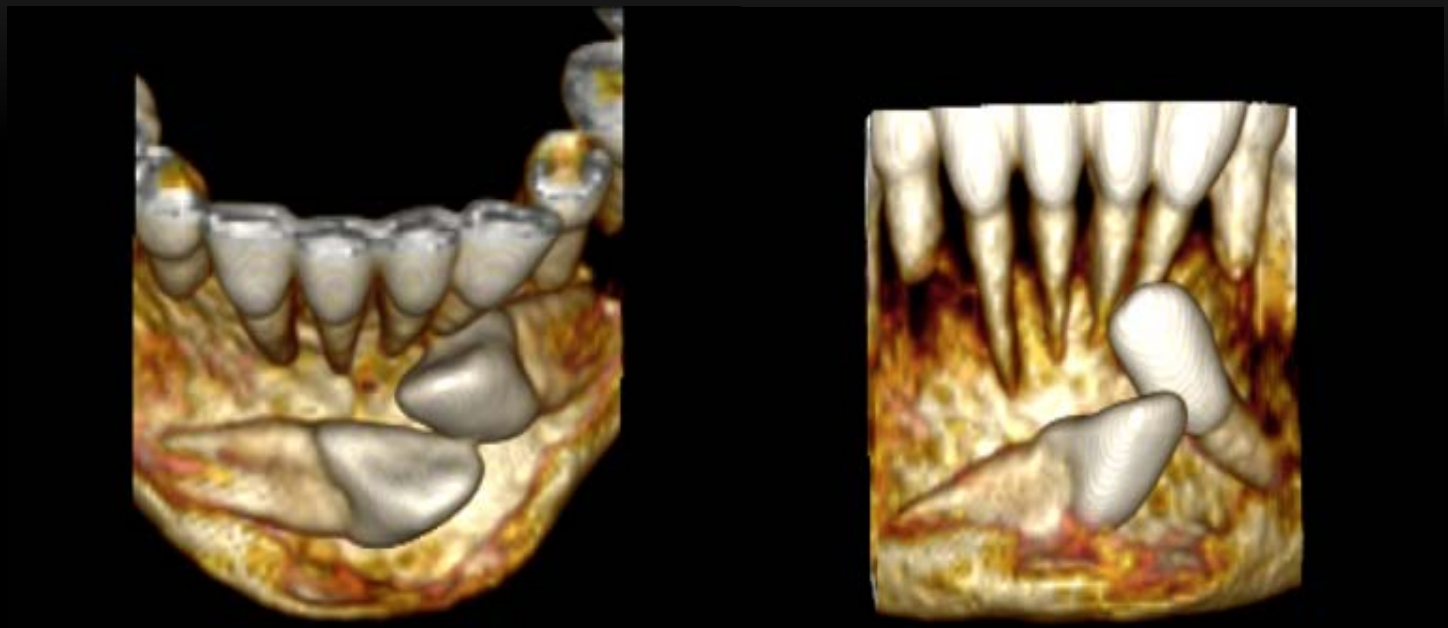




Impacted teeth



Impacted teeth



CBCT

Indications

- - evaluation of periodontal support in periodontology
- - verification of suspected lesions endodontics, apical and periapical
- - anomalies of number, shape, location, structure, size, time of eruption and degenerative abnormalities
- **A.L.A.R.A.** (as low as reasonably achievable)
- - presence of cysts or tumors of the jaws
- - fractures of the jaw
- - presurgical study of the elements included (position and shape of the roots, any disorders of the element)
- - study pre- and post-implant
- - orthodontic evaluation
- - incidental findings
- - study of ATM
- - analysis of face

PubMed Search term

↓ Full text

Cone beam computed tomography for dental and maxillofacial imaging: technique improvement and low-dose protocols.

Feragalli B, et al. Radiol Med. 2017.

Authors

Feragalli B[1], Rampado O[2], Abate C[3], Macrì M[1], Festa F[1], Stromei F[4], Caputi S[1], Guglielmi G[5,6].

Author information

1 Department of Medical, Oral and Biotechnological Sciences, University G. D'Annunzio, Via dei Vestini, 66100, Chieti, Italy.
2 Complex Structure Medical Physics, Scientific Institute Hospital "Città della Salute e della Scienza", C.so Bramante, 88, 10126, Turin, Italy.
3 Department of Radiology, University of Foggia,

approximately 40% (628 mGy cm2); this protocol resulted in a value of effective dose of 35 microSievert (μSv). Moreover, the effect of changing FOV has been evaluated, considering two scans with a reduced FOV (160 × 140 and 120 × 90 mm, respectively).

CONCLUSIONS: CBCT low-dose protocol with large FOV, normal resolution quality images, 80 kVp, 5 mA and acquisition time of 15 s resulted in a value of effective dose of 35 microSievert (μSv). This protocol allows the study of maxillofacial region with high quality of images and a very low radiation dose and, therefore, could be proposed in selected case where a complete assessment of dental and maxillofacial region is useful for treatment planning.

PMID: 28365888 [Indexed for MEDLINE]

CBCT

RADIATION DOSE

The aim of our study was to compare low-dose CBCT protocols with conventional panoramic and cephalometric imaging regarding images quality and radiation doses.

Traditional RX < CBCT << TAC DENTAL SCAN

The use of cone-beam computed tomography in dentistry: an advisory statement from the American Association Council on Scientific Affairs JADA 2012; 143(8):899-902

Guidelines for the use of radiographs in clinical orthodontics British Orthodontic Sciety 2008

Clinical recommendations regarding use of cone beam computed tomography in orthodontic treatment. Position statement by the America Academy of Oral and Maxillofacial Radiology Oral Surg Med Oral Pathol Oral radiol 2013 116(2):238-57

SEDENTEXCT project. Radiation protection: cone beam CT for dental and maxillofacial radiology. Evidence-based guidelines 2011

RADIATION DOSE ????

Methods: Dose measurements of different acquisition protocols were calculated for Pax Zenith 3D Cone Beam (Vatech, Korea) and for OPT Ortophos (Sirona Dental Systems, Bernsheim, Germany). The absorbed organ doses were measured by using an anthropomorphic phantom loaded with thermoluminescent dosimeters at 58 sites related to sensitive organs in order to have a good sampling for all the involved organs at risk (bone marrow, bone surface, brain, salivary glands, thyroid, oral mucosa, extrathoracic airway, esophagus and lymph nodes). Five different CBCT protocols were evaluated for image quality and radiation doses. Measurements were then carried out with orthopantomograph. Equivalent and effective doses were calculated. The calculation of the effective doses was based on the International Commission on Radiological Protection's 2005 recommendations.

Traditional RX < CBCT << TAC DENTAL SCAN

BIOLOGICAL IMPACT
SIEVERT

- The Sievert (Sv) is the unit of equivalent dose of radiation in the International System and it measures the effects and damage caused by the radiation of a body

- In addition to the Sievert are used submultiples

millisievert (mSv, 1 Sv = 1.000 mSv)
microsievert (µSv, 1 Sv=1.000.000 µSv)

CBCT

Were performed dose measurements in terms of dose area product (DAP) for the equipment CBCT Vatech Pax Zenith 3D e OPT Ortophos Siemens, for different protocols of acquisition. For the CBCT equipment also assessments have been made of effective dose and the organs at a relatively low dose protocol.

Compare the values of effective dose between traditional examinations and 3D

- Pax Zenith 3D Vatech
- OPT Ortophos Siemens

RESULTS

- The measures of DAP were performed by placing a transmission ionisation chamber in correspondence of the output window of the X-ray tube.

ID protocol	FOV size selection	Quality selection	kVp	mA	DAP (display) mGy·cm²	DAP (media misure) mGy·cm²	Diff %	Acquisition TIME (sec.)	NOTE
1	240x190	high resolution	95	5	1837	1556	18.1	24	(prot. riferimento)
1-bis	240x190	high resolution	80	5	1761	1013	73.8	24	
1-ter	240x190	normal resolution	80	5	1093	628	74.2	15	(prot. bassa dose)
2	160x140	high resolution	95	5	117.9	988	-88.1	24	
2-bis	120x90	high resolution	95	5	0 ?	1162	-	24	

The low-dose protocol :(Large FOV, normal resolution quality images, 80 kVp, 5 mA and acquisition time of 15 sec): decrease in the dose of approximately 40%, with a value of 628 mGy cm2, equal to 40% of the value obtained with the reference protocol

DAP value mGy·cm^2 OPT Ortophos Siemens

The measures of DAP were performed by placing a transmission ionisation chamber in correspondence of the output window of the X-ray tube.

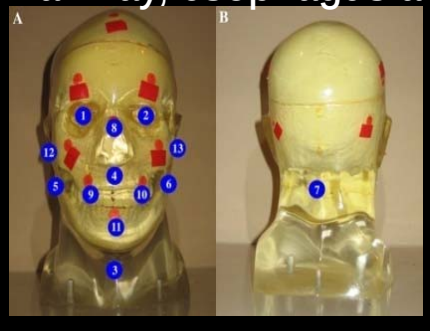
Acquisition	PROTOCOL	kVp	mA	Acquisition Time (s)	DAP (media measure) mGy·cm^2
Panoramic	Adult	71	8	13	36
	Pediatric	60	6	13	19
Lateral projections	Adult	84	13	16	47
	Pediatric	73	15	16	40
Antero-posterior projections	Adult	84	13	16	40
	Pediatric	73	15	16	35
TOTAL	Adult	84	13	16	123
	Pediatric	73	15	16	94

Value of the effective dose µSv CBCT

- protocol 1 – ter: chosen for orthodontic treatment planning was that with large FOV but low-dose
- assessments of effective dose and dose to organs have been carried out

Evaluations of effective dose were made with an Alderson Rando anthropomorphic dummy, by placing in the internal seats of measures radiochromic film strips measuring 4 mm x 25 mm.

58 locations have been used for the measurements, in order to have a good sampling for all the involved organs at risk (bone marrow, bone surface, brain, salivary glands, thyroid, oral mucosa, extrathoracic airway, esophagus and lymph nodes)



15 acquisitions repeated were made, so as to obtain values of absorbed dose compatible with the sensitivity of radiochromich film, even for peripheral sites affected by scattered radiation

Value of the effective dose μSv CBCT

Organ	Dose equivalent (μSv)
Marrow	*44*
Bone	*205*
Brain	*231*
Salivary Glands	*467*
Thyroid	*327*
Esophagus	*42*
Respiratory	*195*
Limph nodes	*57*
Oral Mucosa	*448*

Applying the weight coefficients defined in the ICRP 103 [1] a value of the effective dose of 35. 4 mSv has been obtained.

The cumulative effective dose of conventional digital panoramic and cephalometric images resulted in a value of the effective dose ranging from 8 to more than 26 μSv.

1. ICRP Publication 103 'The 2007 Recommendations of the International Commission on Radiological Protection' Annals of the ICRP Volume 37/2-4, 2008

CBCT

Conclusion

CBCT offers significant advantages in the evaluation of the patient undergoing orthodontic treatment

CBCT is ALWAYS preferable to CT fan beam especially for the significant reduction of radiation dose

CBCT should be done using the protocol for obtaining diagnostic images with the lowest radiation dose to the patient

CBCT performed with low-dose protocol has a very low radiation exposure and, therefore, could be proposed as the primary method in orthodontic treatment planning resembling Conventional Imaging.

References

Feragalli, B., Rampado, O., Abate, C., Macrì, M., Festa, F., Stromei, F., ... & Guglielmi, G. (2017). Cone beam computed tomography for dental and maxillofacial imaging: technique improvement and low-dose protocols. *La radiologia medica*, *122*(8), 581-588.

White SC. Cone-beam imaging in dentistry. Health Phys. 2008;95:628-37.

[2] Fu KY, Zhang WL, Liu DG, Chen HM, Ma XC. Cone beam computed tomography in the diagnosis of temporomandibular joint Osteoarthrosis. Zhonghua Kou Qiang Yi Xue Za Zhi. 2007;42:417-420.

[3] Alexiou K, Stamatakis H, Tsiklakis K. Evaluation of the severity of temporomandibular joint osteoarthritic changes related to age using cone beam computed tomography. Dentomaxillofac Radiol. 2009;38:141-147.

[4] Meng JH, Zhang WL, Liu DG, Zhao YP, Ma XC. Diagnostic evaluation of the temporomandibular joint osteoarthritis using cone beam computed tomography compared with conventional radiographic technology. Beijing Da Xue Xue Bao. 200739:26-29.

[5] Cevidanes LHS,Bailey LTJ,Tucker SF,Styner MA,Mol A,Phillips CL, Proffit WR, Turveyh T. Three-dimensional cone-beam computed tomography for assessment of mandibular changes after orthognathic surgery. Am J Orthod Dentofac Orthop 2007;131:44-50.

[6] Berna L, and Kansu O. Trifid mandibular condyle: A case report. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2003;95:251-254.

[7] Hussain AM, Packota G, Major PW, Flores-Mir C. Role of different imaging modalities in assessment of temporomandibular joint erosions and osteophytes: a systematic review. Dentomaxillofac Radiol. 2008;37:63-71. [8] Chirani RA, Jacq J-J, Meriot P, Roux C. Temporomandibular joint: A methodology of magnetic resonance imaging 3-D reconstruction. Oral and Maxillofacial Radiology. 2004;97:756-761.

[9] Honey OB, Scarfe WC, Hilgers MJ, Klueber K, Silveira AM, Haskell BS, Farman AG. Accuracy of cone-beam computed tomography imaging of the temporomandibular joint: comparisons with panoramic radiology and linear tomography. Am J Orthod Dentofacial Orthop. 2007;132:429-438. [10] Brian Schluetera; Ki Beom Kimb; Donald Oliverc; Gus Sortiropoulosd. Cone Beam Computed Tomography 3D Reconstruction of the Mandibular Condyle

Angle Orthod. 2008;78:880-888.

[11] Hilgers ML, Scarfe WC, Scheetz JP, Farman AG. Accuracy of linear TMJ measurements with cone beam computed tomography and digital cephalometric radiography. Am J Orthod Dentofacial Orthop. 2005;127:803–811.

[12] Periago DR, Scarfeb WC, Moshiric M, Scheetzd JP,Silveira AM,Farman AG. Linear Accuracy and Reliability of Cone Beam CT Derived 3-Dimensional Images Constructed Using an Orthodontic Volumetric Rendering Program. Angle Orthod. 2008;78:387-395.

[13] Arnett GW, Jelic JS, Kim J, Cummings DR, Beress A,Worley CM Jr, Chung B, Bergman R. Soft tissue cephalometric analysis: diagnosis and treatment planning of dentofacial deformity. Am J Orthod Dentofacial Orthop. 1999;116:239–253.

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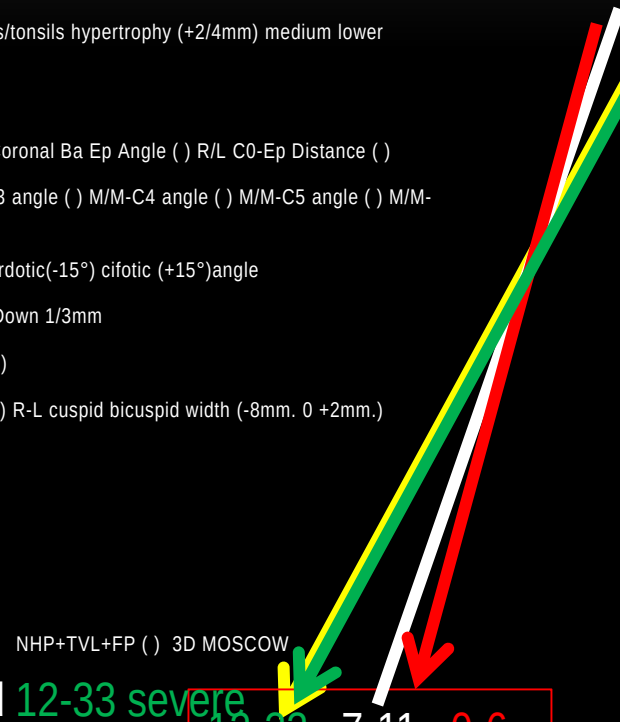
FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

- CLINICAL CHART ORTHODONTICS ( ) TMJ ( ) ORT.+TMJ ( )
- LATERAL/FRONTAL TELERADIOGRAPHY ( ) ORTO ( ) LOWDOSE CONEBEAM ( ) SEGMENTATION ALFA ( ) BETA ( ) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
- LATERAL/FRONTAL SLICE TELERADIOGRAPHY Ba-A ( ) Ba-B ( ) R/L condyle head-Gonion distance (+/-15 mm) occlusal plane asimmetry (+/-10mm.) palatal suture Menton asimmetry (+/- 15mm.)
- LATERAL/FRONTAL SLICE TELERADIOGRAPHY UPPER/MEDIUM/LOWER AIRWAYS turbinate hypertrophy (+1/4mm.) adenoids/tonsils hypertrophy (+2/4mm) medium lower airways reduction (-10/20mm) sleep apnea (+/-)
- R/IL PONTICULUS POSTICUS ( )
- LATERAL/CORONAL SLICE CERVICAL SPINE RELATIONSHIP C0 ( ) C1 ( ) C2 ( ) C3 ( ) C4( ) C5 ( ) C6 ( ) Cervical Angle ( ) Coronal Ba Ep Angle ( ) R/L C0-Ep Distance ( )
- SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )
- R/L GONION-CERVICAL SPINE RELASHIONSHIP third cervical vertebra distance (+/-10mm.) first/fifth cervical vertebra angle lordotic(-15°) cifotic (+15°)angle
- CORONAL/LATERAL SLICE CONDYLE FOSSA RELATIONSHIP (2mm. Back 0mm. Centered 2mm. Forward 1/3mm. Up 1/3mm. Down 1/3mm
- CORONAL/LATERAL SLICE CONDYLE SHAPE/ANATOMY curvature(5°-45°) flattening(1-3) cortical collapse(1-3) osteofitosis (1-4)
- CORONAL /SLICE MAXILLARY/MANDIBULAR CROSS-SECTIONS BONE REDUCTION/INCREASE cortical plate width (+/-1 mm.) R-L cuspid bicuspid width (-8mm. 0 +2mm.)
- MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE (+/-10 mm)
- SMV SLICE MAXILLO/MANDIBULAR contraction (+/- 7 mm.) expansion (+/- 7 mm.)
- CORTICAL/SUBCORTICAL fMRI PAIN NETWORKS (+5 increase -4 decrease)
- R/L CORONAL/LATERAL MASSETER/STERNOCLEIDOMASTOIDEUS STERNAL INSERTION width/lenght (+/-10mm.)
- McLAUGHLIN CEPHALOMETRICS ( ) FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT McLAUGHLIN CEPHALOMETRICS NHP+TVL+FP ( ) 3D MOSCOW CEPHALOMETRICS ( )



OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

R/L GONION-CERVICAL SPINE RELASHIONSHIP third cervical vertebra distance (+/-10mm.) first/fifth cervical vertebra angle lordotic(-15°) cifotic (+15°)angle

Case 41 TMJ Extrarticular: Mild Class III, Deep Bite, Pass. Aligners Vivera + Active Aligners Invisalign

TMJ: Severe Myofascial Pain Syndrome , mild soreness
External Pterigoideus RL, Upper Tapezius RL

Age:47 years

2 months Passive Aligners Vivera + Invisalign 16 Months

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- CORONAL /SLICE MAXILLARY/MANDIBULAR CROSS-SECTIONS BONE REDUCTION/INCREASE cortical plate width (+/-1 mm.) R-L cuspid bicuspid width (-8mm. 0 +2mm.)
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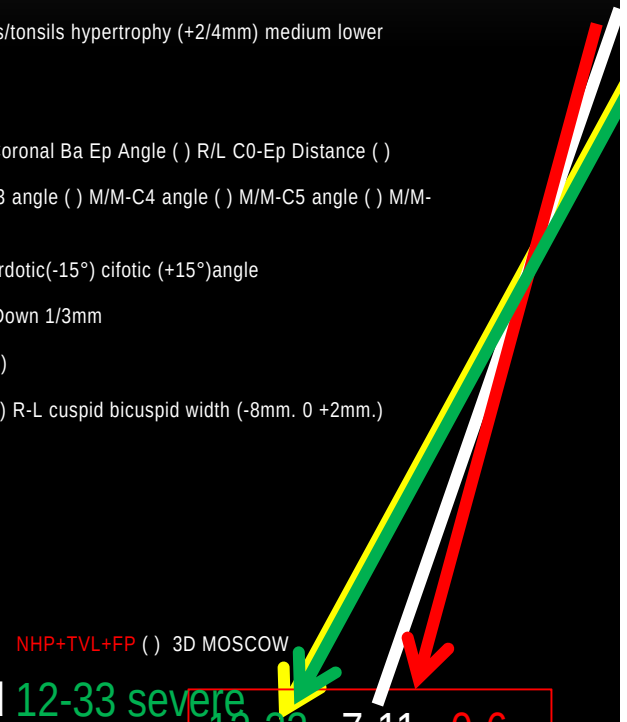
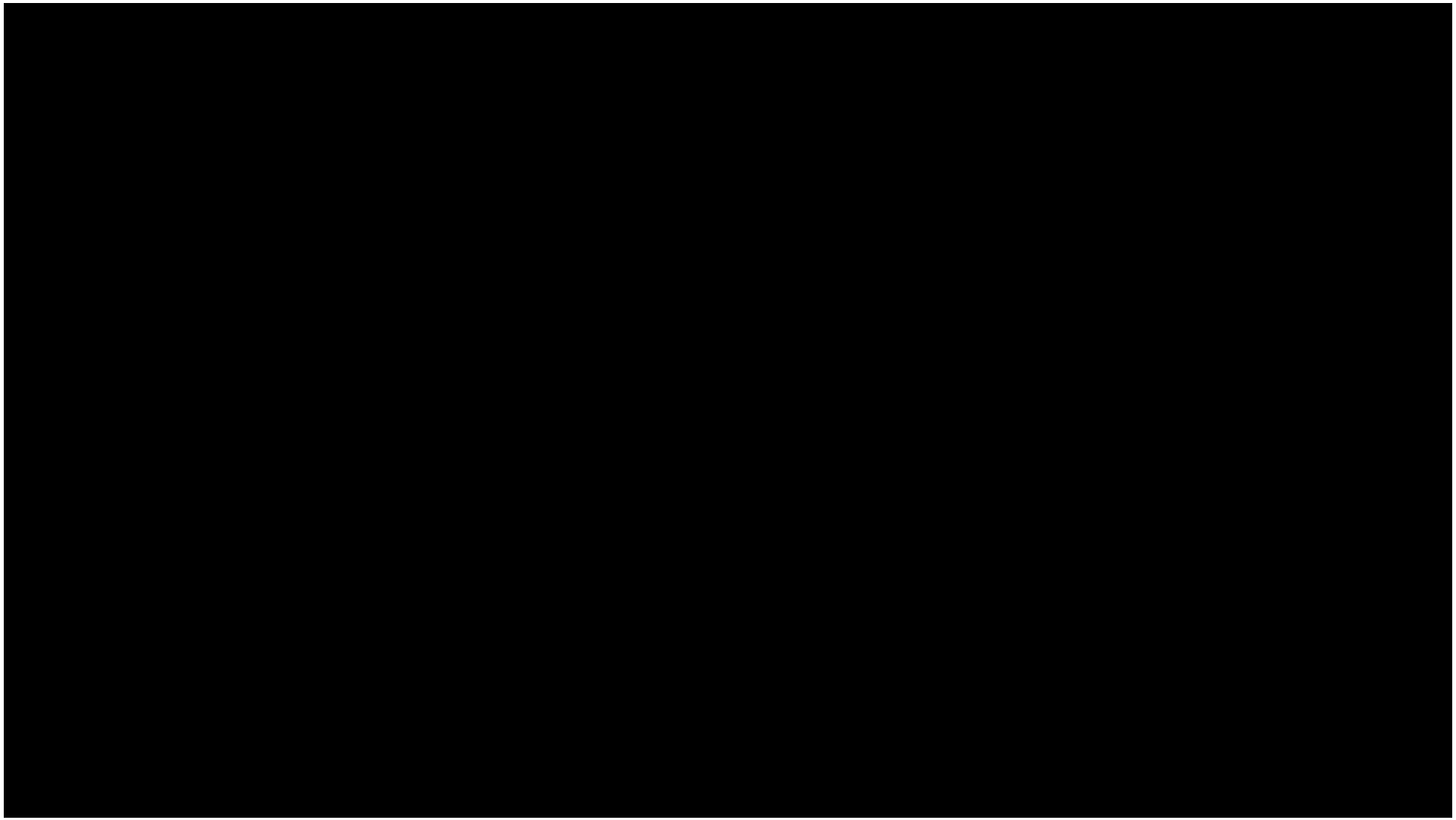
- SMV SLICE MAXILLO/MANDIBULAR contraction (+/- 7 mm.) expansion (+/- 7 mm.)
- CORTICAL/SUBCORTICAL fMRI PAIN NETWORKS (+5 increase -4 decrease)
- R/L CORONAL/LATERAL MASSETER/STERNOCLEIDOMASTOIDEUS STERNAL INSERTION width/lenght (+/-10mm.)
- McLAUGHLIN CEPHALOMETRICS ( ) FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT McLAUGHLIN CEPHALOMETRICS NHP+TVL+FP ( ) 3D MOSCOW CEPHALOMETRICS ( )

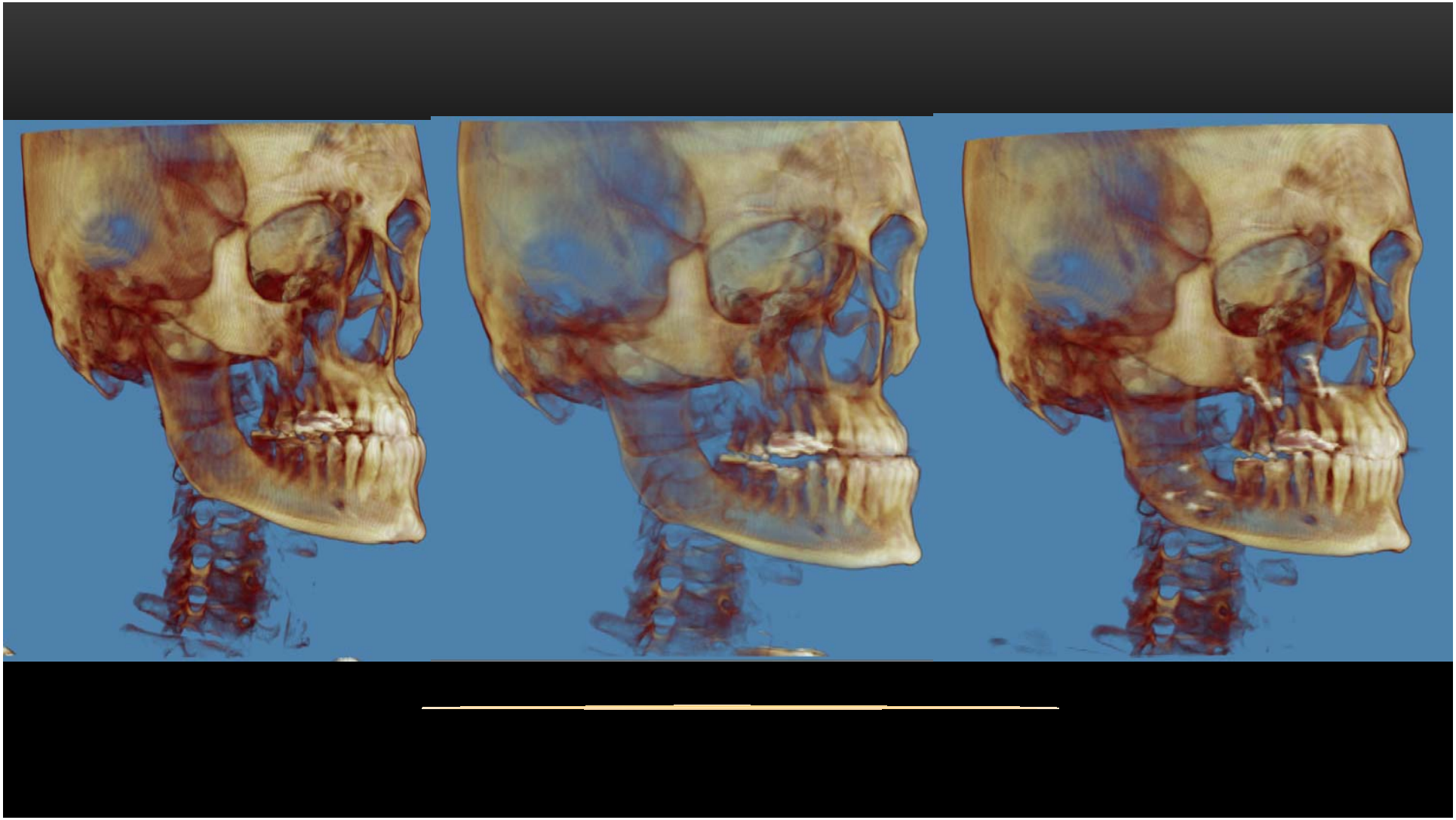


OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

R/L GONION-CERVICAL SPINE RELASHIONSHIP third cervical vertebra distance (+/-10mm.) first/fifth cervical vertebra angle lordotic(-15°) cifotic (+15°)angle





FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

- CLINICAL CHART ORTHODONTICS ( ) TMJ ( ) ORT.+TMJ ( )
- LATERAL/FRONTAL TELERADIOGRAPHY ( ) ORTO ( ) LOWDOSE CONEBEAM (X) SEGMENTATION ALFA ( ) BETA (X) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
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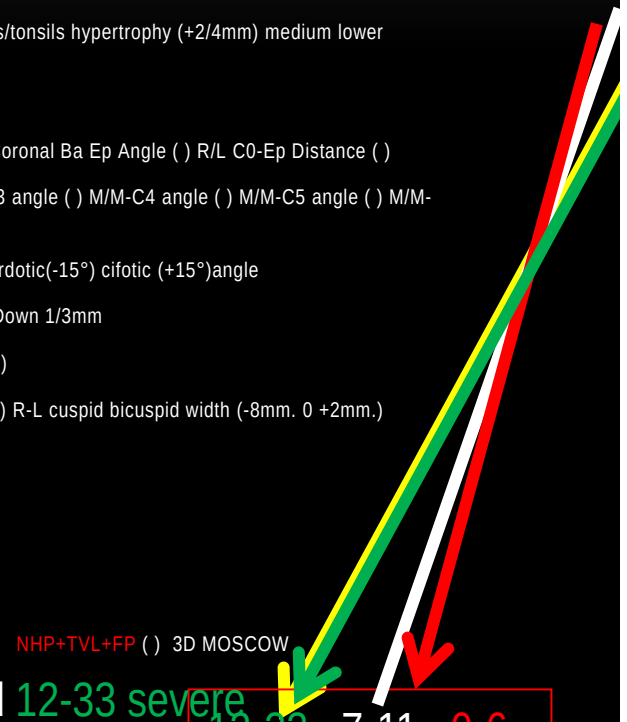
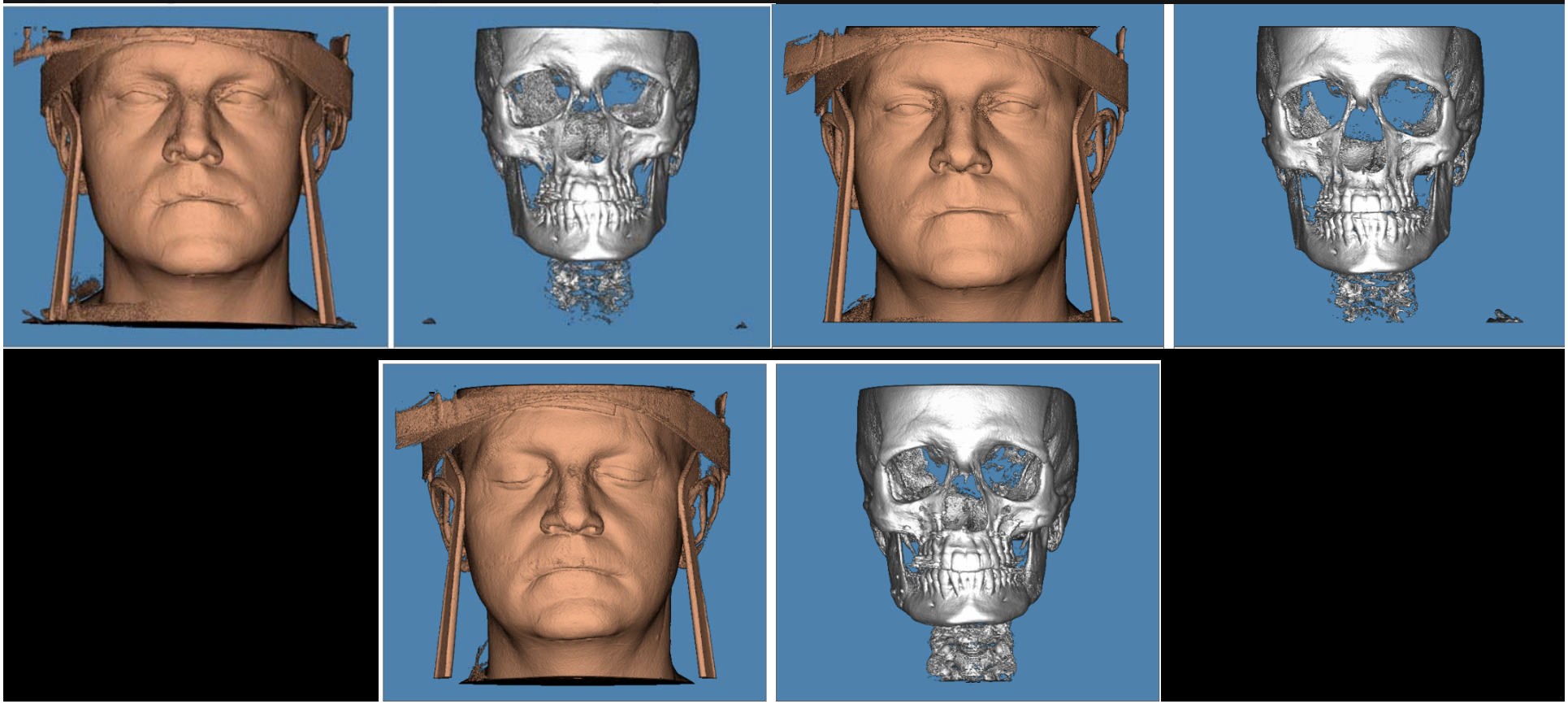


OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

R/L GONION-CERVICAL SPINE RELASHIONSHIP third cervical vertebra distance (+/-10mm.) first/fifth cervical vertebra angle lordotic(-15°) cifotic (+15°)angle

BETA SEGMENTATION



PRE-CONGRESS COURSES

Thursday, October 10, 2019

Transaction from 2D to 3D

Sponsored by Dolphin Imaging & Management

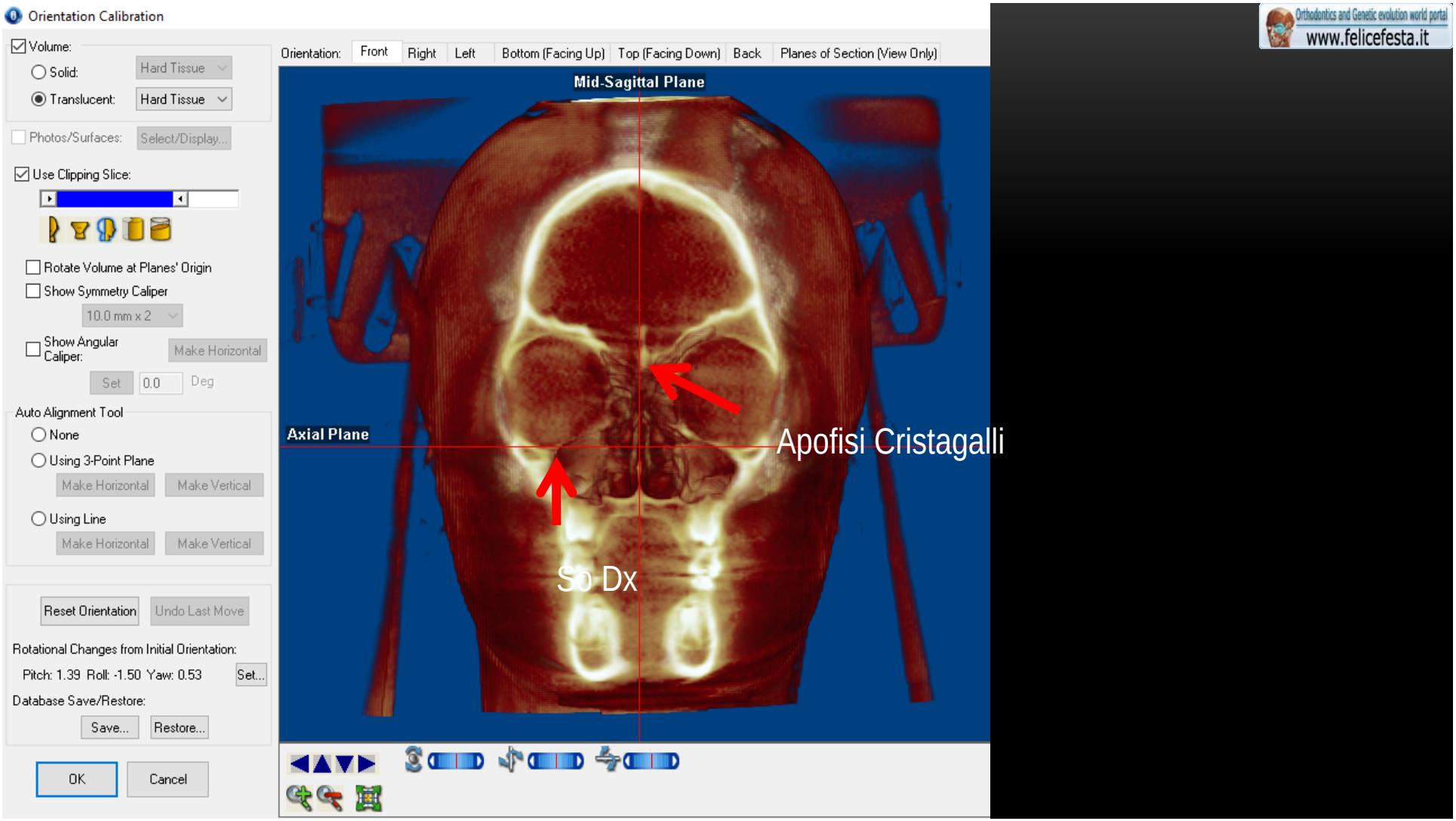
Italian Language Only

9.00-9.15	Welcome	
9.15-10.00	**Festa Felice**	The 3D clinical chart. CBCT low-dose
10.00-11.15	**Festa Felice**	Segmentation, head orientation in space and repeatability of 3D measurements (Part I Theory)
11.15-11.45	**Coffee break**	
11.45-12.30	**Ventorre Dario**	Surgical planning with Dolphin 3D Surgery: from CBCT to SPLINT - Part I
12.30-13.15	**Ventorre Dario**	Surgical planning with Dolphin 3D Surgery: from CBCT to SPLINT - Part II
13.15-14.00	**Conti Davide Sartori Orlando**	Completion of 3D Dolphin sofware insertion on participants' computers
14.00-15.00	**Lunch**	
15.00-15.45	**Festa Felice**	Segmentation, head orientation in space and repeatability of 3D measurements (Part II practice on participants' computers with tutor support)
15.45-16.30	**Festa Felice**	Projecting virtual X-rays: comparison and distortions Continuing Part II practice on computers
16.30-17.15	**Festa Felice**	Continuing Part II practice on computers Clinical cases and conclusions

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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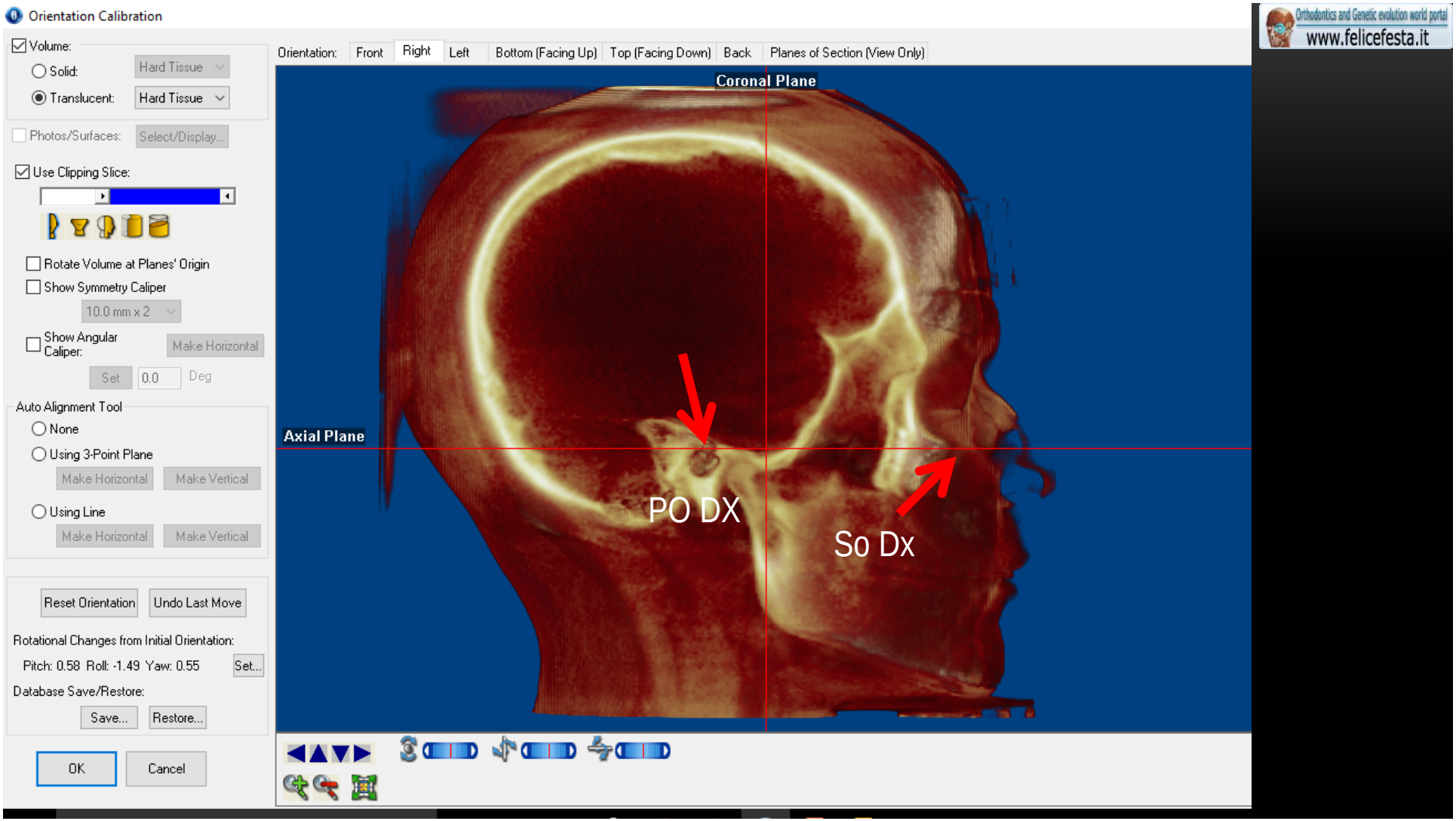
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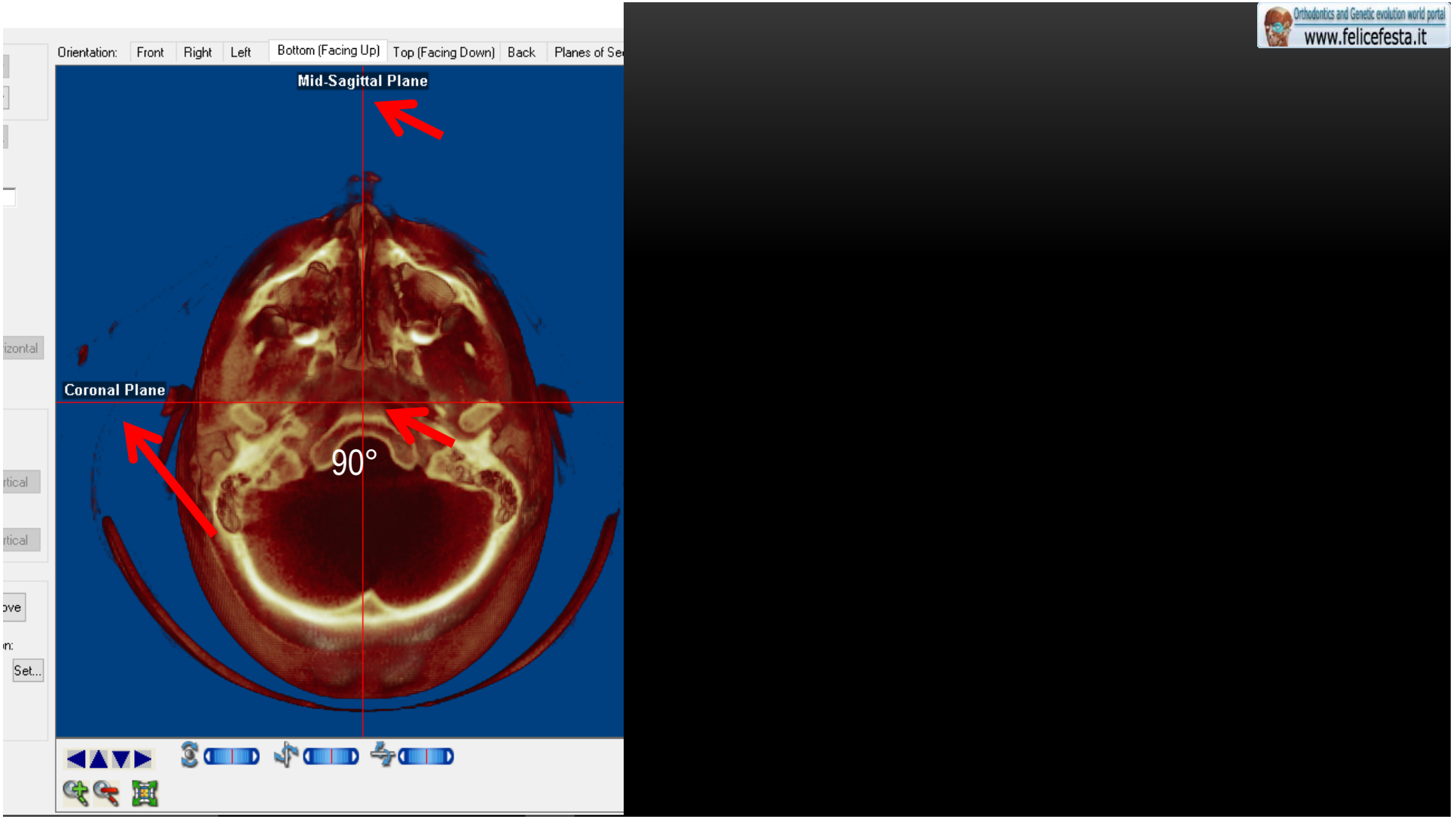
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Orthodontics and Genetic evolution world portal
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TMJ/ORTHODONTICS CLINICAL CHART

DOLPHIN 3D

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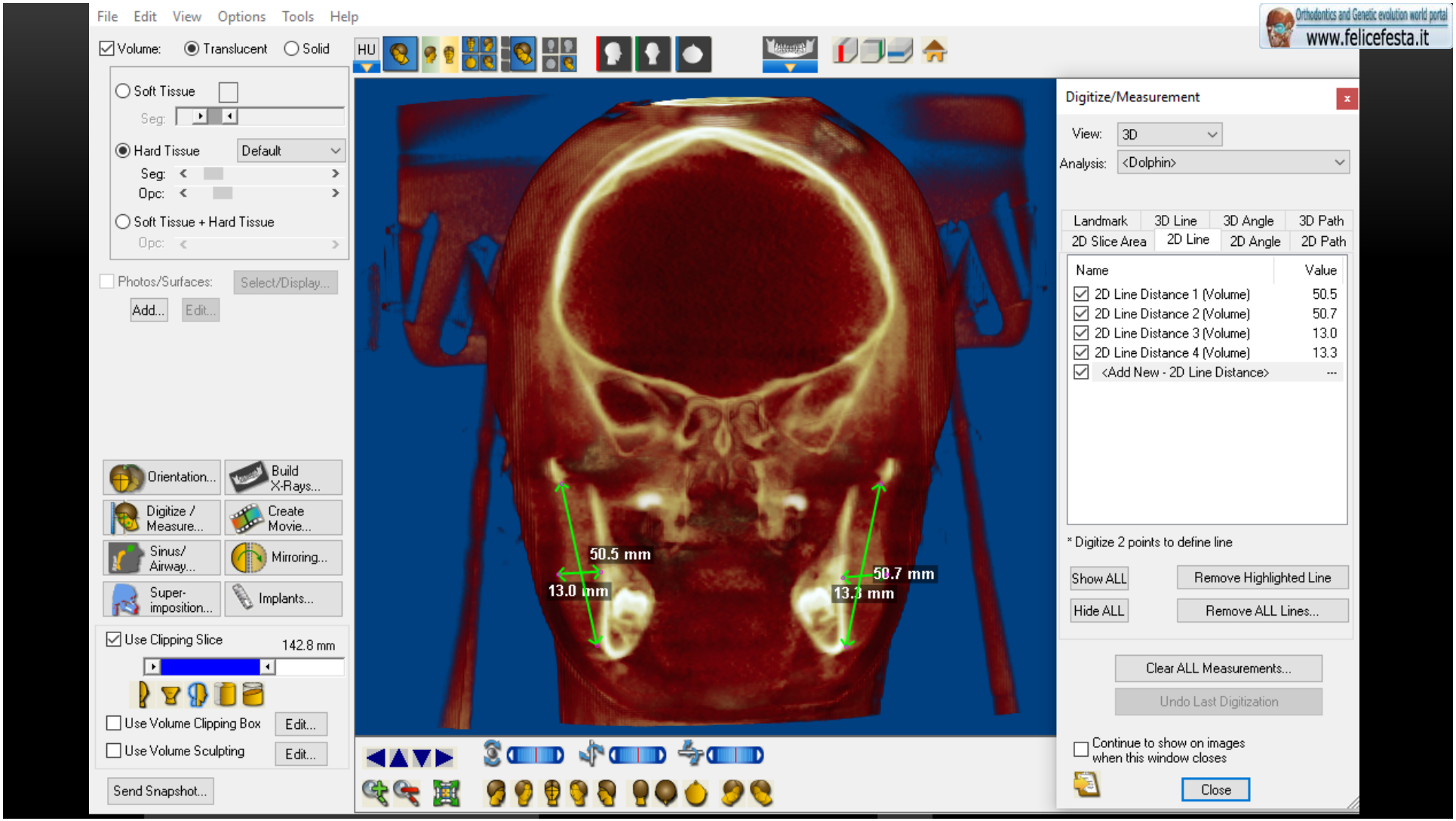
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Build X-Rays...
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Create Movie...
Sinus/ Airway...
Mirroring...
Super-imposition...
Implants...
Use Clipping Slice
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Use Volume Clipping Box
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Use Volume Sculpting
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Send Snapshot...
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Digitize/Measurement
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Analysis: <Dolphin>
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2D Line
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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

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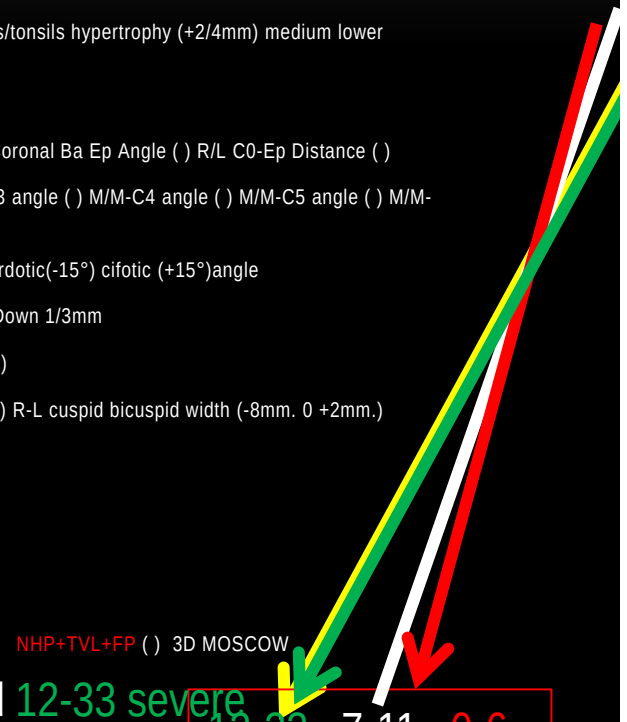

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Format: Abstract ▾

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J Oral Maxillofac Surg. 2019 Jun;77(6):1277.e1-1277.e10. doi: 10.1016/j.joms.2019.02.018. Epub 2019 Feb 19.

Effects of Different Head Positioning Methods on Facial Soft Tissue Analysis Using Stereophotogrammetry.

Gül Amuk N[1], Topsakal KG[2], Baser Keklikci H[3].

⊖ Author information

1 Assistant Professor and Head, Department of Orthodontics, Faculty of Dentistry, Erciyes University, Kayseri, Turkey. Electronic address: nisa.gul86@hotmail.com.
2 Private Orthodontic Practice, Kayseri, Turkey.
3 Research Assistant, Department of Orthodontics, Faculty of Dentistry, Erciyes University, Kayseri, Turkey.

Abstract

PURPOSE: The purpose of this study was to compare the sagittal tilt of the head in different head positioning techniques using an inclinometer and facial stereophotogrammetric measurements.

MATERIALS AND METHODS: The study was carried out in 45 participants (26 female, 19 male). Participants' head positioning was obtaine with dynamic walking, Frankfort horizontal plane (FHP'), self-balance plus mirror, and subjective photographic positioning methods. All pitch values were recorded by an inclinometer and stereophotogrammetric images were obtained. Facial analysis included distances of the glabella (G'), pronasale (Pn), soft tissue A point (A'), upper lip (Ls), lower lip (Li), soft tissue B point (B)', and soft tissue pogonion (Pog') to t true vertical line (TVL) and face height and lip length measurements.

RESULTS: Participants' head positions were observed to be more forward in the FHP' head positioning technique compared with other methods, whereas a more backward head position was recorded with subjective head positioning, and the difference was significant ($P < .001$). There were no relevant differences in pitch values between the self-balance plus mirror and dynamic walking methods. G'-TVL ($P < .000$), Pn-TVL ($P < .029$), A'-TVL ($P < .009$), Ls-TVL ($P < .001$), Li-TVL ($P < .037$), B'-TVL ($P < .003$), and Pog'-TVL ($P < .000$) in the profile view and face height, lower face height, and lower lip length values in the frontal view ($P < .001$) differed significantly by head positioning method.

CONCLUSIONS: The dynamic walking and self-balance plus mirror head positioning methods offered similar and advisable natural head position results, whereas FHP' head positioning was questionable for an accurate determination of natural head position. Facial soft tissue measurements, such as face height, lower face height, lower lip length, and projection of structures such as the G', Pn, lips, and chin, varie based on head positioning method.

Original Article

pISSN 2234-7518 • eISSN 2005-372X
http://dx.doi.org/10.4041/kjod.2016.46.3.163

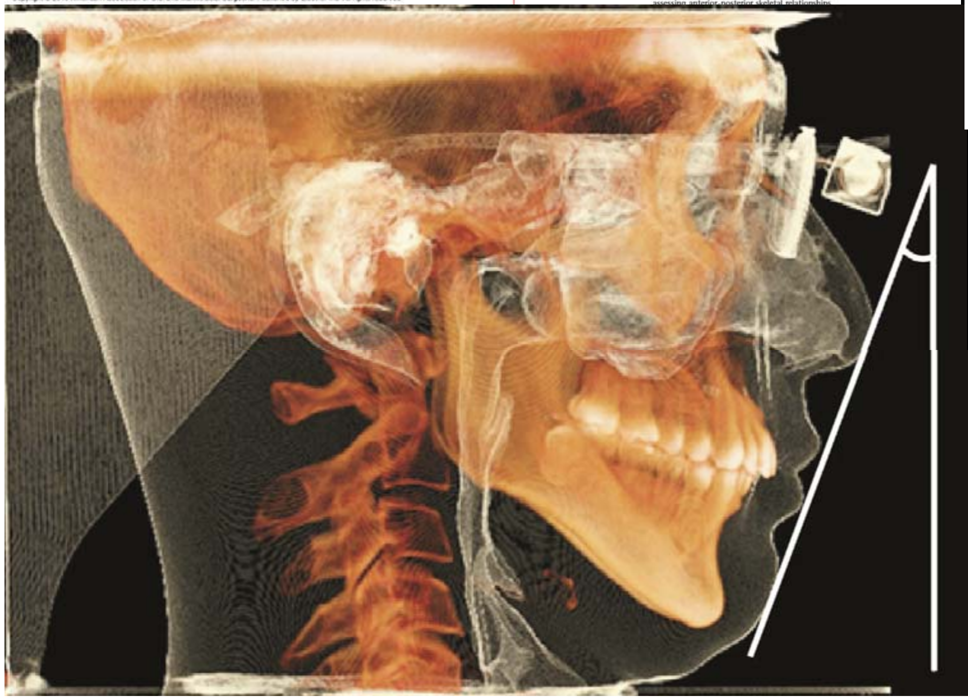
THE KOREAN JOURNAL of ORTHODONTICS
KJO

Assessment of anterior-posterior jaw relationships in Korean adults using the nasion true vertical plane in cone-beam computed tomography images

Youngju Park[a]
Youngserk Cho[b]
James Mah[c]
Janghoon Ahn[b]

[a]Department of Oral and Maxillofacial Surgery, Hallym University Kangnam Sacred Heart Hospital, Seoul, Korea
[b]Department of Orthodontics, Hallym University Kangnam Sacred Heart Hospital, Seoul, Korea
[c]Graduate School of Orthodontics, School of Dentistry, University of Nevada Las Vegas, Las Vegas, NV, USA

Objective: The aims of this study were to investigate a simple method for assessing anterior-posterior jaw relationships via cone-beam computed tomography (CBCT) images taken in the natural head position (NHP) relative to the nasion true vertical plane (NTVP), and measure normative data in Korean adults with normal profiles. **Methods:** Subjects were selected from patients presenting for third molar extraction and evaluated as having normal profiles by three examiners. The CBCT images of 80 subjects (39 males, 41 females) were taken in the NHP according to Solow and Tallgren's method. Linear measurements of the A-point, B-point, and Pog were calculated relative to the NTVP. Student's *t*-test was used to assess sexual differences in these measurements. **Results:** The mean linear measurements of the A-point, B-point, and Pog relative to the NTVP were 0.18 mm (standard deviation [SD], 4.77 mm), –4.00 mm (SD, 6.62 mm), and –2.49 mm (SD, 7.14 mm) respectively in Korean males, and 1.48 mm (SD, 4.21 mm), –4.07 mm (SD, 6.70 mm) and –2.91 mm (SD, 7.25 mm) in Korean females respectively. There were no statistically significant differences between Korean males and females ($p < 0.05$). **Conclusions:** Three-dimensional CBCT analysis using the NTVP is a simple and reliable method for assessing anterior-posterior skeletal relationships.



Acta Odontol Scand. 2019 Mar;77(2):135-141. doi: 10.1080/00016357.2018.1515443. Epub 2018 Nov 3.

Skeletal-versus soft-tissue-based cephalometric analyses: is the correlation reproducible?

Ploder O[1], Köhnke R[1,2], Winsauer H[3], Götz C[4], Bissinger O[4], Haller B[5], Kolk A[4].

⊖ Author information

1 a Department of Oral and Maxillofacial Surgery , Academic Teaching Hospital , Feldkirch , Austria.
2 b Department of Oral and Maxillofacial Surgery , University Medical Center Hamburg-Eppendorf , Germany.
3 c Dental School , University of Graz, Graz , Austria.
4 d Department of Oral- and Craniomaxillofacial Surgery , Klinikum rechts der Isar, University of Technology , Munich , Germany.
5 e Department of Medical Statistics and Epidemiology , Munich Klinikum rechts der Isar, University of Technology , Munich , Germany.

Abstract

OBJECTIVES: Dentofacial deformities can be analyzed by skeletal and soft tissue cephalometric analysis (CA). The aim was to evaluate the difference in reproducibility between both methods.

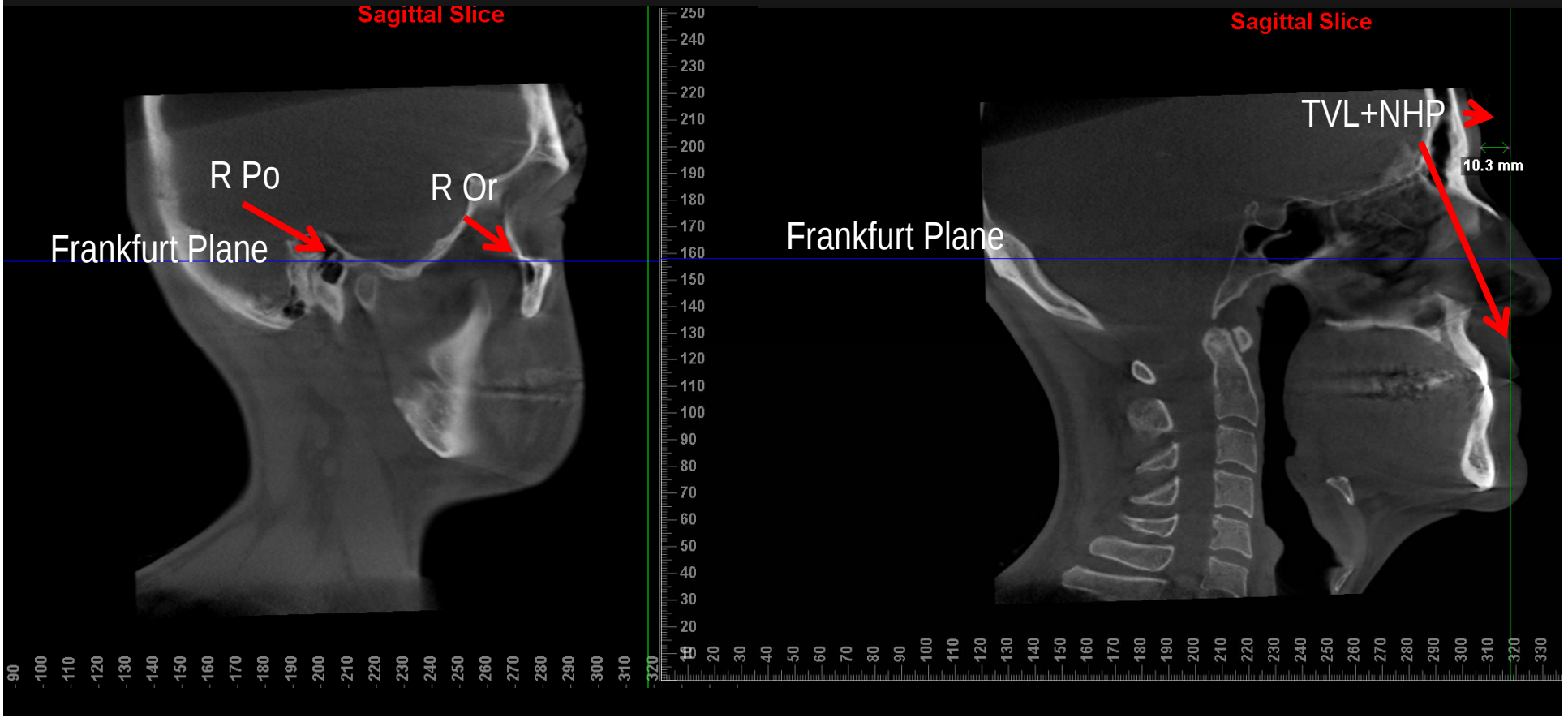
MATERIALS AND METHODS: Lateral cephalograms of 112 patients (65 females and 47 males, 27.7 ± 9.0 years) were oriented in natural head position (NHP) and digitized. The distances of skeletal (SNA, SNB, SnPog) and soft tissue (A', B' and Pog') landmarks relative to the respective norm values and the angles between the Nasion Sella line (NSL) and Frankfurt horizontal (FH) to NHP were measured for statistical evaluation and compared with respective data of an adult control group (CG) with class I occlusion and harmonic facial balance.

RESULTS: The mean differences (mm ± SD) of skeletal and soft tissue landmarks were -2.4 ± 4.4 (A), -7.0 ± 9.3 (B), -6.3 ± 11.2 (Pog), -0.9 ± 1.8 (A'), -4.7 ± 6.2 (B'), and -6.1 ± 7.8 (Pog'), respectively. Pearsons's correlation (r) between the measurements of SNA/A', SNB/B' and SNPog/Pog' were r = .158 (p = .092), r = .662 (p < .001) and r = .655 (p < .001), respectively. The mean (±SD) angles between NSL and FH to NHP were -9.8° ± 5 and 0.0° ± 3.9, respectively.

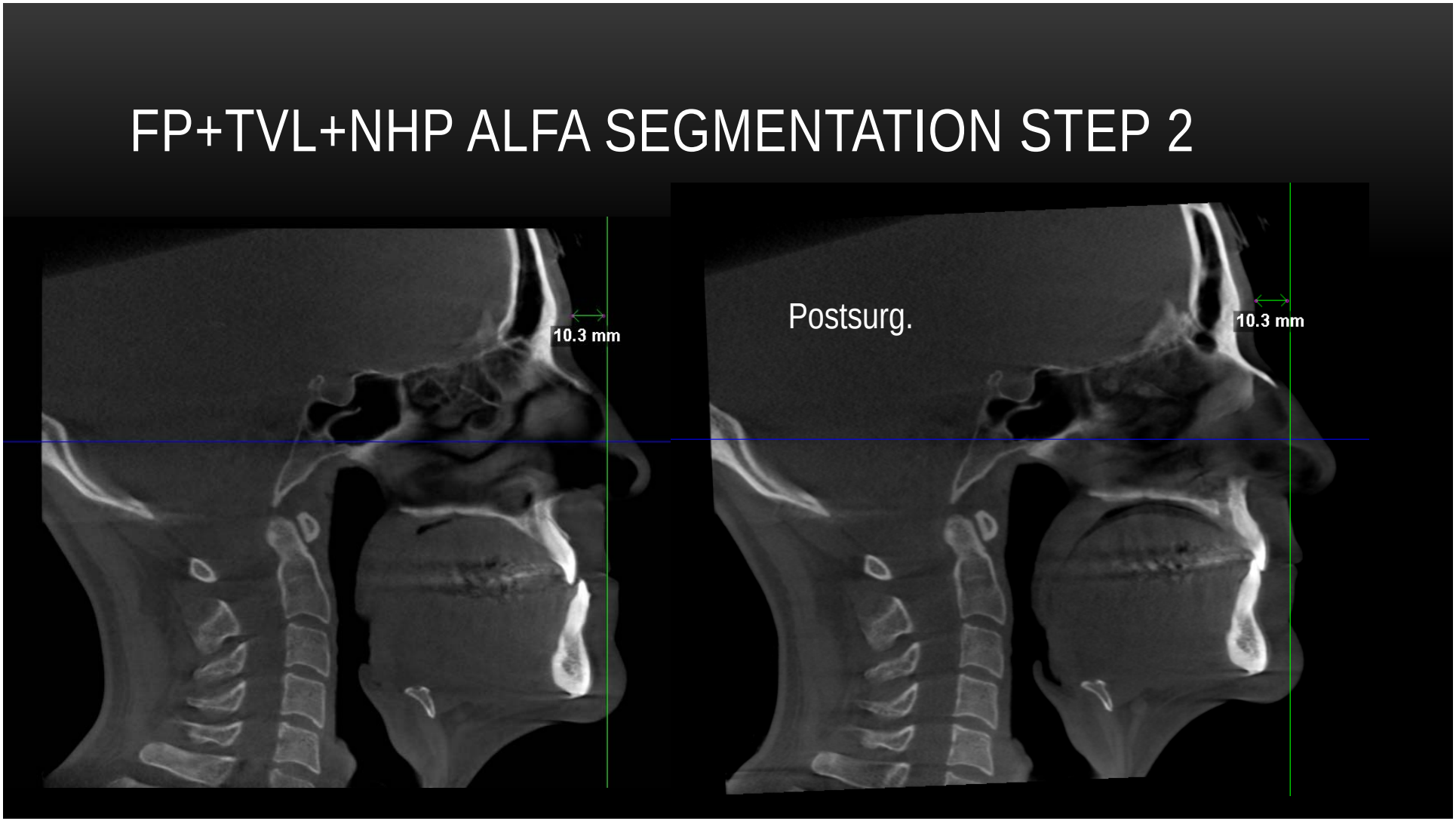
CONCLUSION: Variability of cranial-based measurements could give a possible explanation for the high variation and the low reproducibility of skeletal cephalometric analysis with soft tissue measurements. Soft-tissue cephalometric analysis would probably improve facial analysis and treatment planning.

KEYWORDS: Dentofacial deformities; facial analysis; intracranial variability; skeletal cephalometric analysis; soft tissue cephalometric analysis

FP+TVL+NHP ALFA SEGMENTATION STEP 1

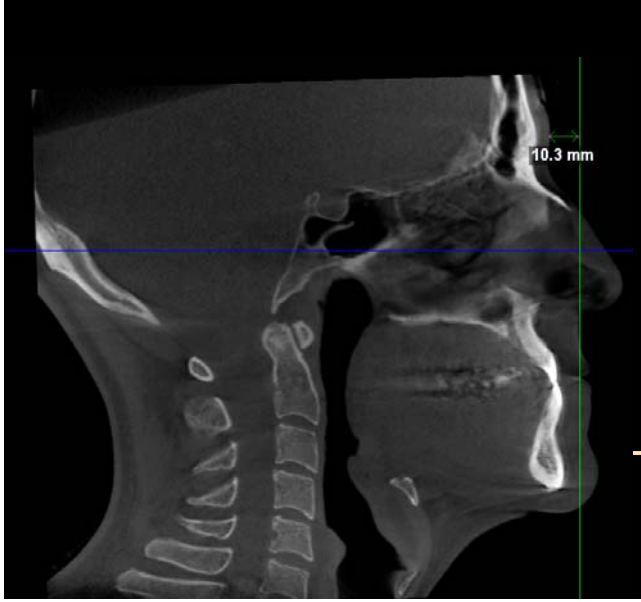


FP+TVL+NHP ALFA SEGMENTATION STEP 2

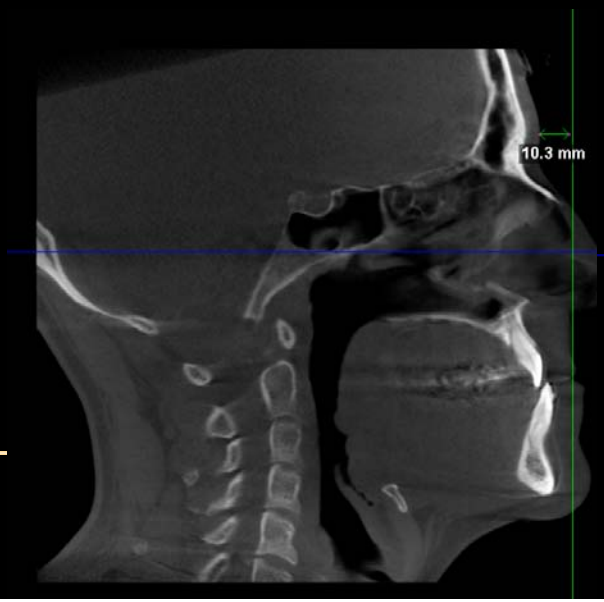


FP+TVL+NHP ALFA SEGMENTATION STEP 3

Initial



Progress



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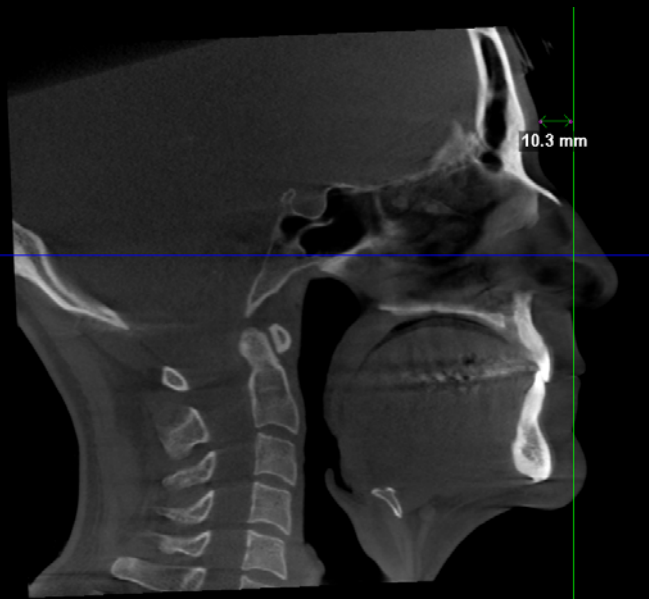

FP+TVL+NHP ALFA SEGMENTATION STEP 4
CEPHALOMETRICS 1 MAXILLA/MANDIBLE LENGHT

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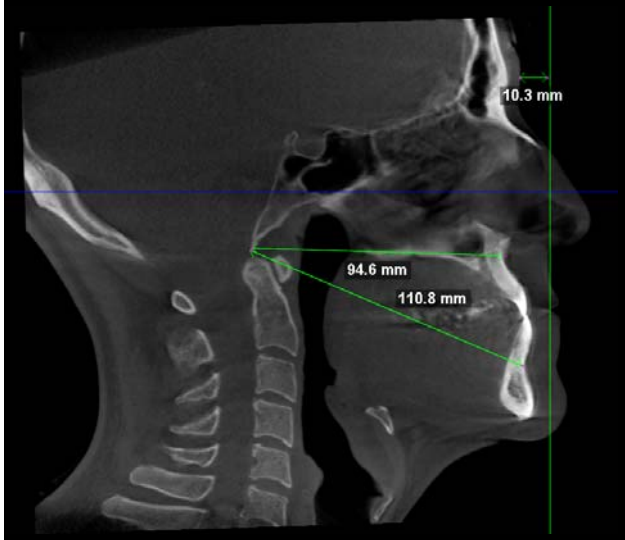

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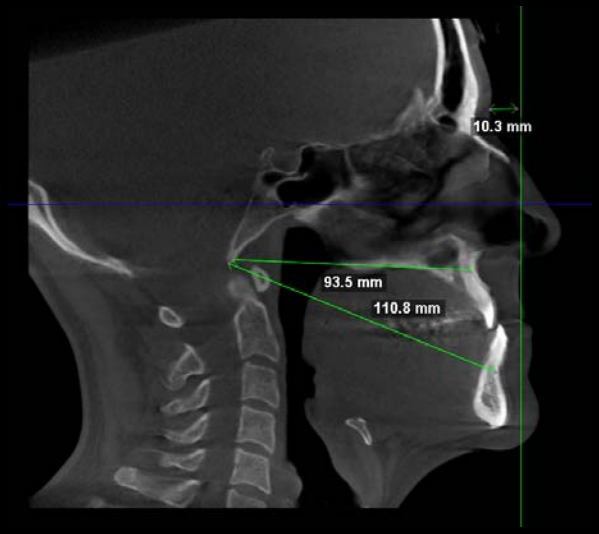

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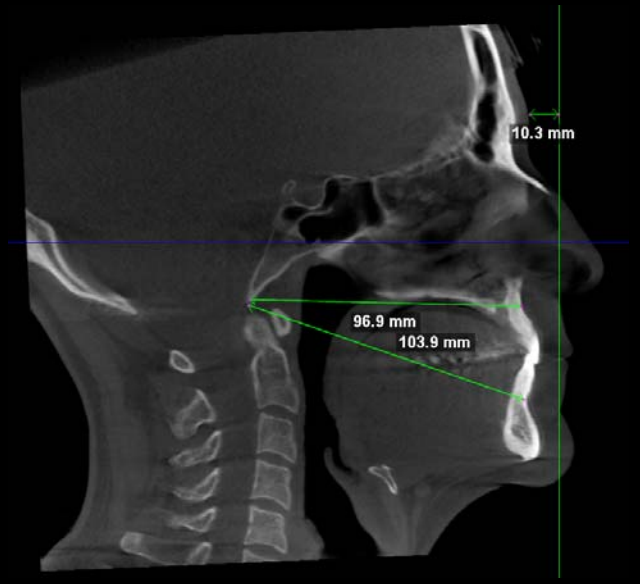
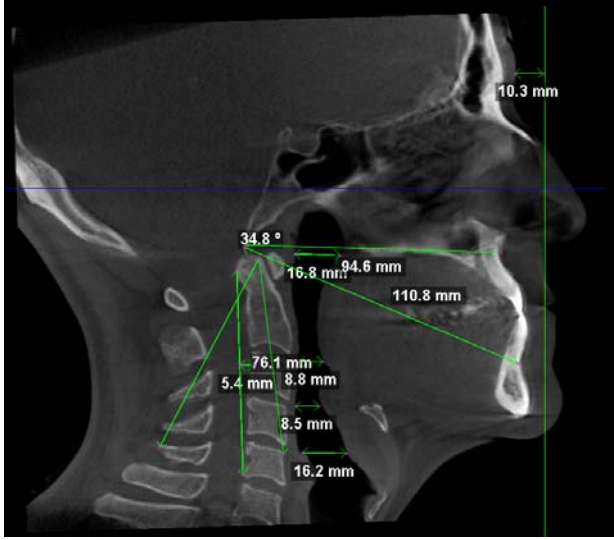


FP+TVL+NHP ALFA SEGMENTATION STEP 5 CEPHALOMETRICS 2 CERVICAL SPINE/MEDIUM-LOWER AIRWAYS

Initial



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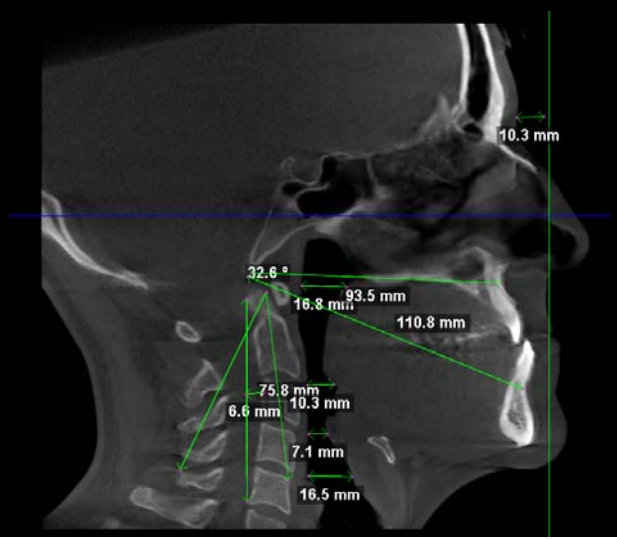

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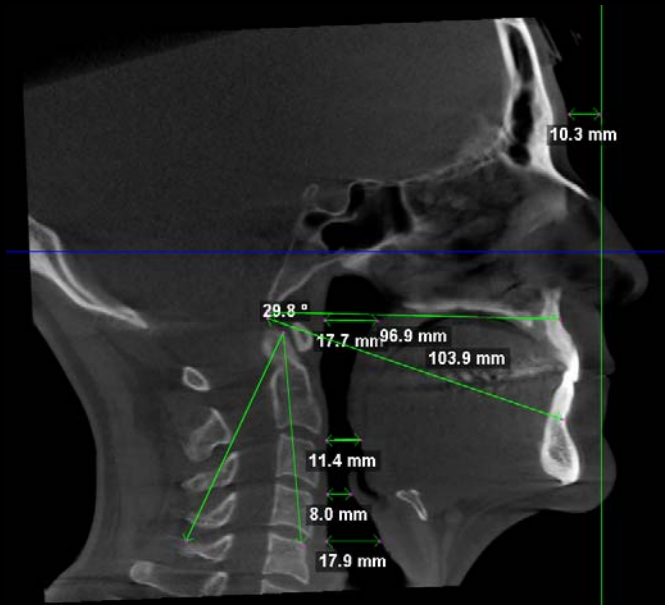
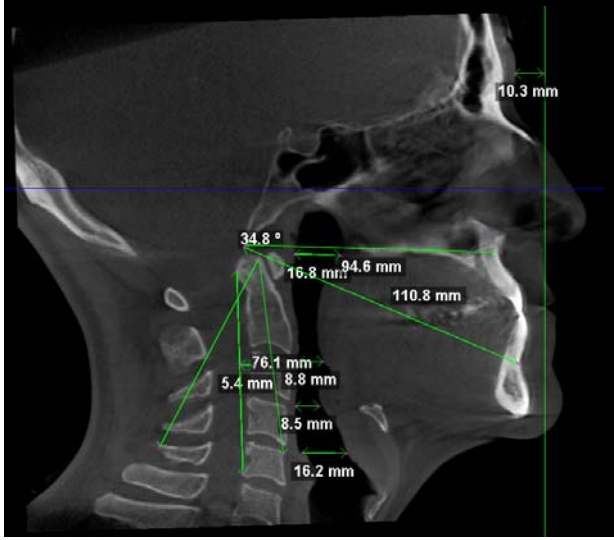


FP+TVL+NHP ALFA SEGMENTATION STEP 6

CEPHALOMETRICS 3 > FESTA2FACE® TMJPOSTURE®

MODIFIED ARNETT MCLAUGHLIN CEPHALOMETRICS

Initial



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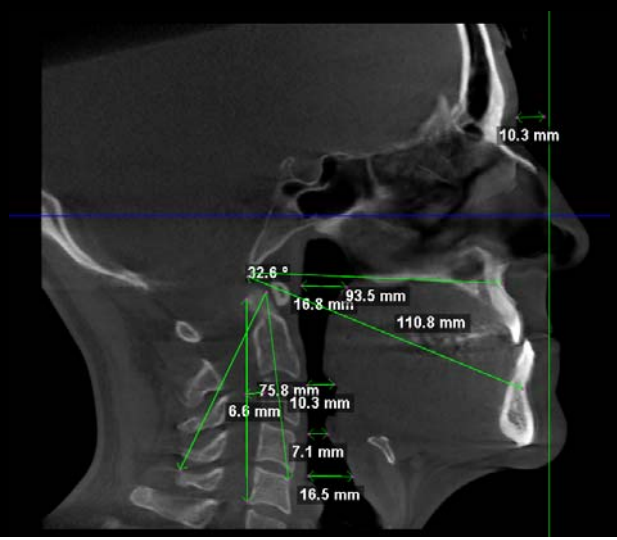

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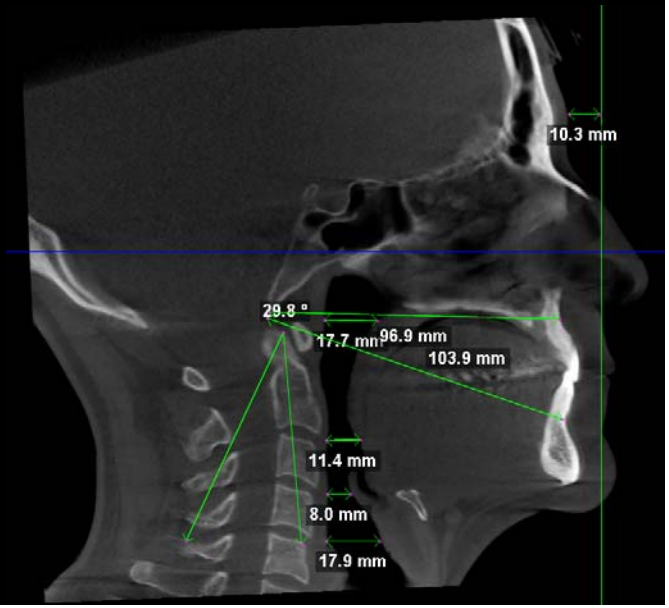
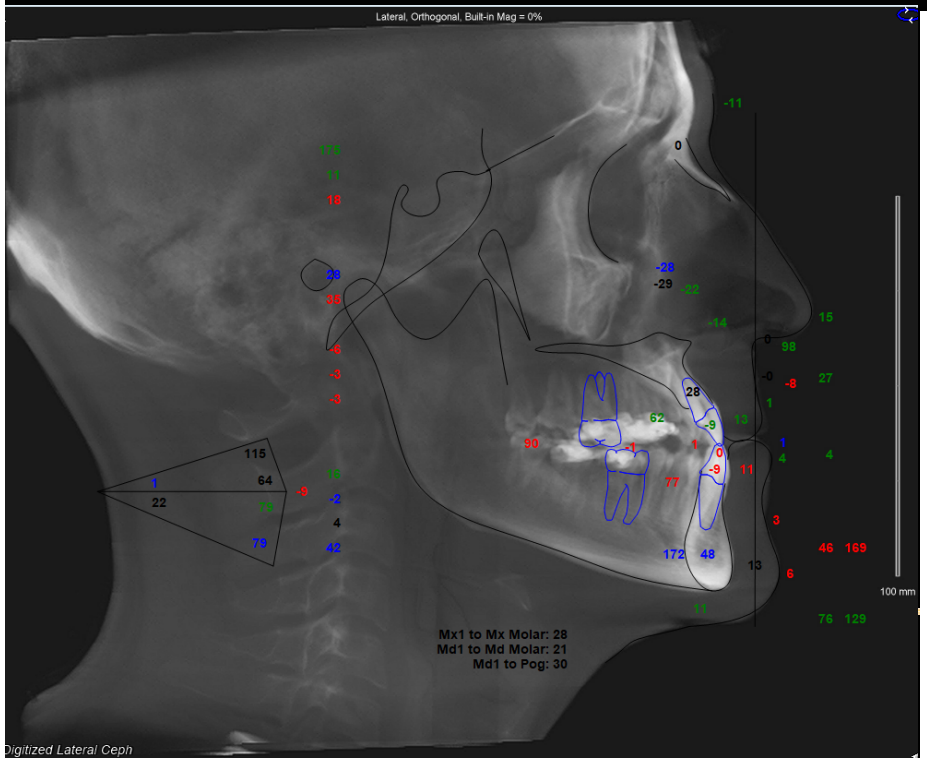
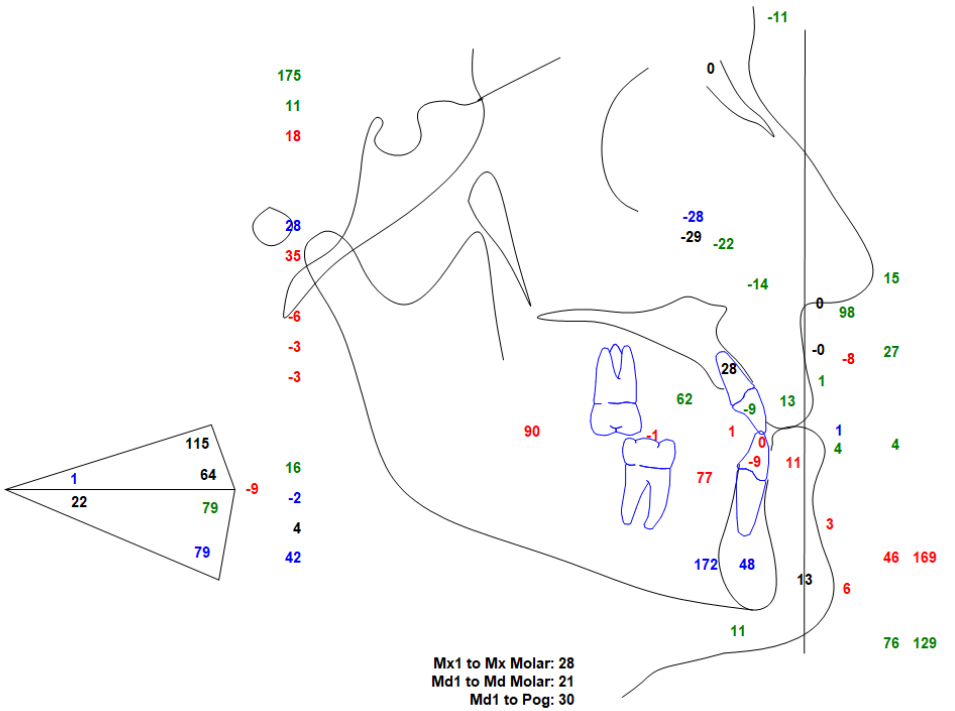
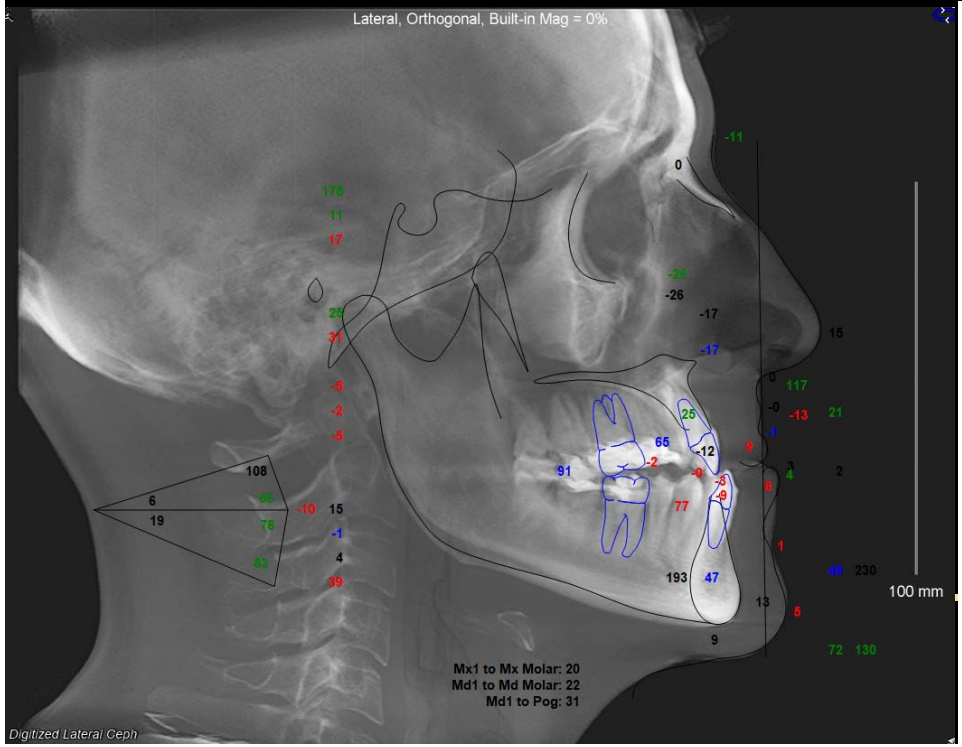


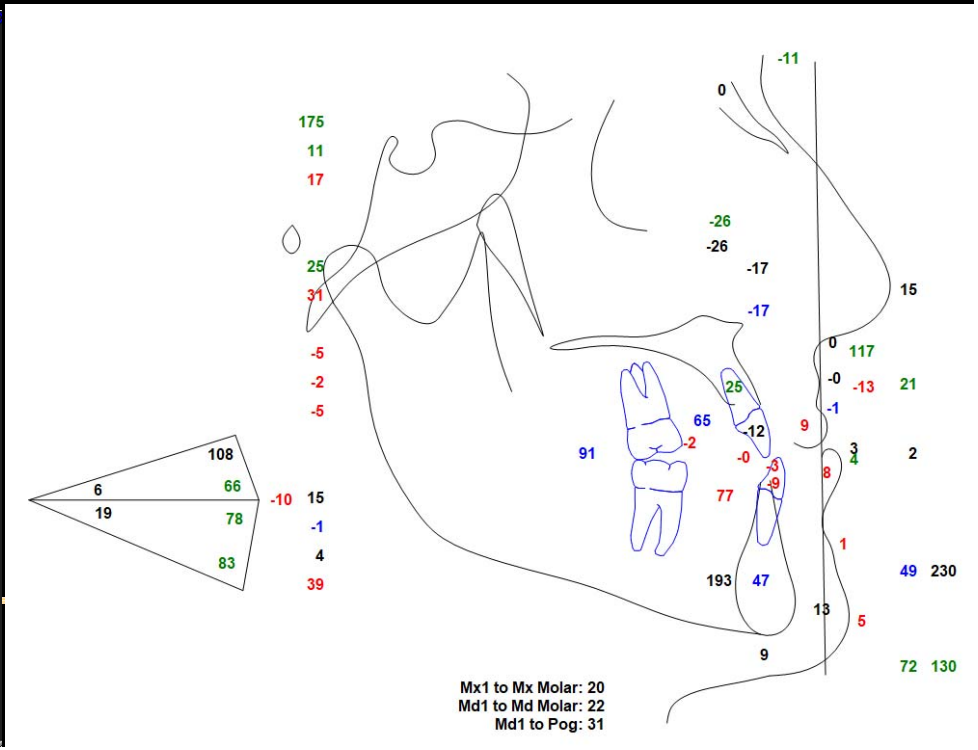
FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT MCLAUGHLIN CEPHALOMETRICS INITIAL



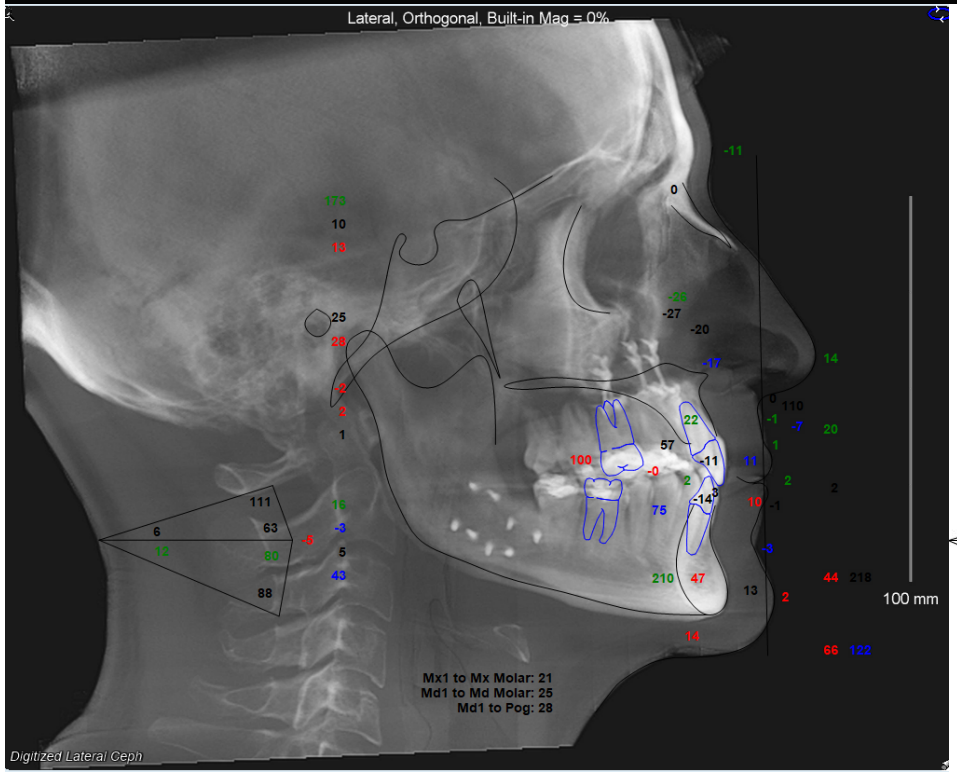


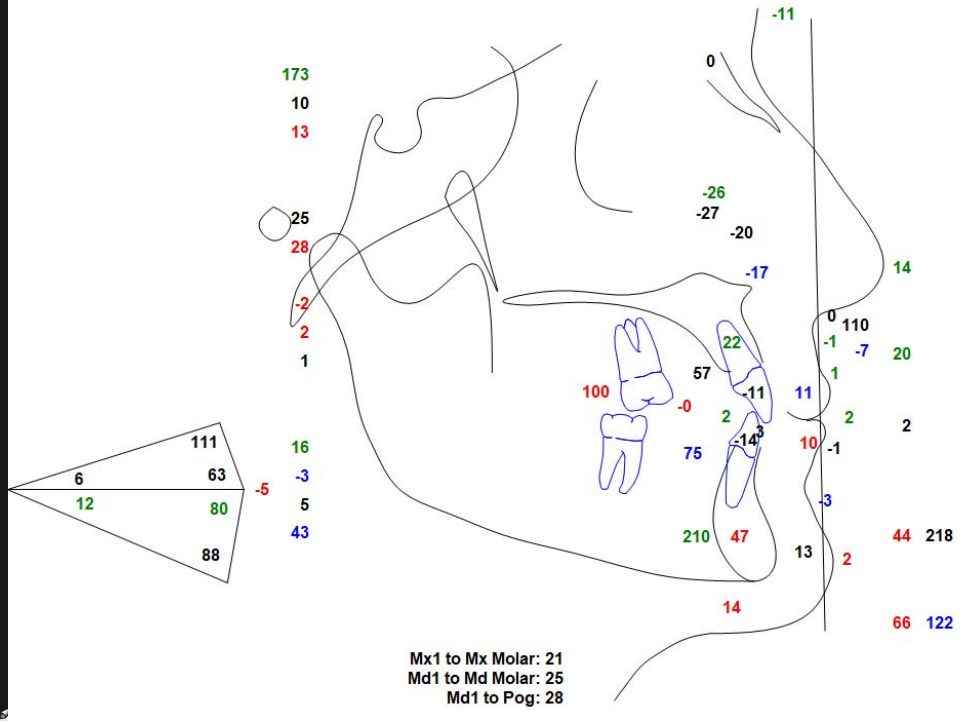
FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT MCLAUGHLIN CEPHALOMETRICS PROGRESS





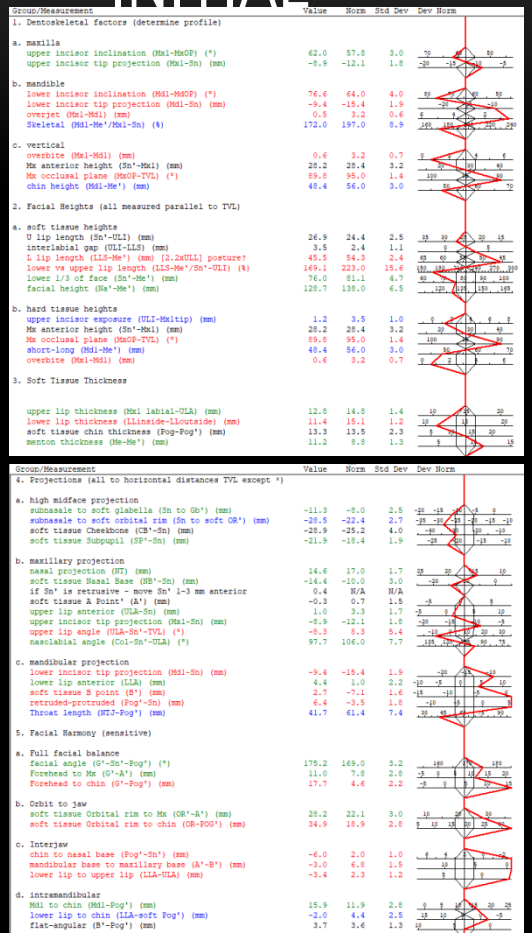
FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT MCLAUGHLIN CEPHALOMETRICS FINAL (XXX>X)





MEASUREMENTS POLIGON WIGGLE/GRAM

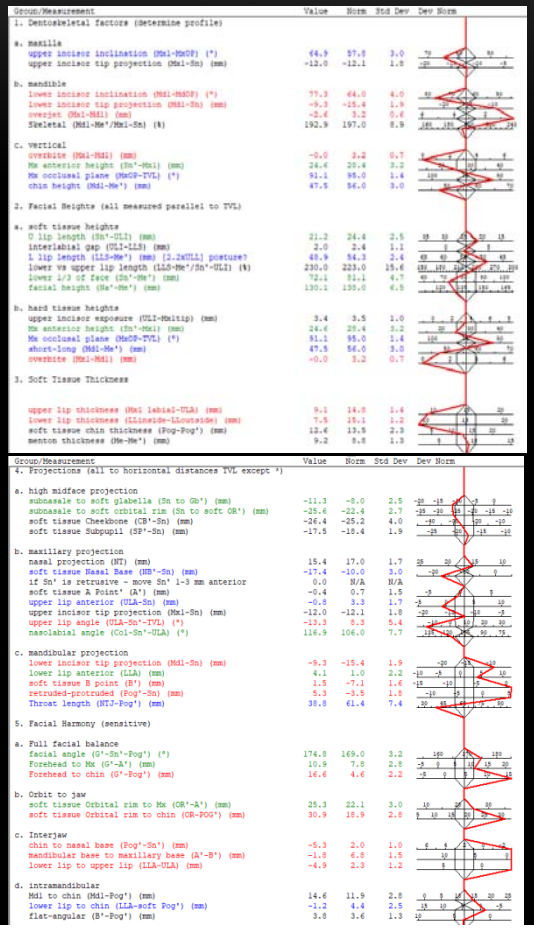
INITIAL



Group/Measurement	Value	Norm	Std Dev	Dev Norm
1. Dentoskeletal factors (determine profile)				
a. maxilla				
upper incisor inclination (Mx1-MxOP) (°)	62.0	57.8	3.0	
upper incisor tip projection (Mx1-Sn) (mm)	-8.9	-12.1	1.8	
b. mandible				
lower incisor inclination (Md1-MdOP) (°)	76.6	64.0	4.0	
lower incisor tip projection (Md1-Sn) (mm)	-9.4	-15.4	1.9	
overjet (Mx1-Md1) (mm)	0.6	3.2	0.6	
Skeletal (Md1-Me'/Mx1-Sn) (%)	172.0	197.0	8.9	
c. vertical				
overbite (Mx1-Md1) (mm)	0.6	3.2	0.7	
Mx anterior height (Sn'-Mx1) (mm)	28.2	28.4	3.2	
Mx occlusal plane (MxOP-TVL) (°)	89.8	95.0	1.4	
chin height (Md1-Me') (mm)	48.4	56.0	3.0	
2. Facial Heights (all measured parallel to TVL)				
a. soft tissue heights				
U lip length (Sn'-ULI) (mm)	26.9	24.4	2.5	
interlabial gap (ULI-LLS) (mm)	3.5	2.4	1.1	
L lip length (LLS-Me') (mm) [2.2xULL] posture?	45.5	54.3	2.4	
lower vs upper lip length (LLS-Me'/Sn'-ULI) (%)	169.1	223.0	15.6	
lower 1/3 of face (Sn'-Me') (mm)	76.0	81.1	4.7	
facial height (Na'-Me') (mm)	128.7	138.0	6.5	
b. hard tissue heights				
upper incisor exposure (ULI-Mx1tip) (mm)	1.2	3.5	1.0	
Mx anterior height (Sn'-Mx1) (mm)	28.2	28.4	3.2	
Mx occlusal plane (MxOP-TVL) (°)	89.8	95.0	1.4	
short-long (Md1-Me') (mm)	48.4	56.0	3.0	
overbite (Mx1-Md1) (mm)	0.6	3.2	0.7	
3. Soft Tissue Thickness				
upper lip thickness (Mx1 labial-ULA) (mm)	12.8	14.8	1.4	
lower lip thickness (LLinside-LLoutside) (mm)	11.4	15.1	1.2	
soft tissue chin thickness (Pog-Pog') (mm)	13.3	13.5	2.3	
menton thickness (Me-Me') (mm)	11.2	8.8	1.3	

Group/Measurement	Value	Norm	Std Dev	Dev Norm
4. Projections (all to horizontal distances TVL except *)				
a. high midface projection				
subnasale to soft glabella (Sn to Gb') (mm)	-11.3	-8.0	2.5	
subnasale to soft orbital rim (Sn to soft OR') (mm)	-28.5	-22.4	2.7	
soft tissue Cheekbone (CB'-Sn) (mm)	-28.9	-25.2	4.0	
soft tissue Subpupil (SP'-Sn) (mm)	-21.9	-18.4	1.9	
b. maxillary projection				
nasal projection (NT) (mm)	14.6	17.0	1.7	
soft tissue Nasal Base (NB'-Sn) (mm)	-14.4	-10.0	3.0	
if Sn' is retrusive - move Sn' 1-3 mm anterior	0.4	N/A	N/A	
soft tissue A Point' (A') (mm)	-0.3	0.7	1.5	
upper lip anterior (ULA-Sn) (mm)	1.0	3.3	1.7	
upper incisor tip projection (Mx1-Sn) (mm)	-8.9	-12.1	1.8	
upper lip angle (ULA-Sn'-TVL) (°)	-8.3	8.3	5.4	
nasolabial angle (Col-Sn'-ULA) (°)	97.7	106.0	7.7	
c. mandibular projection				
lower incisor tip projection (Md1-Sn) (mm)	-9.4	-15.4	1.9	
lower lip anterior (LLA) (mm)	4.4	1.0	2.2	
soft tissue B point (B') (mm)	2.7	-7.1	1.6	
retruded-protruded (Pog'-Sn) (mm)	6.4	-3.5	1.8	
Throat length (NTJ-Pog') (mm)	41.7	61.4	7.4	
5. Facial Harmony (sensitive)				
a. Full facial balance				
facial angle (G'-Sn'-Pog') (°)	175.2	169.0	3.2	
Forehead to Mx (G'-A') (mm)	11.0	7.8	2.8	
Forehead to chin (G'-Pog') (mm)	17.7	4.6	2.2	
b. Orbit to jaw				
soft tissue Orbital rim to Mx (OR'-A') (mm)	28.2	22.1	3.0	
soft tissue Orbital rim to chin (OR-POG') (mm)	34.9	18.9	2.8	
c. Interjaw				
chin to nasal base (Pog'-Sn') (mm)	-6.0	2.0	1.0	
mandibular base to maxillary base (A'-B') (mm)	-3.0	6.8	1.5	
lower lip to upper lip (LLA-ULA) (mm)	-3.4	2.3	1.2	
d. intramandibular				
Md1 to chin (Md1-Pog') (mm)	15.9	11.9	2.8	
lower lip to chin (LLA-soft Pog') (mm)	-2.0	4.4	2.5	
flat-angular (B'-Pog') (mm)	3.7	3.6	1.3	

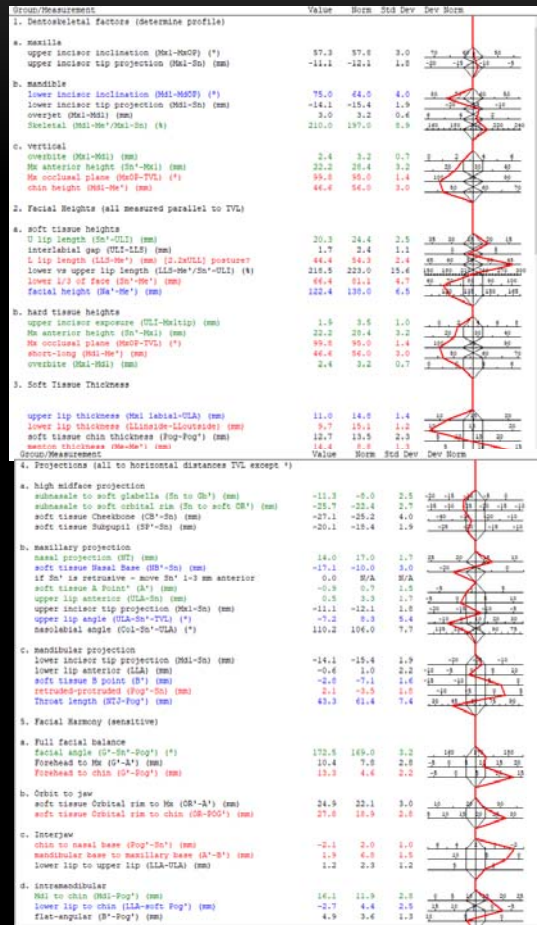
PROGRESS



Group/Measurement	Value	Norm	Std Dev	Dev Norm
1. Dentoskeletal factors (determine profile)				
a. maxilla				
upper incisor inclination (Mx1-MxOP) (°)	64.9	57.8	3.0	
upper incisor tip projection (Mx1-Sn) (mm)	-12.0	-12.1	1.8	
b. mandible				
lower incisor inclination (Md1-MdOP) (°)	77.3	64.0	4.0	
lower incisor tip projection (Md1-Sn) (mm)	-9.3	-15.4	1.9	
overjet (Mx1-Md1) (mm)	-2.6	3.2	0.6	
Skeletal (Md1-Me'/Mx1-Sn) (%)	192.9	197.0	8.9	
c. vertical				
overbite (Mx1-Md1) (mm)	-0.0	3.2	0.7	
Mx anterior height (Sn'-Mx1) (mm)	24.6	28.4	3.2	
Mx occlusal plane (MxOP-TVL) (°)	91.1	95.0	1.4	
chin height (Md1-Me') (mm)	47.5	56.0	3.0	
2. Facial Heights (all measured parallel to TVL)				
a. soft tissue heights				
U lip length (Sn'-ULI) (mm)	21.2	24.4	2.5	
interlabial gap (ULI-LLS) (mm)	2.0	2.4	1.1	
L lip length (LLS-Me') (mm) [2.2xULL] posture?	48.9	54.3	2.4	
lower vs upper lip length (LLS-Me'/Sn'-ULI) (%)	230.0	223.0	15.6	
lower 1/3 of face (Sn'-Me') (mm)	72.1	81.1	4.7	
facial height (Na'-Me') (mm)	130.1	138.0	6.5	
b. hard tissue heights				
upper incisor exposure (ULI-Mx1tip) (mm)	3.4	3.5	1.0	
Mx anterior height (Sn'-Mx1) (mm)	24.6	28.4	3.2	
Mx occlusal plane (MxOP-TVL) (°)	91.1	95.0	1.4	
short-long (Md1-Me') (mm)	47.5	56.0	3.0	
overbite (Mx1-Md1) (mm)	-0.0	3.2	0.7	
3. Soft Tissue Thickness				
upper lip thickness (Mx1 labial-ULA) (mm)	9.1	14.8	1.4	
lower lip thickness (LLinside-LLoutside) (mm)	7.5	15.1	1.2	
soft tissue chin thickness (Pog-Pog') (mm)	12.6	13.5	2.3	
menton thickness (Me-Me') (mm)	9.2	8.8	1.3	

Group/Measurement	Value	Norm	Std Dev	Dev Norm
4. Projections (all to horizontal distances TVL except *)				
a. high midface projection				
subnasale to soft glabella (Sn to Gb') (mm)	-11.3	-8.0	2.5	
subnasale to soft orbital rim (Sn to soft OR') (mm)	-25.6	-22.4	2.7	
soft tissue Cheekbone (CB'-Sn) (mm)	-26.4	-25.2	4.0	
soft tissue Subpupil (SP'-Sn) (mm)	-17.5	-18.4	1.9	
b. maxillary projection				
nasal projection (NT) (mm)	15.4	17.0	1.7	
soft tissue Nasal Base (NB'-Sn) (mm)	-17.4	-10.0	3.0	
if Sn' is retrusive - move Sn' 1-3 mm anterior	0.0	N/A	N/A	
soft tissue A Point' (A') (mm)	-0.4	0.7	1.5	
upper lip anterior (ULA-Sn) (mm)	-0.8	3.3	1.7	
upper incisor tip projection (Mx1-Sn) (mm)	-12.0	-12.1	1.8	
upper lip angle (ULA-Sn'-TVL) (°)	-13.3	8.3	5.4	
nasolabial angle (Col-Sn'-ULA) (°)	116.9	106.0	7.7	
c. mandibular projection				
lower incisor tip projection (Md1-Sn) (mm)	-9.3	-15.4	1.9	
lower lip anterior (LLA) (mm)	4.1	1.0	2.2	
soft tissue B point (B') (mm)	1.5	-7.1	1.6	
retruded-protruded (Pog'-Sn) (mm)	5.3	-3.5	1.8	
Throat length (NTJ-Pog') (mm)	38.8	61.4	7.4	
5. Facial Harmony (sensitive)				
a. Full facial balance				
facial angle (G'-Sn'-Pog') (°)	174.8	169.0	3.2	
Forehead to Mx (G'-A') (mm)	10.9	7.8	2.8	
Forehead to chin (G'-Pog') (mm)	16.6	4.6	2.2	
b. Orbit to jaw				
soft tissue Orbital rim to Mx (OR'-A') (mm)	25.3	22.1	3.0	
soft tissue Orbital rim to chin (OR-POG') (mm)	30.9	18.9	2.8	
c. Interjaw				
chin to nasal base (Pog'-Sn') (mm)	-5.3	2.0	1.0	
mandibular base to maxillary base (A'-B') (mm)	-1.8	6.8	1.5	
lower lip to upper lip (LLA-ULA) (mm)	-4.9	2.3	1.2	
d. intramandibular				
Md1 to chin (Md1-Pog') (mm)	14.6	11.9	2.8	
lower lip to chin (LLA-soft Pog') (mm)	-1.2	4.4	2.5	
flat-angular (B'-Pog') (mm)	3.8	3.6	1.3	

FINAL

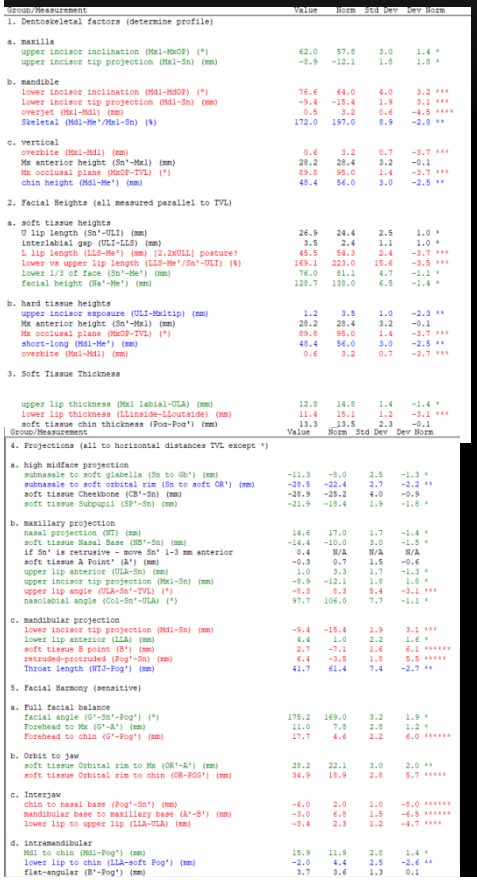


Group/Measurement	Value	Norm	Std Dev	Dev Norm
1. Dentoskeletal factors (determine profile)				
a. maxilla				
upper incisor inclination (Mx1-MxOP) (°)	57.3	57.8	3.0	
upper incisor tip projection (Mx1-Sn) (mm)	-11.1	-12.1	1.8	
b. mandible				
lower incisor inclination (Md1-MdOP) (°)	75.0	64.0	4.0	
lower incisor tip projection (Md1-Sn) (mm)	-14.1	-15.4	1.9	
overjet (Mx1-Md1) (mm)	3.0	3.2	0.6	
Skeletal (Md1-Me'/Mx1-Sn) (%)	210.0	197.0	8.9	
c. vertical				
overbite (Mx1-Md1) (mm)	2.4	3.2	0.7	
Mx anterior height (Sn'-Mx1) (mm)	22.2	28.4	3.2	
Mx occlusal plane (MxOP-TVL) (°)	99.5	95.0	1.4	
chin height (Md1-Me') (mm)	44.4	56.0	3.0	
2. Facial Heights (all measured parallel to TVL)				
a. soft tissue heights				
U lip length (Sn'-ULI) (mm)	20.3	24.4	2.5	
interlabial gap (ULI-LLS) (mm)	1.7	2.4	1.1	
L lip length (LLS-Me') (mm) [2.2xULL] posture?	44.4	54.3	2.4	
lower vs upper lip length (LLS-Me'/Sn'-ULI) (%)	218.5	223.0	15.6	
lower 1/3 of face (Sn'-Me') (mm)	66.4	81.1	4.7	
facial height (Na'-Me') (mm)	122.4	138.0	6.5	
b. hard tissue heights				
upper incisor exposure (ULI-Mx1tip) (mm)	1.5	3.5	1.0	
Mx anterior height (Sn'-Mx1) (mm)	22.2	28.4	3.2	
Mx occlusal plane (MxOP-TVL) (°)	99.5	95.0	1.4	
short-long (Md1-Me') (mm)	44.4	56.0	3.0	
overbite (Mx1-Md1) (mm)	2.4	3.2	0.7	
3. Soft Tissue Thickness				
upper lip thickness (Mx1 labial-ULA) (mm)	11.0	14.8	1.4	
lower lip thickness (LLinside-LLoutside) (mm)	9.7	15.1	1.2	
soft tissue chin thickness (Pog-Pog') (mm)	12.7	13.5	2.3	
menton thickness (Me-Me') (mm)	14.2	8.8	1.3	

Group/Measurement	Value	Norm	Std Dev	Dev Norm
4. Projections (all to horizontal distances TVL except *)				
a. high midface projection				
subnasale to soft glabella (Sn to Gb') (mm)	-11.3	-8.0	2.5	
subnasale to soft orbital rim (Sn to soft OR') (mm)	-25.7	-22.4	2.7	
soft tissue Cheekbone (CB'-Sn) (mm)	-27.1	-25.2	4.0	
soft tissue Subpupil (SP'-Sn) (mm)	-20.1	-18.4	1.9	
b. maxillary projection				
nasal projection (NT) (mm)	14.0	17.0	1.7	
soft tissue Nasal Base (NB'-Sn) (mm)	-17.1	-10.0	3.0	
if Sn' is retrusive - move Sn' 1-3 mm anterior	0.0	N/A	N/A	
soft tissue A Point' (A') (mm)	-0.9	0.7	1.5	
upper lip anterior (ULA-Sn) (mm)	0.5	3.3	1.7	
upper incisor tip projection (Mx1-Sn) (mm)	-11.1	-12.1	1.8	
upper lip angle (ULA-Sn'-TVL) (°)	-7.2	8.3	5.4	
nasolabial angle (Col-Sn'-ULA) (°)	110.2	106.0	7.7	
c. mandibular projection				
lower incisor tip projection (Md1-Sn) (mm)	-14.1	-15.4	1.9	
lower lip anterior (LLA) (mm)	-0.6	1.0	2.2	
soft tissue B point (B') (mm)	-2.0	-7.1	1.6	
retruded-protruded (Pog'-Sn) (mm)	2.1	-3.5	1.8	
Throat length (NTJ-Pog') (mm)	43.3	61.4	7.4	
5. Facial Harmony (sensitive)				
a. Full facial balance				
facial angle (G'-Sn'-Pog') (°)	172.5	169.0	3.2	
Forehead to Mx (G'-A') (mm)	10.4	7.8	2.8	
Forehead to chin (G'-Pog') (mm)	13.3	4.6	2.2	
b. Orbit to jaw				
soft tissue Orbital rim to Mx (OR'-A') (mm)	24.9	22.1	3.0	
soft tissue Orbital rim to chin (OR-POG') (mm)	27.8	18.9	2.8	
c. Interjaw				
chin to nasal base (Pog'-Sn') (mm)	-2.1	2.0	1.0	
mandibular base to maxillary base (A'-B') (mm)	1.9	6.8	1.5	
lower lip to upper lip (LLA-ULA) (mm)	1.2	2.3	1.2	
d. intramandibular				
Md1 to chin (Md1-Pog') (mm)	16.1	11.9	2.8	
lower lip to chin (LLA-soft Pog') (mm)	-2.7	4.4	2.5	
flat-angular (B'-Pog') (mm)	4.9	3.6	1.3	

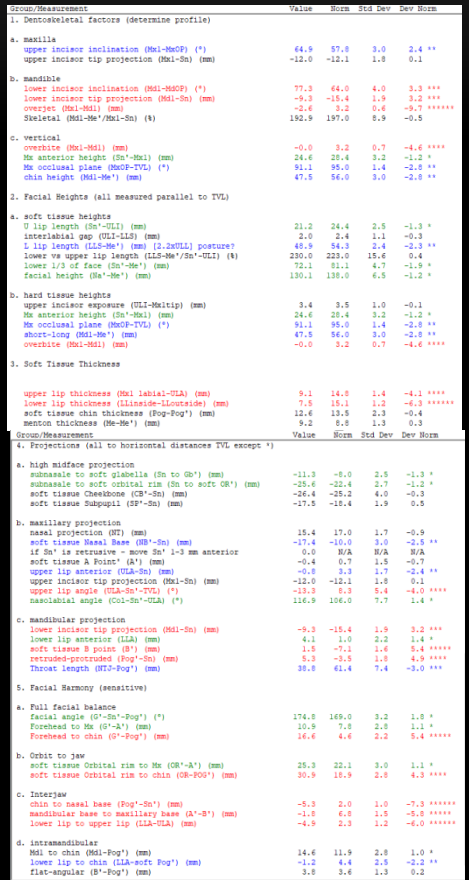
MEASUREMENTS DEV NORM

INITIAL



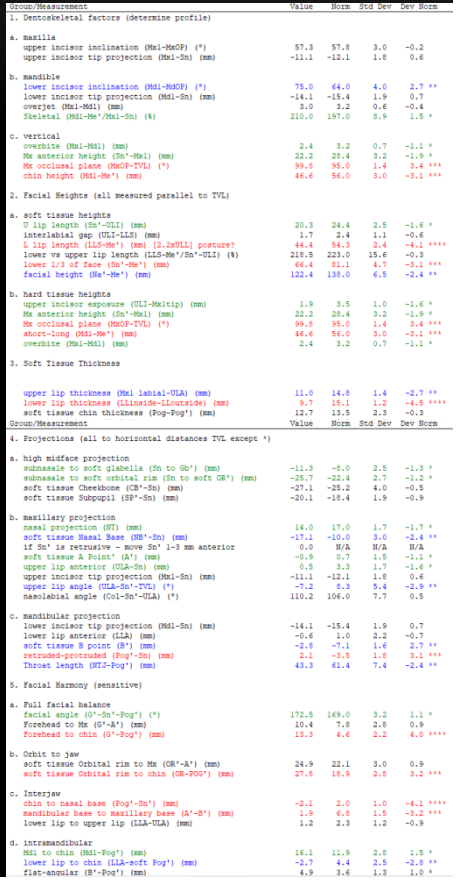
Group/Measurement	Value	Norm	Std Dev	Dev Norm
1. Dentoskeletal factors (determine profile)				
a. maxilla				
upper incisor inclination (Mx1-MxOP) (°)	62.0	57.8	3.0	1.4 *
upper incisor tip projection (Mx1-Sn) (mm)	-8.9	-12.1	1.8	1.8 *
b. mandible				
lower incisor inclination (Md1-MdOP) (°)	76.6	64.0	4.0	3.2 ***
lower incisor tip projection (Md1-Sn) (mm)	-9.4	-15.4	1.9	3.1 ***
overjet (Mx1-Md1) (mm)	0.5	3.2	0.6	-4.5 ****
Skeletal (Md1-Me'/Mx1-Sn) (%)	172.0	197.0	8.9	-2.8 **
c. vertical				
overbite (Mx1-Md1) (mm)	0.6	3.2	0.7	-3.7 ***
Mx anterior height (Sn'-Mx1) (mm)	28.2	28.4	3.2	-0.1
Mx occlusal plane (MxOP-TVL) (°)	89.8	95.0	1.4	-3.7 ***
chin height (Md1-Me') (mm)	48.4	56.0	3.0	-2.5 **
2. Facial Heights (all measured parallel to TVL)				
a. soft tissue heights				
U lip length (Sn'-ULI) (mm)	26.9	24.4	2.5	1.0 *
interlabial gap (ULI-LLS) (mm)	3.5	2.4	1.1	1.0 *
L lip length (LLS-Me') (mm) [2.2xULL] posture?	45.5	54.3	2.4	-3.7 ***
lower vs upper lip length (LLS-Me'/Sn'-ULI) (%)	169.1	223.0	15.6	-3.5 ***
lower 1/3 of face (Sn'-Me') (mm)	76.0	81.1	4.7	-1.1 *
facial height (Na'-Me') (mm)	128.7	138.0	6.5	-1.4 *
b. hard tissue heights				
upper incisor exposure (ULI-Mx1tip) (mm)	1.2	3.5	1.0	-2.3 **
Mx anterior height (Sn'-Mx1) (mm)	28.2	28.4	3.2	-0.1
Mx occlusal plane (MxOP-TVL) (°)	89.8	95.0	1.4	-3.7 ***
short-long (Md1-Me') (mm)	48.4	56.0	3.0	-2.5 **
overbite (Mx1-Md1) (mm)	0.6	3.2	0.7	-3.7 ***
3. Soft Tissue Thickness				
upper lip thickness (Mx1 labial-ULA) (mm)	12.8	14.8	1.4	-1.4 *
lower lip thickness (LLinside-LLoutside) (mm)	11.4	15.1	1.2	-3.1 ***
soft tissue chin thickness (Pog-Pog') (mm)	13.3	13.5	2.3	-0.1
4. Projections (all to horizontal distances TVL except *)				
a. high midface projection				
subnasale to soft glabella (Sn to Gb') (mm)	-11.3	-8.0	2.5	-1.3 *
subnasale to soft orbital rim (Sn to soft OR') (mm)	-28.5	-22.4	2.7	-2.2 **
soft tissue Cheekbone (CB'-Sn) (mm)	-28.9	-25.2	4.0	-0.9
soft tissue Subpupil (SP'-Sn) (mm)	-21.9	-18.4	1.9	-1.8 *
b. maxillary projection				
nasal projection (NT) (mm)	14.6	17.0	1.7	-1.4 *
soft tissue Nasal Base (NB'-Sn) (mm)	-14.4	-10.0	3.0	-1.5 *
if Sn' is retrusive - move Sn' 1-3 mm anterior	0.4	N/A	N/A	N/A
soft tissue A Point' (A') (mm)	-0.3	0.7	1.5	-0.6
upper lip anterior (ULA-Sn) (mm)	1.0	3.3	1.7	-1.3 *
upper incisor tip projection (Mx1-Sn) (mm)	-8.9	-12.1	1.8	1.8 *
upper lip angle (ULA-Sn'-TVL) (°)	-8.3	8.3	5.4	-3.1 ***
nasolabial angle (Col-Sn'-ULA) (°)	97.7	106.0	7.7	-1.1 *
c. mandibular projection				
lower incisor tip projection (Md1-Sn) (mm)	-9.4	-15.4	1.9	3.1 ***
lower lip anterior (LLA) (mm)	4.4	1.0	2.2	1.6 *
soft tissue B point (B') (mm)	2.7	-7.1	1.6	6.1 ******
retruded-protruded (Pog'-Sn) (mm)	6.4	-3.5	1.8	5.5 *****
Throat length (NTJ-Pog') (mm)	41.7	61.4	7.4	-2.7 **
5. Facial Harmony (sensitive)				
a. Full facial balance				
facial angle (G'-Sn'-Pog') (°)	175.2	169.0	3.2	1.9 *
Forehead to Mx (G'-A') (mm)	11.0	7.8	2.8	1.2 *
Forehead to chin (G'-Pog') (mm)	17.7	4.6	2.2	6.0 ******
b. Orbit to jaw				
soft tissue Orbital rim to Mx (OR'-A') (mm)	28.2	22.1	3.0	2.0 **
soft tissue Orbital rim to chin (OR-POG') (mm)	34.9	18.9	2.8	5.7 *****
c. Interjaw				
chin to nasal base (Pog'-Sn') (mm)	-6.0	2.0	1.0	-8.0 ******
mandibular base to maxillary base (A'-B') (mm)	-3.0	6.8	1.5	-6.5 ******
lower lip to upper lip (LLA-ULA) (mm)	-3.4	2.3	1.2	-4.7 ****
d. intramandibular				
Md1 to chin (Md1-Pog') (mm)	15.9	11.9	2.8	1.4 *
lower lip to chin (LLA-soft Pog') (mm)	-2.0	4.4	2.5	-2.6 **
flat-angular (B'-Pog') (mm)	3.7	3.6	1.3	0.1

PROGRESS



Group/Measurement	Value	Norm	Std Dev	Dev Norm
1. Dentoskeletal factors (determine profile)				
a. maxilla				
upper incisor inclination (Mx1-MxOP) (°)	64.9	57.8	3.0	2.4 **
upper incisor tip projection (Mx1-Sn) (mm)	-12.0	-12.1	1.8	0.1
b. mandible				
lower incisor inclination (Md1-MdOP) (°)	77.3	64.0	4.0	3.3 ***
lower incisor tip projection (Md1-Sn) (mm)	-9.3	-15.4	1.9	3.2 ***
overjet (Mx1-Md1) (mm)	-2.6	3.2	0.6	-9.7 ******
Skeletal (Md1-Me'/Mx1-Sn) (%)	192.9	197.0	8.9	-0.5
c. vertical				
overbite (Mx1-Md1) (mm)	-0.0	3.2	0.7	-4.6 ****
Mx anterior height (Sn'-Mx1) (mm)	24.6	28.4	3.2	-1.2 *
Mx occlusal plane (MxOP-TVL) (°)	91.1	95.0	1.4	-2.8 **
chin height (Md1-Me') (mm)	47.5	56.0	3.0	-2.8 **
2. Facial Heights (all measured parallel to TVL)				
a. soft tissue heights				
U lip length (Sn'-ULI) (mm)	21.2	24.4	2.5	-1.3 *
interlabial gap (ULI-LLS) (mm)	2.0	2.4	1.1	-0.3
L lip length (LLS-Me') (mm) [2.2xULL] posture?	48.9	54.3	2.4	-2.3 **
lower vs upper lip length (LLS-Me'/Sn'-ULI) (%)	230.0	223.0	15.6	0.4
lower 1/3 of face (Sn'-Me') (mm)	72.1	81.1	4.7	-1.9 *
facial height (Na'-Me') (mm)	130.1	138.0	6.5	-1.2 *
b. hard tissue heights				
upper incisor exposure (ULI-Mx1tip) (mm)	3.4	3.5	1.0	-0.1
Mx anterior height (Sn'-Mx1) (mm)	24.6	28.4	3.2	-1.2 *
Mx occlusal plane (MxOP-TVL) (°)	91.1	95.0	1.4	-2.8 **
short-long (Md1-Me') (mm)	47.5	56.0	3.0	-2.8 **
overbite (Mx1-Md1) (mm)	-0.0	3.2	0.7	-4.6 ****
3. Soft Tissue Thickness				
upper lip thickness (Mx1 labial-ULA) (mm)	9.1	14.8	1.4	-4.1 ****
lower lip thickness (LLinside-LLoutside) (mm)	7.5	15.1	1.2	-6.3 ******
soft tissue chin thickness (Pog-Pog') (mm)	12.6	13.5	2.3	-0.4
menton thickness (Me-Me') (mm)	9.2	8.8	1.3	0.3
4. Projections (all to horizontal distances TVL except *)				
a. high midface projection				
subnasale to soft glabella (Sn to Gb') (mm)	-11.3	-8.0	2.5	-1.3 *
subnasale to soft orbital rim (Sn to soft OR') (mm)	-25.6	-22.4	2.7	-1.2 *
soft tissue Cheekbone (CB'-Sn) (mm)	-26.4	-25.2	4.0	-0.3
soft tissue Subpupil (SP'-Sn) (mm)	-17.5	-18.4	1.9	0.5
b. maxillary projection				
nasal projection (NT) (mm)	15.4	17.0	1.7	-0.9
soft tissue Nasal Base (NB'-Sn) (mm)	-17.4	-10.0	3.0	-2.5 **
if Sn' is retrusive - move Sn' 1-3 mm anterior	0.6	N/A	N/A	N/A
soft tissue A Point' (A') (mm)	-0.4	0.7	1.5	-0.7
upper lip anterior (ULA-Sn) (mm)	-0.8	3.3	1.7	-2.4 **
upper incisor tip projection (Mx1-Sn) (mm)	-12.0	-12.1	1.8	0.1
upper lip angle (ULA-Sn'-TVL) (°)	-13.3	8.3	5.4	-4.0 ****
nasolabial angle (Col-Sn'-ULA) (°)	116.9	106.0	7.7	1.4 *
c. mandibular projection				
lower incisor tip projection (Md1-Sn) (mm)	-9.3	-15.4	1.9	3.2 ***
lower lip anterior (LLA) (mm)	4.1	1.0	2.2	1.4 *
soft tissue B point (B') (mm)	1.5	-7.1	1.6	5.4 *****
retruded-protruded (Pog'-Sn) (mm)	5.3	-3.5	1.8	4.9 ****
Throat length (NTJ-Pog') (mm)	38.8	61.4	7.4	-3.0 ***
5. Facial Harmony (sensitive)				
a. Full facial balance				
facial angle (G'-Sn'-Pog') (°)	174.8	169.0	3.2	1.8 *
Forehead to Mx (G'-A') (mm)	10.9	7.8	2.8	1.1 *
Forehead to chin (G'-Pog') (mm)	16.6	4.6	2.2	5.4 *****
b. Orbit to jaw				
soft tissue Orbital rim to Mx (OR'-A') (mm)	25.3	22.1	3.0	1.1 *
soft tissue Orbital rim to chin (OR-POG') (mm)	30.9	18.9	2.8	4.3 ****
c. Interjaw				
chin to nasal base (Pog'-Sn') (mm)	-5.3	2.0	1.0	-7.3 ******
mandibular base to maxillary base (A'-B') (mm)	-1.8	6.8	1.5	-5.8 *****
lower lip to upper lip (LLA-ULA) (mm)	-4.9	2.3	1.2	-6.0 ******
d. intramandibular				
Md1 to chin (Md1-Pog') (mm)	14.6	11.9	2.8	1.0 *
lower lip to chin (LLA-soft Pog') (mm)	-1.2	4.4	2.5	-2.2 **
flat-angular (B'-Pog') (mm)	3.8	3.6	1.3	0.2

FINAL



Group/Measurement	Value	Norm	Std Dev	Dev Norm
1. Dentoskeletal factors (determine profile)				
a. maxilla				
upper incisor inclination (Mx1-MxOP) (°)	57.3	57.8	3.0	-0.2
upper incisor tip projection (Mx1-Sn) (mm)	-11.1	-12.1	1.8	0.6
b. mandible				
lower incisor inclination (Md1-MdOP) (°)	75.0	64.0	4.0	2.7 **
lower incisor tip projection (Md1-Sn) (mm)	-14.1	-15.4	1.9	0.7
overjet (Mx1-Md1) (mm)	3.0	3.2	0.6	-0.4
Skeletal (Md1-Me'/Mx1-Sn) (%)	210.0	197.0	8.9	1.5 *
c. vertical				
overbite (Mx1-Md1) (mm)	2.4	3.2	0.7	-1.1 *
Mx anterior height (Sn'-Mx1) (mm)	22.2	28.4	3.2	-1.9 *
Mx occlusal plane (MxOP-TVL) (°)	99.8	95.0	1.4	3.4 ***
chin height (Md1-Me') (mm)	46.6	56.0	3.0	-3.1 ***
2. Facial Heights (all measured parallel to TVL)				
a. soft tissue heights				
U lip length (Sn'-ULI) (mm)	20.3	24.4	2.5	-1.6 *
interlabial gap (ULI-LLS) (mm)	1.7	2.4	1.1	-0.6
L lip length (LLS-Me') (mm) [2.2xULL] posture?	44.4	54.3	2.4	-4.1 ****
lower vs upper lip length (LLS-Me'/Sn'-ULI) (%)	218.5	223.0	15.6	-0.3
lower 1/3 of face (Sn'-Me') (mm)	66.4	81.1	4.7	-3.1 ***
facial height (Na'-Me') (mm)	122.4	138.0	6.5	-2.4 **
b. hard tissue heights				
upper incisor exposure (ULI-Mx1tip) (mm)	1.9	3.5	1.0	-1.6 *
Mx anterior height (Sn'-Mx1) (mm)	22.2	28.4	3.2	-1.9 *
Mx occlusal plane (MxOP-TVL) (°)	99.8	95.0	1.4	3.4 ***
short-long (Md1-Me') (mm)	46.6	56.0	3.0	-3.1 ***
overbite (Mx1-Md1) (mm)	2.4	3.2	0.7	-1.1 *
3. Soft Tissue Thickness				
upper lip thickness (Mx1 labial-ULA) (mm)	11.0	14.8	1.4	-2.7 **
lower lip thickness (LLinside-LLoutside) (mm)	9.7	15.1	1.2	-4.5 ****
soft tissue chin thickness (Pog-Pog') (mm)	12.7	13.5	2.3	-0.3
Group/Measurement	Value	Norm	Std Dev	Dev Norm
4. Projections (all to horizontal distances TVL except *)				
a. high midface projection				
subnasale to soft glabella (Sn to Gb') (mm)	-11.3	-8.0	2.5	-1.3 *
subnasale to soft orbital rim (Sn to soft OR') (mm)	-25.7	-22.4	2.7	-1.2 *
soft tissue Cheekbone (CB'-Sn) (mm)	-27.1	-25.2	4.0	-0.5
soft tissue Subpupil (SP'-Sn) (mm)	-20.1	-18.4	1.9	-0.9
b. maxillary projection				
nasal projection (NT) (mm)	14.0	17.0	1.7	-1.7 *
soft tissue Nasal Base (NB'-Sn) (mm)	-17.1	-10.0	3.0	-2.4 **
if Sn' is retrusive - move Sn' 1-3 mm anterior	0.0	N/A	N/A	N/A
soft tissue A Point' (A') (mm)	-0.9	0.7	1.5	-1.1 *
upper lip anterior (ULA-Sn) (mm)	0.5	3.3	1.7	-1.6 *
upper incisor tip projection (Mx1-Sn) (mm)	-11.1	-12.1	1.8	0.6
upper lip angle (ULA-Sn'-TVL) (°)	-7.2	8.3	5.4	-2.9 **
nasolabial angle (Col-Sn'-ULA) (°)	110.2	106.0	7.7	0.5
c. mandibular projection				
lower incisor tip projection (Md1-Sn) (mm)	-14.1	-15.4	1.9	0.7
lower lip anterior (LLA) (mm)	-0.6	1.0	2.2	-0.7
soft tissue B point (B') (mm)	-2.8	-7.1	1.6	2.7 **
retruded-protruded (Pog'-Sn) (mm)	2.1	-3.5	1.8	3.1 ***
Throat length (NTJ-Pog') (mm)	43.3	61.4	7.4	-2.4 **
5. Facial Harmony (sensitive)				
a. Full facial balance				
facial angle (G'-Sn'-Pog') (°)	172.5	169.0	3.2	1.1 *
Forehead to Mx (G'-A') (mm)	10.4	7.8	2.8	0.9
Forehead to chin (G'-Pog') (mm)	13.3	4.6	2.2	4.0 ****
b. Orbit to jaw				
soft tissue Orbital rim to Mx (OR'-A') (mm)	24.9	22.1	3.0	0.9
soft tissue Orbital rim to chin (OR-POG') (mm)	27.5	18.9	2.8	3.2 ***
c. Interjaw				
chin to nasal base (Pog'-Sn') (mm)	-2.1	2.0	1.0	-4.1 ****
mandibular base to maxillary base (A'-B') (mm)	1.9	6.8	1.5	-3.2 ***
lower lip to upper lip (LLA-ULA) (mm)	1.2	2.3	1.2	-0.9
d. intramandibular				
Md1 to chin (Md1-Pog') (mm)	16.1	11.9	2.8	1.5 *
lower lip to chin (LLA-soft Pog') (mm)	-2.7	4.4	2.5	-2.8 **
flat-angular (B'-Pog') (mm)	4.9	3.6	1.3	1.0 *

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VALUTAZIONE MACRO-/MINI-/MICRO-ESTETICA

Specializzando: Giuseppe Nigro

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Scuola di specializzazione in Ortognatodonzia - Direttore Prof. Felice Festa

VALUTAZIONE MACRO-ESTETICA

FOTO EXTRAORALI

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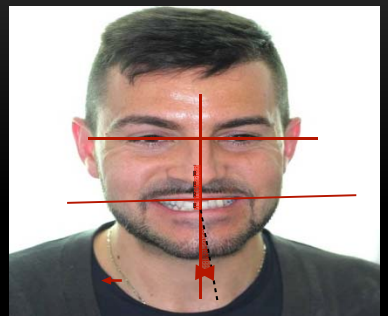


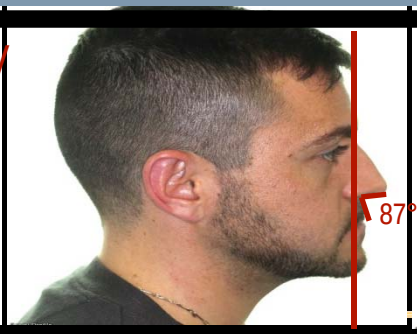
VALUTAZIONE SIMMETRIA FACCIALE
Asimmetria mascellare sup e inf
dalla linea mediana

PROPORZIONI FACCIALI
SUL PIANO ORIZZONTALE

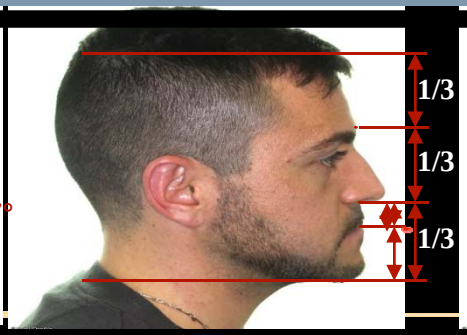
AMPIEZZA E DIMENSIONI BOCCA

ANALISI DELLE PROPORZIONI PIANO ORIZZONTALE E SAGITTALE

PROIEZIONE NEI TESSUTI MOLLI DEL
MASCELLARE E DELLA MANDIBOLA
(TVL TRUE VERTICAL LINE ARNETT)



VERTICALE SU NASION CUTANEO
ANGOLO NASOLABIALE (NORMA 97°-114°)



PROPORZIONI FACCIALI SUL PIANO SAGITTALE

E-LINE LINEA ESTETICA

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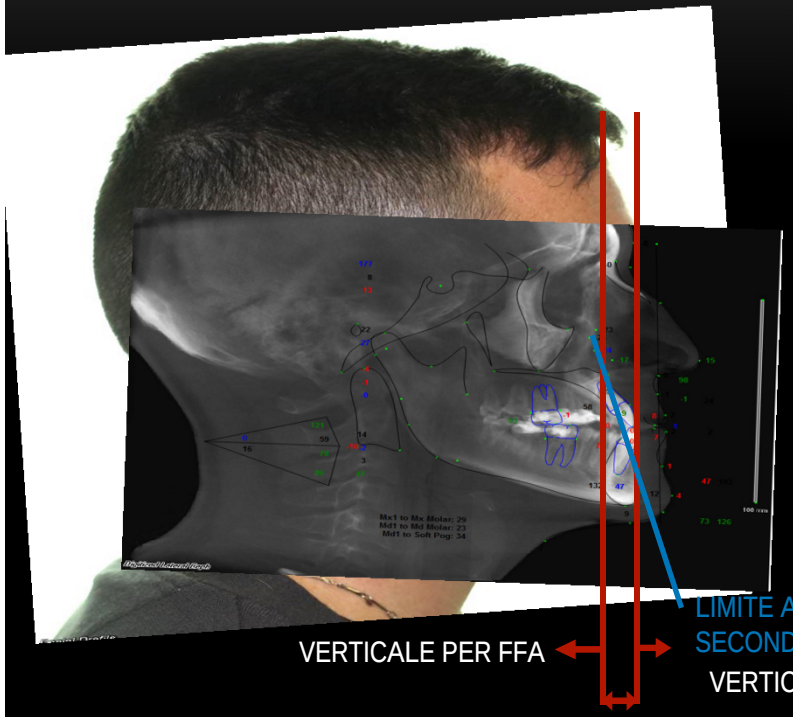
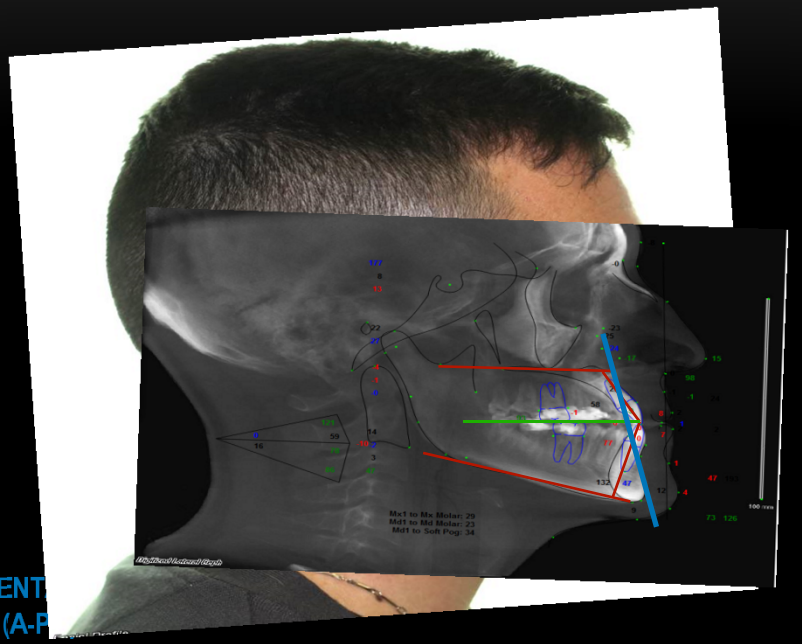
POSIZIONE DELL’INCISIVO CENTRALE SUPERIORE, INFERIORE, PIANO OCCLUSALE E FRAME SCHELETRICO





VERTICALE PER FFA

LIMITE ANTERIORE DEL FRAME DENT
SECONDO BENNETT - McLaughlin (A-P

VERTICALE SECONDO ANDREWS

POSIZIONE DELL’INCISIVO SUP COMPRESO TRA LA VERTICALE DI ANDREWS E LA VERTICALE PASSANTE PER FFA

Specializzando: Giuseppe Nigro

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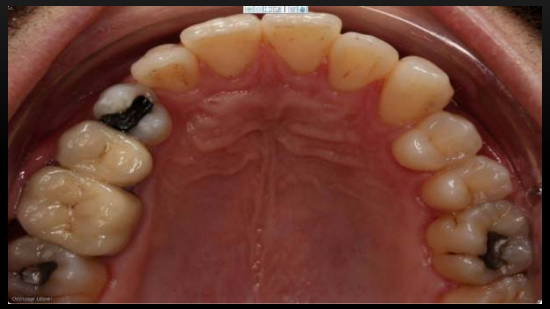
VALUTAZIONE MINI- E MICRO-ESTETICA

Specializzando: Giuseppe Nigro

Università degli Studi “Gabriele d’Annunzio” Chieti - Pescara

Scuola di specializzazione in Ortognatodonzia - direttore Prof. Felice Festa

FOTO INTRAORALI



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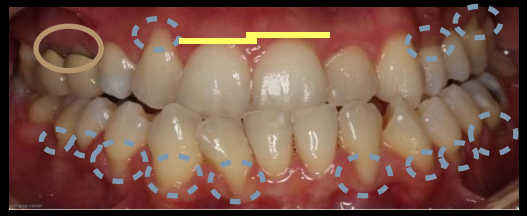
ESAME INTRAORALE E STUDIO DEI MODELLI



Discrepanza linee mediane dentali | Classe III molare dx e sx | Classe III canina dx e sx

Crossbite posteriore e anteriore | Restauri protesici incongrui | Mancanza del 1.3 | Curva di Spee piatta/profonda



- DIFETTI PARODONTALI
- RESTAURI PROTESICI INCONGRUI
- PARABOLE GENGIVALI ASIMMETRICHE
- ALTERAZIONE ZENIT GENGIVALE

SMILE ARCH
Irregolare

DISCREPANZA DEI
PIANI OCCLUSALI POSTERIORI

Specializzando: Giuseppe Nigro

Università degli Studi “Gabriele d’Annunzio” Chieti - Pescara

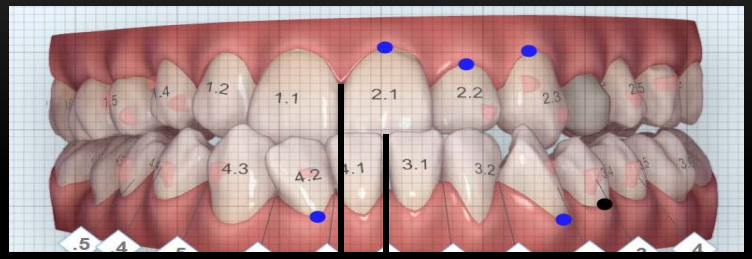
Scuola di specializzazione in Ortognatodonzia - direttore Prof. Felice Festa

MODELLI VIRTUALI

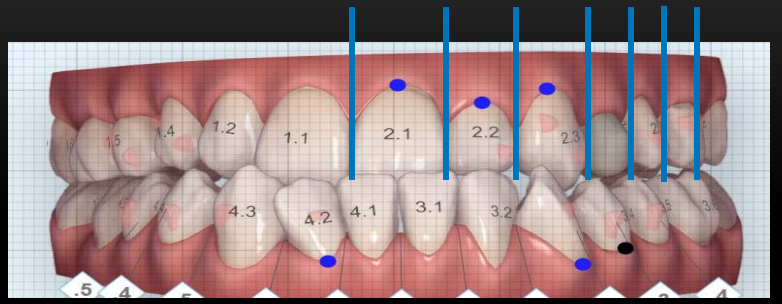
Specializzando: Giuseppe Nigro

Università degli Studi "Gabriele d'Annunzio" Chieti - Pescara

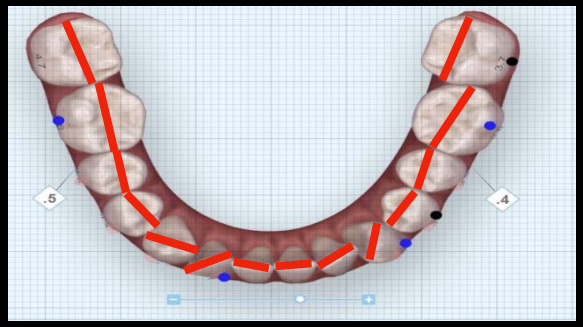
Scuola di specializzazione in Ortognatodonzia - Direttore Prof. Felice Festa



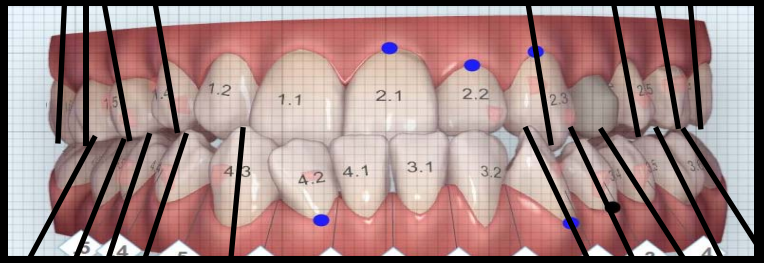
LINEE MEDIANE DENTALI



VALUTAZIONI PROPORZIONI AUREE DENTALI



AFFOLLAMENTO

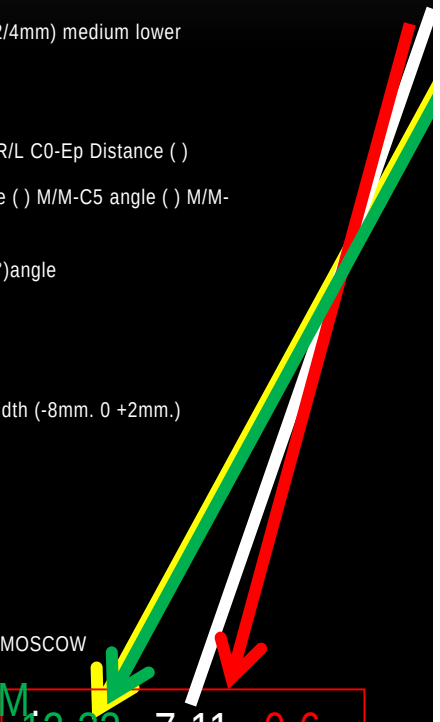


TORQUE SETTORI POSTERIORI

Specializzando: Giuseppe Nigro

FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

- CLINICAL CHART ORTHODONTICS ( ) TMJ ( ) ORT.+TMJ ( )
- LATERAL/FRONTAL TELERADIOGRAPHY ( ) ORTO ( ) LOWDOSE CONEBEAM ( ) SEGMENTATION ALFA ( ) BETA ( ) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
- LATERAL/FRONTAL SLICE TELERADIOGRAPHY Ba-A ( ) Ba-B ( ) R/L condyle head-Gonion distance (+/-15 mm) occlusal plane asimmetry (+/-10mm.) palatal suture Menton asimmetry (+/- 15mm.)
- LATERAL/FRONTAL SLICE TELERADIOGRAPHY UPPER/MEDIUM/LOWER AIRWAYS turbinate hypertrophy (+1/4mm.) adenoids/tonsils hypertrophy (+2/4mm) medium lower airways reduction (-10/20mm) sleep apnea (+/-)
- R/lL PONTICULUS POSTICUS ( )
- LATERAL/CORONAL SLICE CERVICAL SPINE RELATIONSHIP C0 ( ) C1 ( ) C2 ( ) C3 ( ) C4( ) C5 ( ) C6 ( ) Cervical Angle ( ) Coronal Ba Ep Angle ( ) R/L C0-Ep Distance ( )
- SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )
- R/L GONION-CERVICAL SPINE RELASHIONSHIP third cervical vertebra distance (+/-10mm.) first/fifth cervical vertebra angle lordotic(-15°) cifotic (+15°)angle
- CORONAL/LATERAL SLICE CONDYLE FOSSA RELATIONSHIP (2mm. Back 0mm. Centered 2mm. Forward 1/3mm. Up 1/3mm. Down 1/3mm
- CORONAL/LATERAL SLICE CONDYLE SHAPE/ANATOMY curvature(5°-45°) flattening(1-3) cortical collapse(1-3) osteofitosis (1-4)
- CORONAL /SLICE MAXILLARY/MANDIBULAR CROSS-SECTIONS BONE REDUCTION/INCREASE cortical plate width (+/-1 mm.) R-L cuspid bicuspid width (-8mm. 0 +2mm.)
- MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE (+/-10 mm)
- SMV SLICE MAXILLO/MANDIBULAR contraction (+/- 7 mm.) expansion (+/- 7 mm.)
- CORTICAL/SUBCORTICAL fMRI PAIN NETWORKS (+5 increase -4 decrease)
- R/L CORONAL/LATERAL MASSETER/STERNOCLEIDOMASTOIDEUS STERNAL INSERTION width/lenght (+/-10mm.)
- McLAUGHLIN CEPHALOMETRICS ( ) FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT McLAUGHLIN CEPHALOMETRICS NHP+TVL+FP ( ) 3D MOSCOW CEPHALOMETRICS ( ) SUPERIMPOSITIONS (XXX-X)



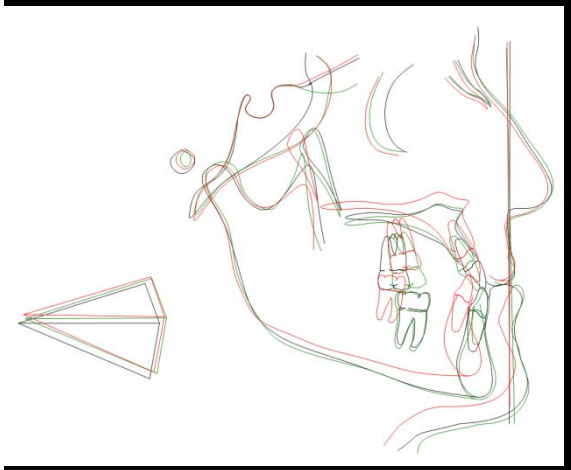
TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

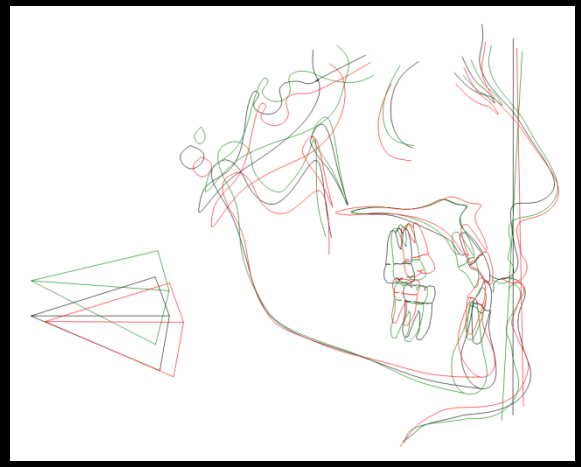
OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

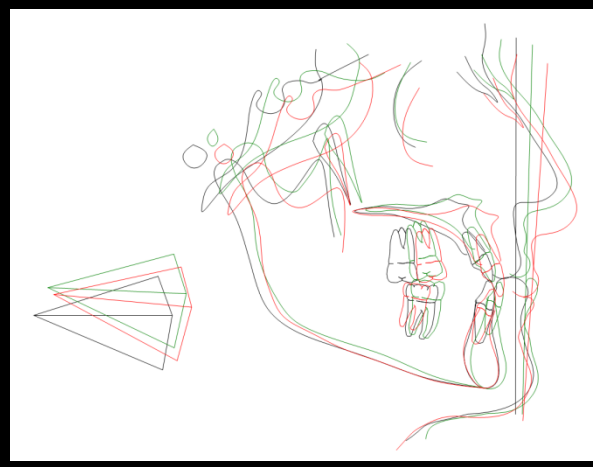
FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT MCLAUGHLIN CEPHALOMETRICS

SUPERIMPOSITIONS (XXX>X)

S-NA@S ANS-PNS@NA-POG GO-ME@ME







PRE-CONGRESS COURSES

Thursday, October 10, 2019

Transaction from 2D to 3D

Sponsored by Dolphin Imaging & Management

Italian Language Only

9.00-9.15	Welcome	
9.15-10.00	**Festa Felice**	The 3D clinical chart. CBCT low-dose
10.00-11.15	**Festa Felice**	Segmentation, head orientation in space and repeatability of 3D measurements (Part I Theory)
11.15-11.45	**Coffee break**	
11.45-12.30	**Ventorre Dario**	Surgical planning with Dolphin 3D Surgery: from CBCT to SPLINT - Part I
12.30-13.15	**Ventorre Dario**	Surgical planning with Dolphin 3D Surgery: from CBCT to SPLINT - Part II
13.15-14.00	**Conti Davide** **Sartori Orlando**	Completion of 3D Dolphin sofware insertion on participants' computers
14.00-15.00	**Lunch**	
15.00-15.45	**Festa Felice**	Segmentation, head orientation in space and repeatability of 3D measurements (Part II practice on participants' computers with tutor support)
15.45-16.30	**Festa Felice**	Projecting virtual X-rays: comparison and distortions Continuing Part II practice on computers
16.30-17.15	**Festa Felice**	Continuing Part II practice on computers Clinical cases and conclusions

FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

- CLINICAL CHART ORTHODONTICS ( ) TMJ ( ) ORT.+TMJ ( )
- LATERAL/FRONTAL TELERADIOGRAPHY ( ) ORTO ( ) LOWDOSE CONEBEAM ( ) SEGMENTATION ALFA ( ) BETA ( ) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
- LATERAL/FRONTAL SLICE TELERADIOGRAPHY Ba-A ( ) Ba-B ( ) R/L condyle head-Gonion distance (+/-15 mm) occlusal plane asimmetry (+/-10mm.) palatal suture Menton asimmetry (+/- 15mm.)
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- R/IL PONTICULUS POSTICUS ( )
- LATERAL/CORONAL SLICE CERVICAL SPINE RELATIONSHIP C0 ( ) C1 ( ) C2 ( ) C3 ( ) C4( ) C5 ( ) C6 ( ) Cervical Angle ( ) Coronal Ba Ep Angle ( ) R/L C0-Ep Distance ( )
- SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )
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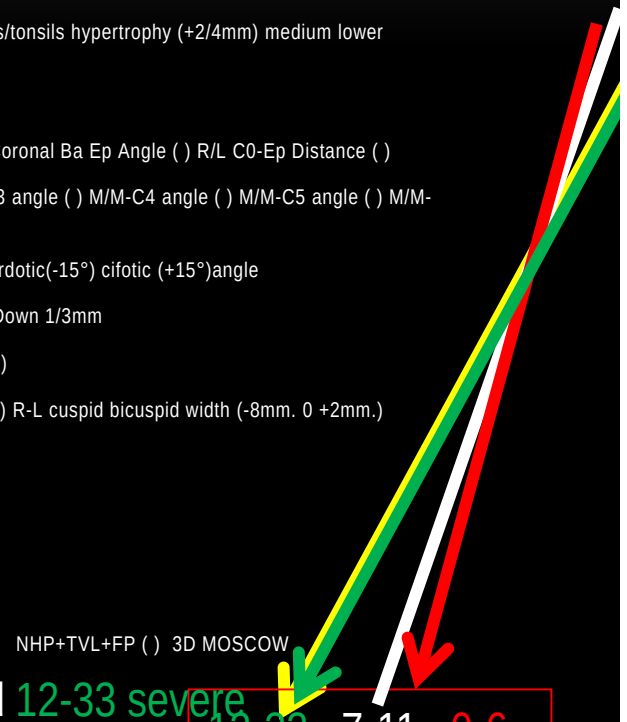
- CORONAL/LATERAL SLICE CONDYLE SHAPE/ANATOMY curvature(5°-45°) flattening(1-3) cortical collapse(1-3) osteofitosis (1-4)
- CORONAL /SLICE MAXILLARY/MANDIBULAR CROSS-SECTIONS BONE REDUCTION/INCREASE cortical plate width (+/-1 mm.) R-L cuspid bicuspid width (-8mm. 0 +2mm.)
- MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE (+/-10 mm)
- SMV SLICE MAXILLO/MANDIBULAR contraction (+/- 7 mm.) expansion (+/- 7 mm.)
- CORTICAL/SUBCORTICAL fMRI PAIN NETWORKS (+5 increase -4 decrease)
- R/L CORONAL/LATERAL MASSETER/STERNOCLEIDOMASTOIDEUS STERNAL INSERTION width/lenght (+/-10mm.)
- McLAUGHLIN CEPHALOMETRICS ( ) FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT McLAUGHLIN CEPHALOMETRICS NHP+TVL+FP ( ) 3D MOSCOW CEPHALOMETRICS ( )



OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

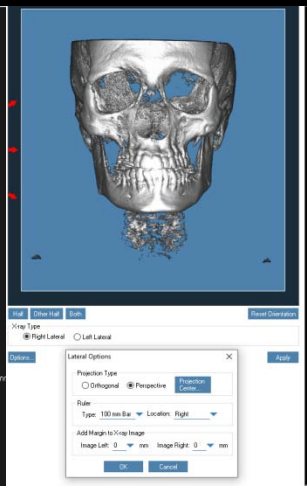
TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

R/L GONION-CERVICAL SPINE RELASHIONSHIP third cervical vertebra distance (+/-10mm.) first/fifth cervical vertebra angle lordotic(-15°) cifotic (+15°)angle

3D LATERAL TELERADIOGRAPHY

ORTHOGONAL

PERSPECTIVE



FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

- CLINICAL CHART ORTHODONTICS ( ) TMJ ( ) ORT.+TMJ ( )
- LATERAL/FRONTAL TELERADIOGRAPHY (X) ORTO ( ) LOWDOSE CONEBEAM ( ) SEGMENTATION ALFA ( ) BETA ( ) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
- LATERAL/FRONTAL SLICE TELERADIOGRAPHY Ba-A ( ) Ba-B ( ) R/L condyle head-Gonion distance (+/-15 mm) occlusal plane asimmetry (+/-10mm.) palatal suture Menton asimmetry (+/- 15mm.)
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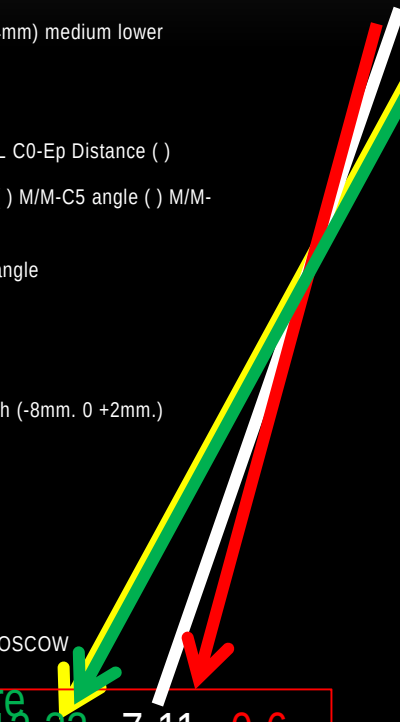


OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

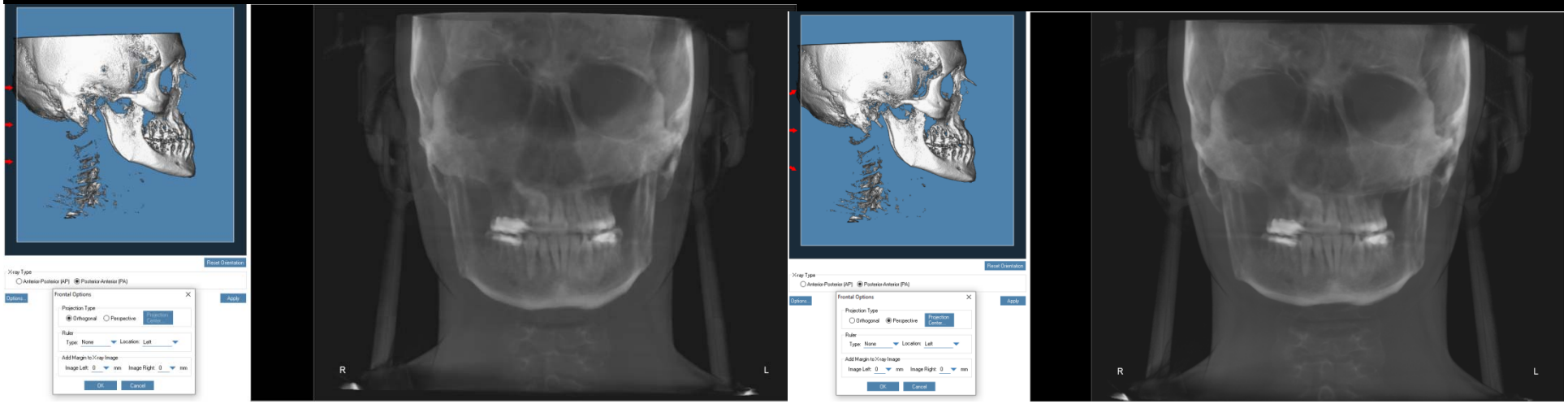
TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

R/L GONION-CERVICAL SPINE RELASHIONSHIP third cervical vertebra distance (+/-10mm.) first/fifth cervical vertebra angle lordotic(-15°) cifotic (+15°)angle

3D FRONTAL TELERADIOGRAPHY

ORTHOGONAL

PERSPECTIVE



FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

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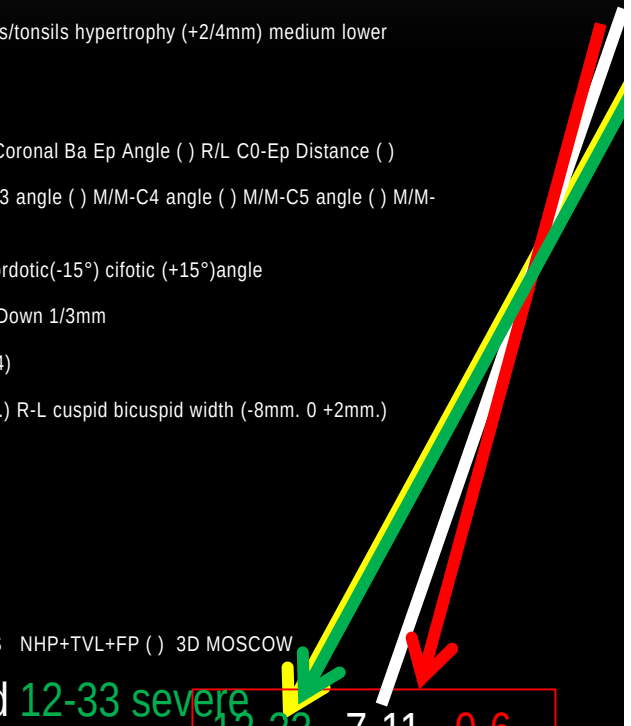


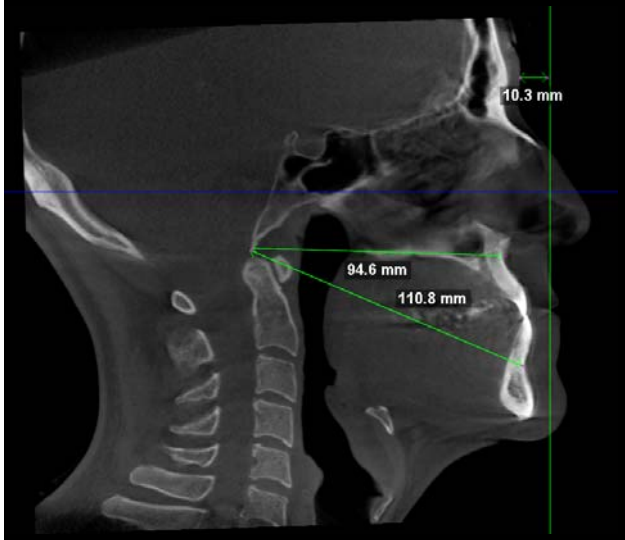
OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

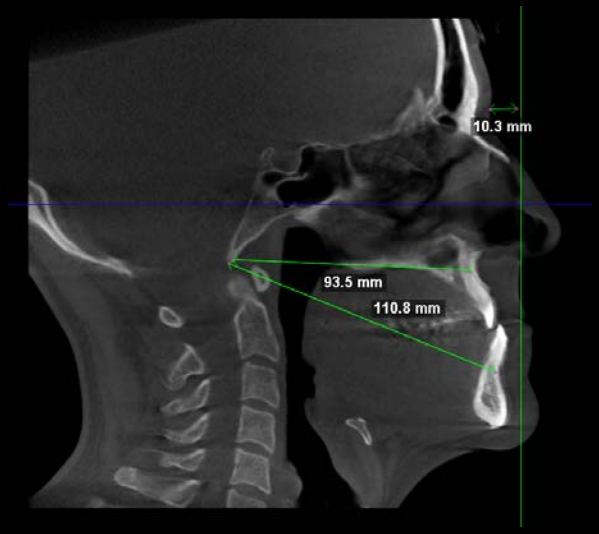
R/L GONION-CERVICAL SPINE RELASHIONSHIP third cervical vertebra distance (+/-10mm.) first/fifth cervical vertebra angle lordotic(-15°) cifotic (+15°)angle

LATERAL SLICE TELERADIOGRAPHY (XXX>X)

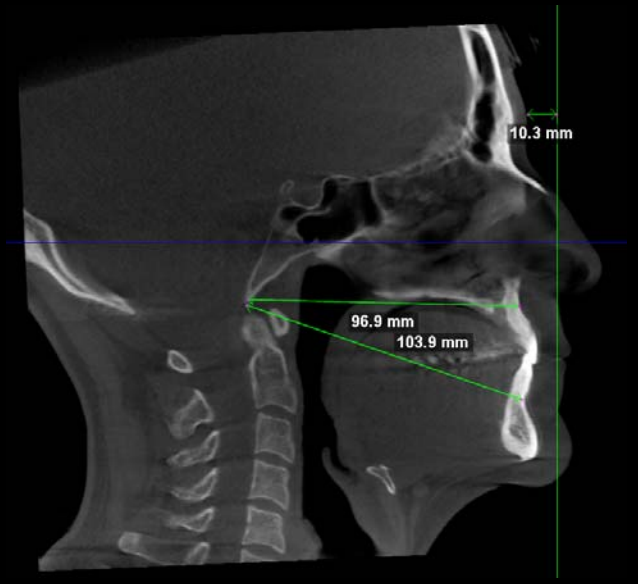
Initial



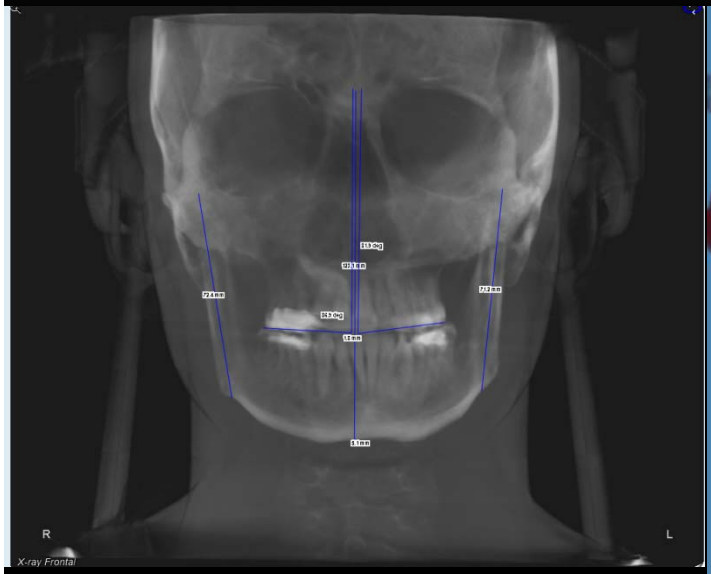
Progress

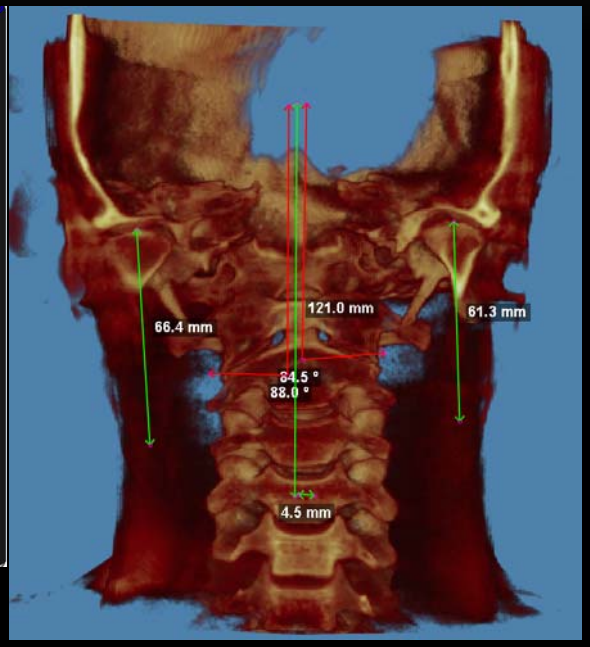


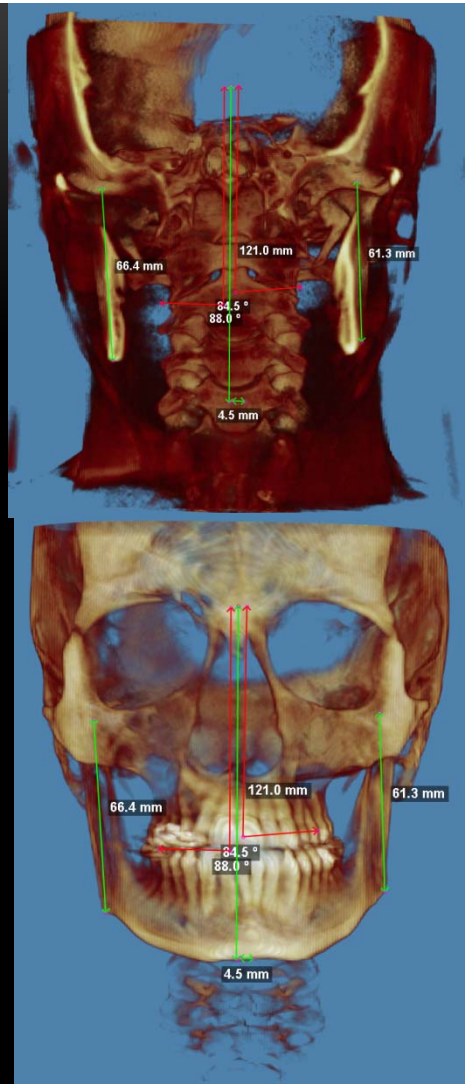
Final



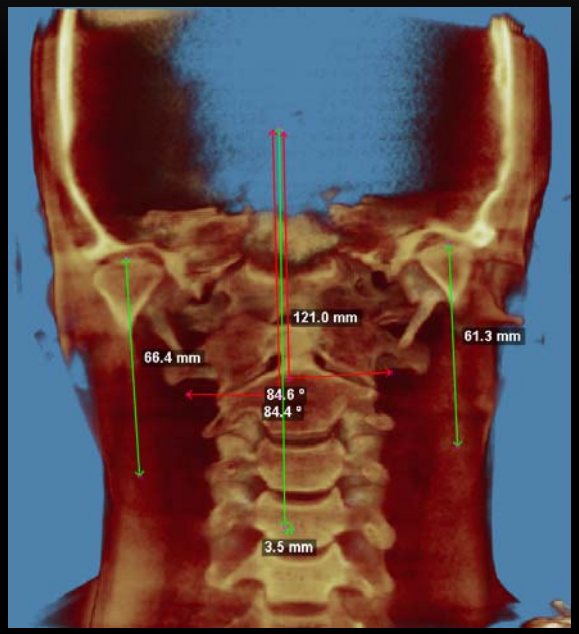
FRONTAL SLICE TELERADIOGRAPHY INITIAL

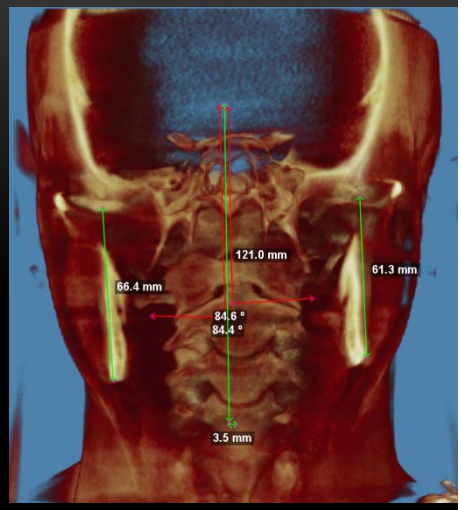


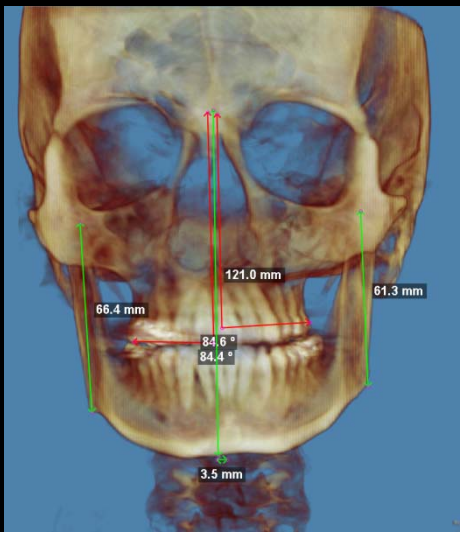




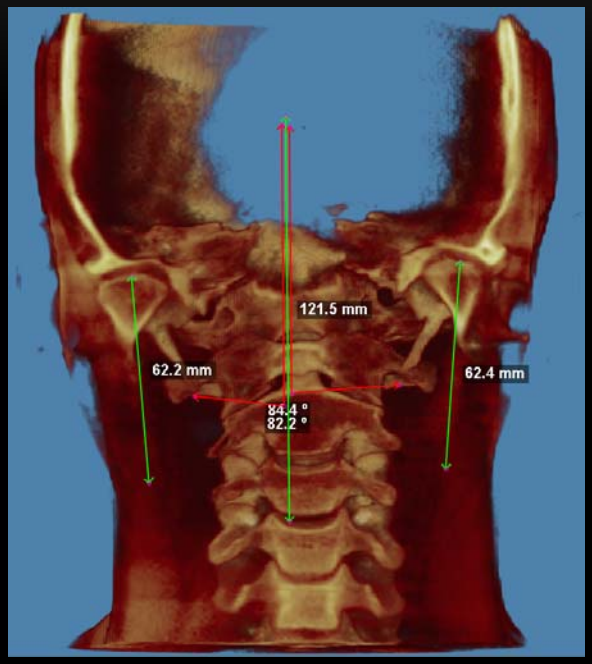
FRONTAL SLICE TELERADIOGRAPHY PROGRESS

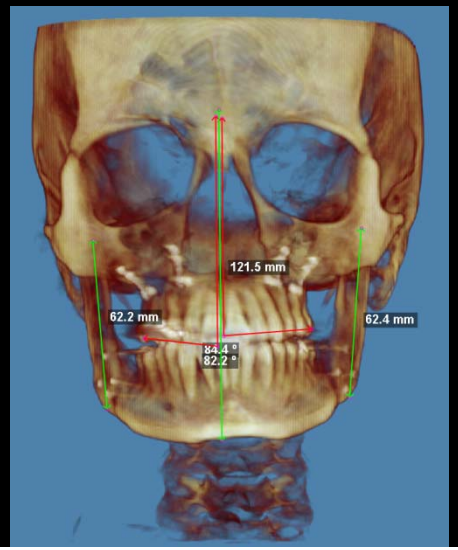






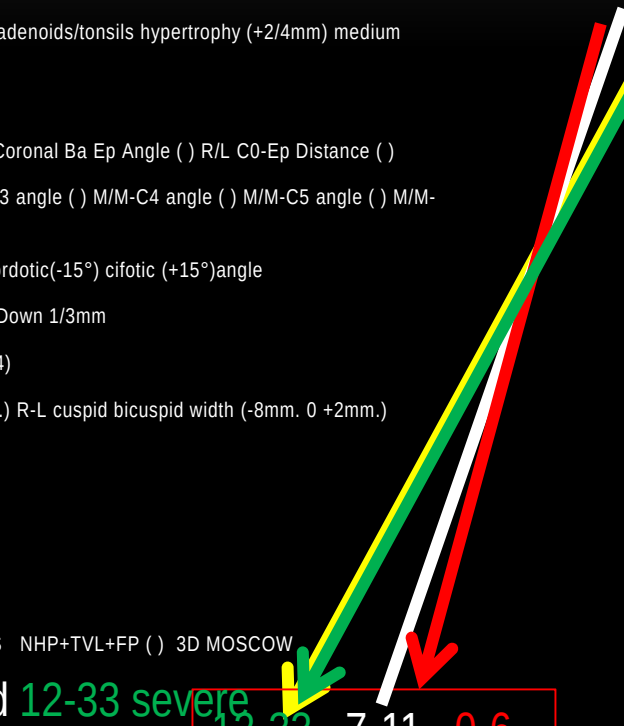
FRONTAL SLICE TELERADIOGRAPHY FINAL (XXX>XX)





FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

- CLINICAL CHART ORTHODONTICS ( ) TMJ ( ) ORT.+TMJ ( )
- LATERAL/FRONTAL TELERADIOGRAPHY ( ) ORTO ( ) LOWDOSE CONEBEAM ( ) SEGMENTATION ALFA ( ) BETA ( ) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
- LATERAL/FRONTAL CORONAL SLICE TELERADIOGRAPHY Ba-A ( ) Ba-B ( ) R/L condyle head-Gonion distance (+/-15 mm) occlusal plane asimmetry (+/-10mm.) palatal suture Menton asimmetry (+/- 15mm.)
- LATERAL/FRONTAL/AXIAL SLICE TELERADIOGRAPHY UPPER/MEDIUM/LOWER AIRWAYS turbinate hypertrophy (+1/4mm.) adenoids/tonsils hypertrophy (+2/4mm) medium lower airways reduction (-10/20mm) sleep apnea (+/-) Ramus Retromolar-C2-Medium Airways( )
- R/IL PONTICULUS POSTICUS ( )
- LATERAL/CORONAL SLICE CERVICAL SPINE RELATIONSHIP C0 ( ) C1 ( ) C2 ( ) C3 ( ) C4( ) C5 ( ) C6 ( ) Cervical Angle ( ) Coronal Ba Ep Angle ( ) R/L C0-Ep Distance ( )
- SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )
- R/L GONION-CERVICAL SPINE RELASHIONSHIP third cervical vertebra distance (+/-10mm.) first/fifth cervical vertebra angle lordotic(-15°) cifotic (+15°)angle
- CORONAL/LATERAL SLICE CONDYLE FOSSA RELATIONSHIP (2mm. Back 0mm. Centered 2mm. Forward 1/3mm. Up 1/3mm. Down 1/3mm
- CORONAL/LATERAL SLICE CONDYLE SHAPE/ANATOMY curvature(5°-45°) flattening(1-3) cortical collapse(1-3) osteofitosis (1-4)
- CORONAL /SLICE MAXILLARY/MANDIBULAR CROSS-SECTIONS BONE REDUCTION/INCREASE cortical plate width (+/-1 mm.) R-L cuspid bicuspid width (-8mm. 0 +2mm.)
- MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE (+/-10 mm)
- SMV SLICE MAXILLO/MANDIBULAR contraction (+/- 7 mm.) expansion (+/- 7 mm.)
- CORTICAL/SUBCORTICAL fMRI PAIN NETWORKS (+5 increase -4 decrease)
- R/L CORONAL/LATERAL MASSETER/STERNOCLEIDOMASTOIDEUS STERNAL INSERTION width/lenght (+/-10mm.)
- McLAUGHLIN CEPHALOMETRICS ( ) FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT McLAUGHLIN CEPHALOMETRICS NHP+TVL+FP ( ) 3D MOSCOW CEPHALOMETRICS ( )



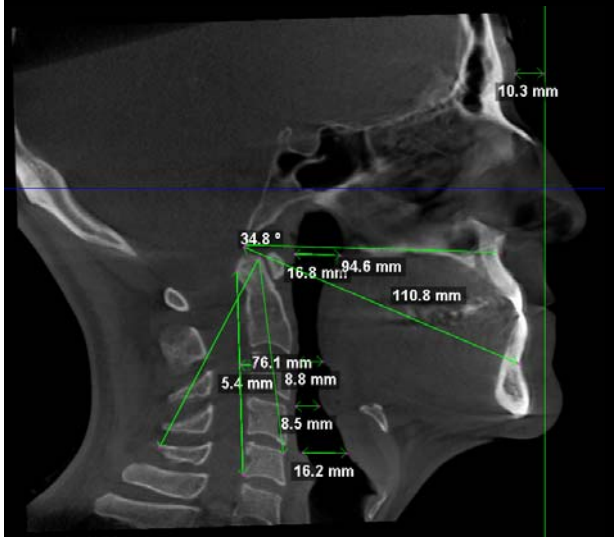
OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

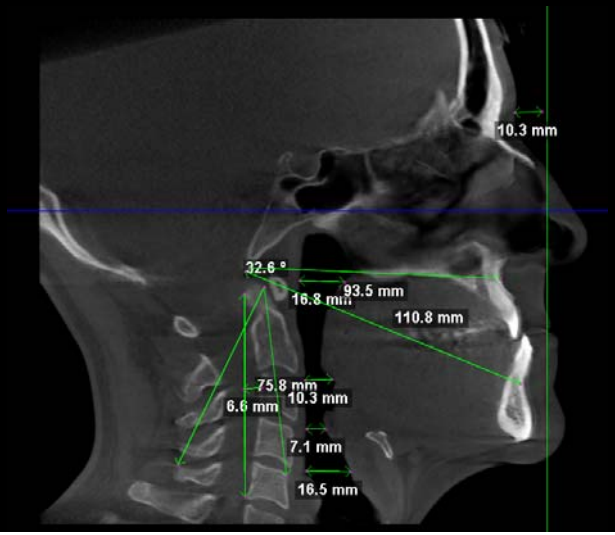
R/L GONION-CERVICAL SPINE RELASHIONSHIP third cervical vertebra distance (+/-10mm.) first/fifth cervical vertebra angle lordotic(-15°) cifotic (+15°)angle

LATERAL SLICE TELERADIOGRAPHY
UPPER/MEDIUM/LOWER AIRWAYS

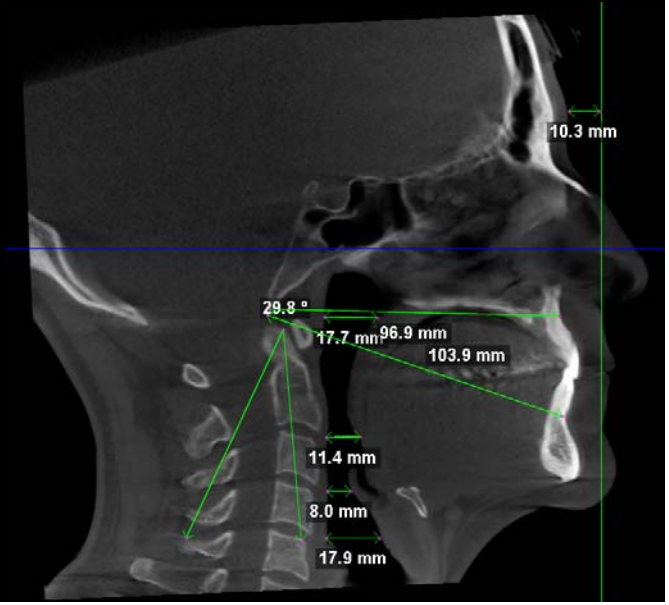
Initial



Progress



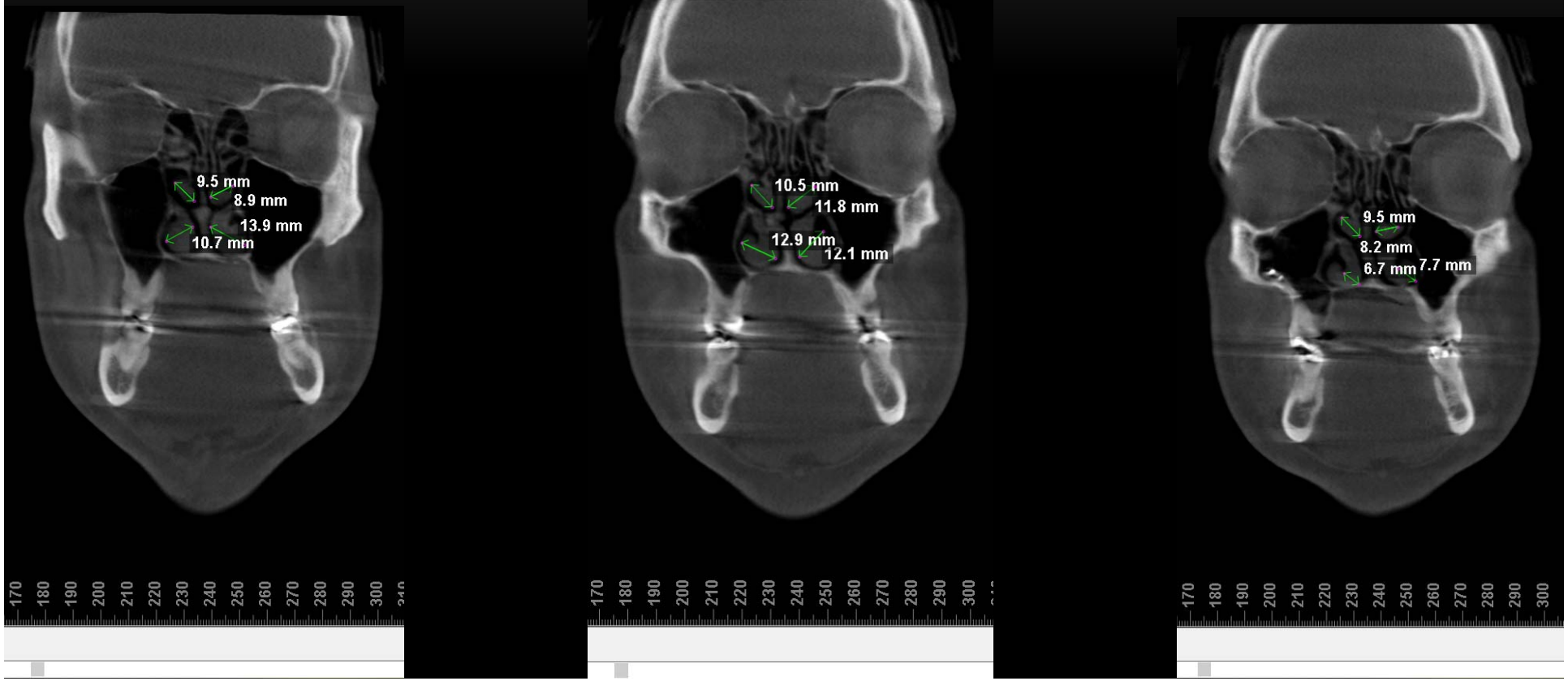
Final



FRONTAL SLICE TELERADIOGRAPHY

UPPER/MEDIUM/LOWER AIRWAYS (XX>X)

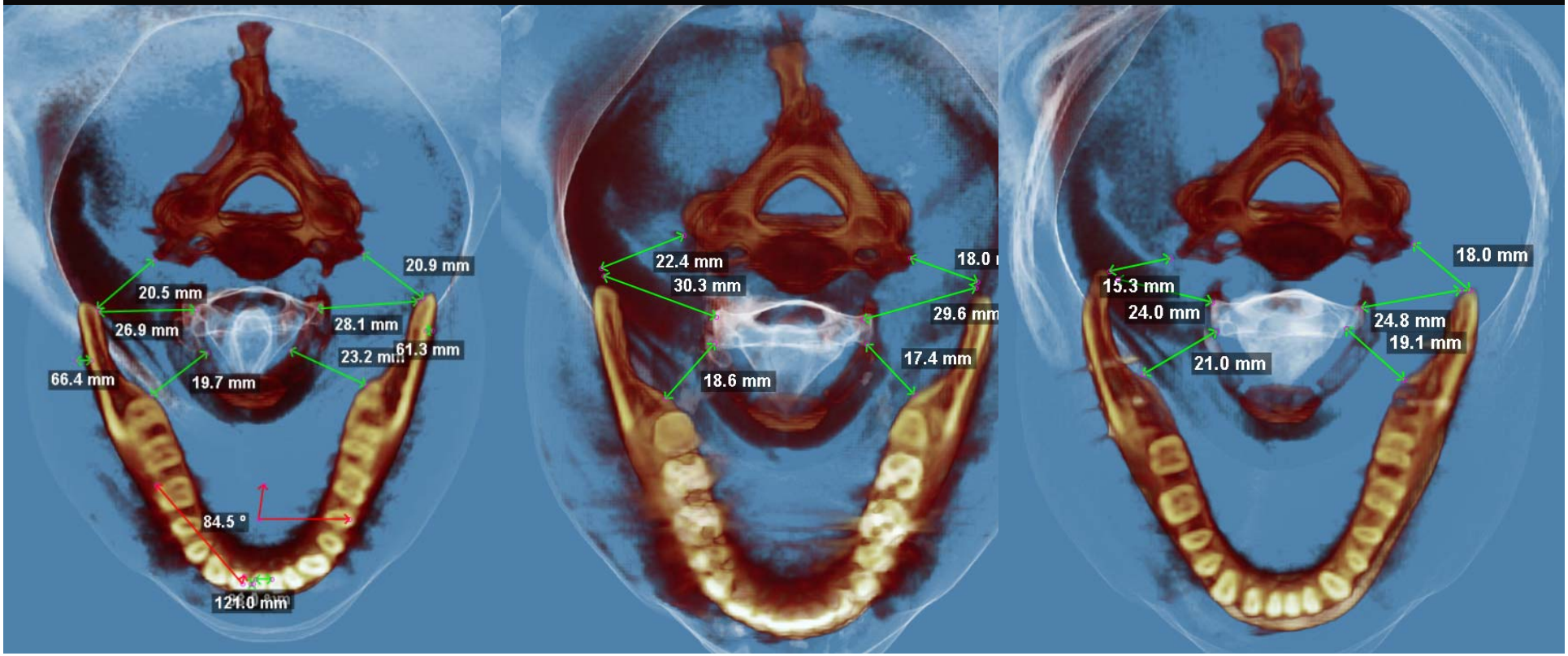
INITIAL PROGRESS FINAL



AXIAL SLICE TELERADIOGRAPHY

UPPER/MEDIUM/LOWER AIRWAYS (X>X)

INITIAL PROGRESS FINAL



FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

- CLINICAL CHART ORTHODONTICS ( ) TMJ ( ) ORT.+TMJ ( )
- LATERAL/FRONTAL TELERADIOGRAPHY ( ) ORTO ( ) LOWDOSE CONEBEAM ( ) SEGMENTATION ALFA ( ) BETA ( ) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
- LATERAL/FRONTAL CORONAL SLICE TELERADIOGRAPHY Ba-A ( ) Ba-B ( ) R/L condyle head-Gonion distance (+/-15 mm) occlusal plane asimmetry (+/-10mm.) palatal suture Menton asimmetry (+/- 15mm.)
- LATERAL/FRONTAL/AXIAL SLICE TELERADIOGRAPHY UPPER/MEDIUM/LOWER AIRWAYS turbinate hypertrophy (+1/4mm.) adenoids/tonsils hypertrophy (+2/4mm) medium lower airways reduction (-10/20mm) sleep apnea (+/-) Ramus Retromolar-C2-Medium Airways( )
- R/IL PONTICULUS POSTICUS ( )
- LATERAL/CORONAL SLICE CERVICAL SPINE RELATIONSHIP C0 ( ) C1 ( ) C2 ( ) C3 ( ) C4( ) C5 ( ) C6 ( ) Cervical Angle ( ) Coronal Ba Ep Angle ( ) R/L C0-Ep Distance ( )
- SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )
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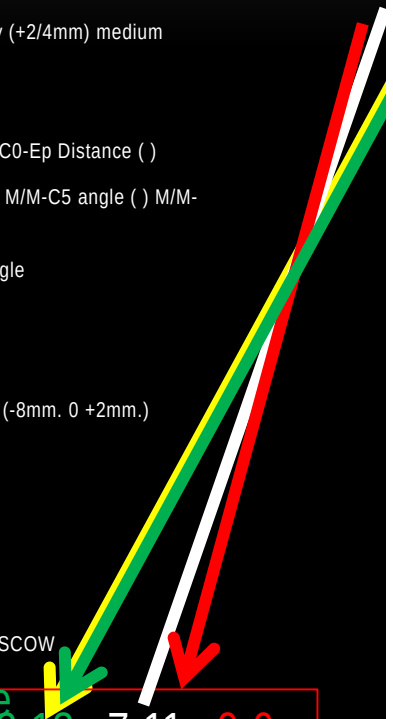
- CORONAL/LATERAL SLICE CONDYLE SHAPE/ANATOMY curvature(5°-45°) flattening(1-3) cortical collapse(1-3) osteofitosis (1-4)
- CORONAL /SLICE MAXILLARY/MANDIBULAR CROSS-SECTIONS BONE REDUCTION/INCREASE cortical plate width (+/-1 mm.) R-L cuspid bicuspid width (-8mm. 0 +2mm.)
- MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE (+/-10 mm)
- SMV SLICE MAXILLO/MANDIBULAR contraction (+/- 7 mm.) expansion (+/- 7 mm.)
- CORTICAL/SUBCORTICAL fMRI PAIN NETWORKS (+5 increase -4 decrease)
- R/L CORONAL/LATERAL MASSETER/STERNOCLEIDOMASTOIDEUS STERNAL INSERTION width/lenght (+/-10mm.)
- McLAUGHLIN CEPHALOMETRICS ( ) FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT McLAUGHLIN CEPHALOMETRICS NHP+TVL+FP ( ) 3D MOSCOW CEPHALOMETRICS ( )

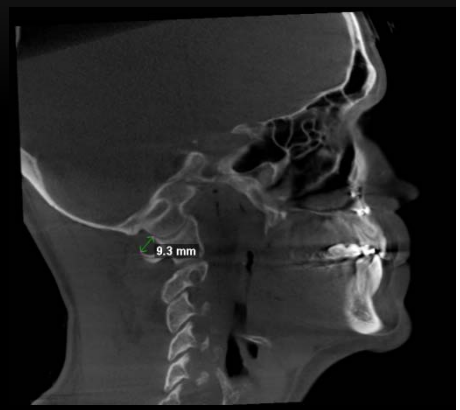
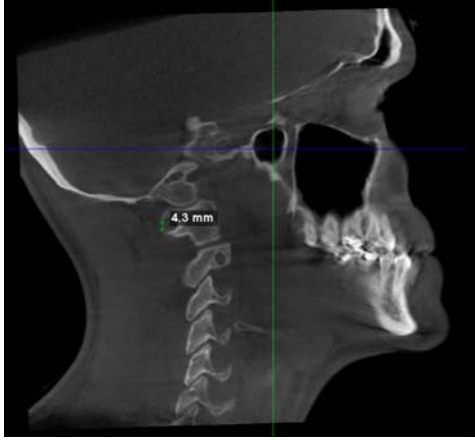
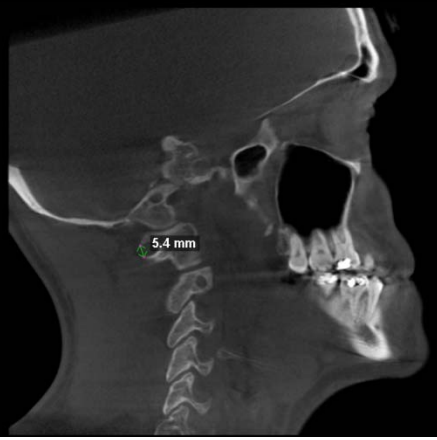
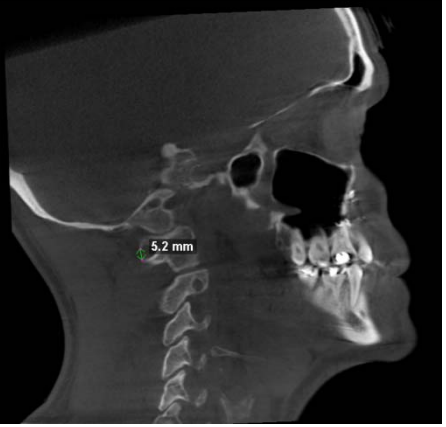


OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

R/L GONION-CERVICAL SPINE RELASHIONSHIP third cervical vertebra distance (+/-10mm.) first/fifth cervical vertebra angle lordotic(-15°) cifotic (+15°)angle

R/L PONTICULUS POSTICUS (X>X)

INITIAL	PROGRESS	FINAL
		
		

FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

- CLINICAL CHART ORTHODONTICS ( ) TMJ ( ) ORT.+TMJ ( )
- LATERAL/FRONTAL TELERADIOGRAPHY ( ) ORTO ( ) LOWDOSE CONEBEAM ( ) SEGMENTATION ALFA ( ) BETA ( ) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
- LATERAL/FRONTAL CORONAL SLICE TELERADIOGRAPHY Ba-A ( ) Ba-B ( ) R/L condyle head-Gonion distance (+/-15 mm) occlusal plane asimmetry (+/-10mm.) palatal suture Menton asimmetry (+/- 15mm.)
- LATERAL/FRONTAL/AXIAL SLICE TELERADIOGRAPHY UPPER/MEDIUM/LOWER AIRWAYS turbinate hypertrophy (+1/4mm.) adenoids/tonsils hypertrophy (+2/4mm) medium lower airways reduction (-10/20mm) sleep apnea (+/-) Ramus Retromolar-C2-Medium Airways( )
- R/IL PONTICULUS POSTICUS ( )
- LATERAL/CORONAL SLICE CERVICAL SPINE RELATIONSHIP A-C1 ( ) A-C2 ( ) A-C3 ( ) A-C4( ) A-C5 ( ) Coronal Ba Ep Angle ( ) R/L C0-Ep Distance ( )
- SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )
- CORONAL/LATERAL SLICE CONDYLE FOSSA RELATIONSHIP (2mm. Back 0mm. Centered 2mm. Forward 1/3mm. Up 1/3mm. Down 1/3mm
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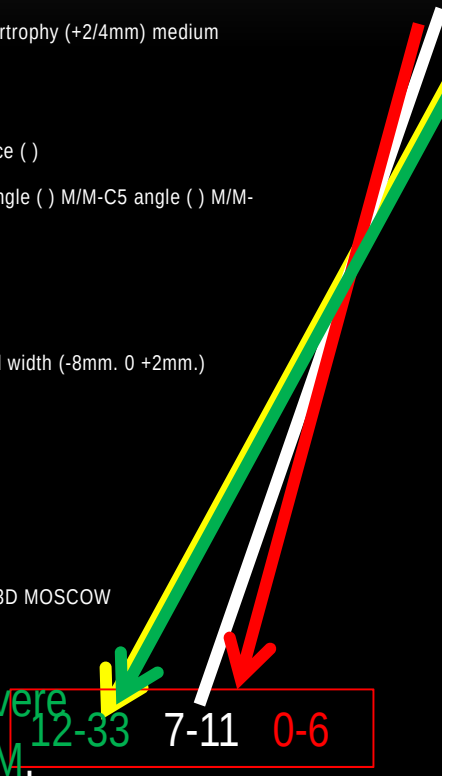
- MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE (+/-10 mm)
- SMV SLICE MAXILLO/MANDIBULAR contraction (+/- 7 mm.) expansion (+/- 7 mm.)
- CORTICAL/SUBCORTICAL fMRI PAIN NETWORKS (+5 increase -4 decrease)
- R/L CORONAL/LATERAL MASSETER/STERNOCLEIDOMASTOIDEUS STERNAL INSERTION width/lenght (+/-10mm.)
- McLAUGHLIN CEPHALOMETRICS ( ) FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT McLAUGHLIN CEPHALOMETRICS NHP+TVL+FP ( ) 3D MOSCOW CEPHALOMETRICS ( )

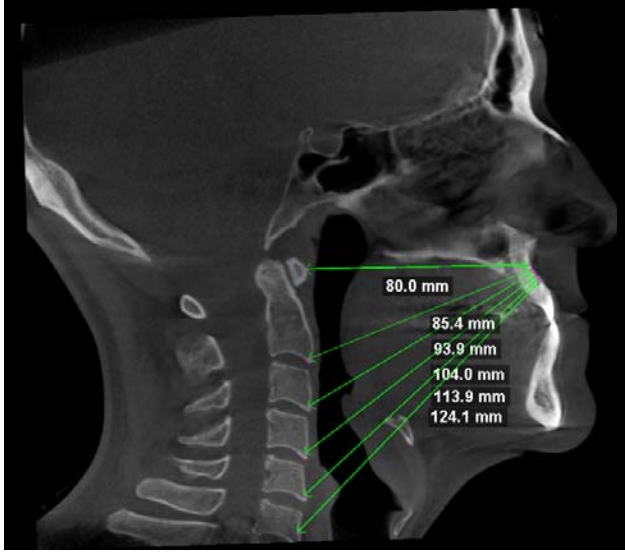
OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

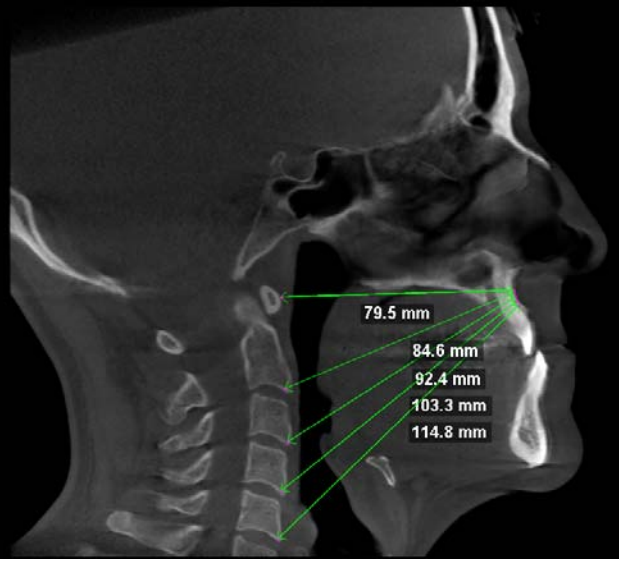


LATERAL SLICE CERVICAL SPINE RELATIONSHIP (X>X)

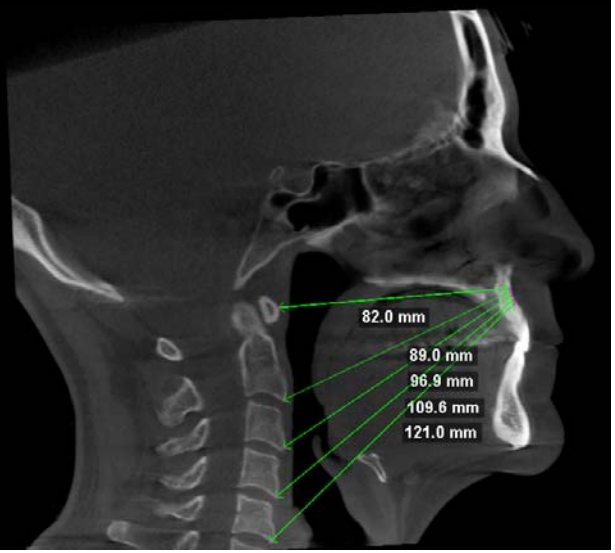
INITIAL



PROGRESS



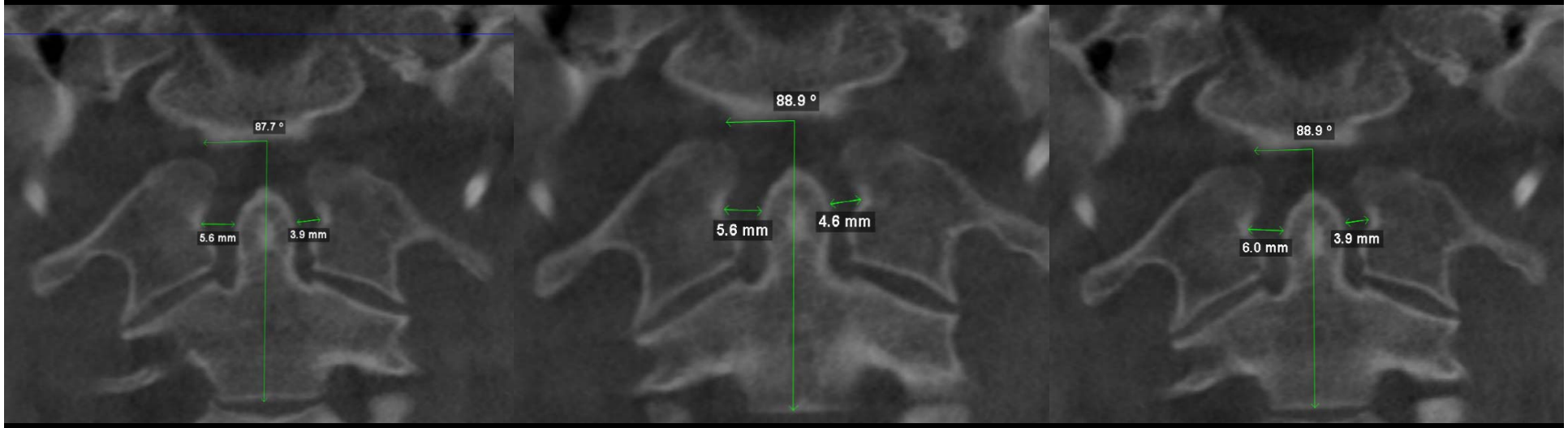
FINAL



CORONAL SLICE CERVICAL SPINE RELATIONSHIP

CORONAL BA EP ANGLE ( ) R/L C0-EP DISTANCE ( ) (X>X)

INITIAL PROGRESS FINAL



FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

- CLINICAL CHART ORTHODONTICS ( ) TMJ ( ) ORT.+TMJ ( )
- LATERAL/FRONTAL TELERADIOGRAPHY ( ) ORTO ( ) LOWDOSE CONEBEAM ( ) SEGMENTATION ALFA ( ) BETA ( ) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
- LATERAL/FRONTAL CORONAL SLICE TELERADIOGRAPHY Ba-A ( ) Ba-B ( ) R/L condyle head-Gonion distance (+/-15 mm) occlusal plane asimmetry (+/-10mm.) palatal suture Menton asimmetry (+/- 15mm.)
- LATERAL/FRONTAL/AXIAL SLICE TELERADIOGRAPHY UPPER/MEDIUM/LOWER AIRWAYS turbinate hypertrophy (+1/4mm.) adenoids/tonsils hypertrophy (+2/4mm) medium lower airways reduction (-10/20mm) sleep apnea (+/-) Ramus Retromolar-C2-Medium Airways( )
- R/IL PONTICULUS POSTICUS ( )
- LATERAL/CORONAL SLICE CERVICAL SPINE RELATIONSHIP A-C1 ( ) A-C2 ( ) A-C3 ( ) A-C4( ) A-C5 ( ) Coronal Ba Ep Angle ( ) R/L C0-Ep Distance ( )
- SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )
- CORONAL/LATERAL SLICE CONDYLE FOSSA RELATIONSHIP (2mm. Back 0mm. Centered 2mm. Forward 1/3mm. Up 1/3mm. Down 1/3mm
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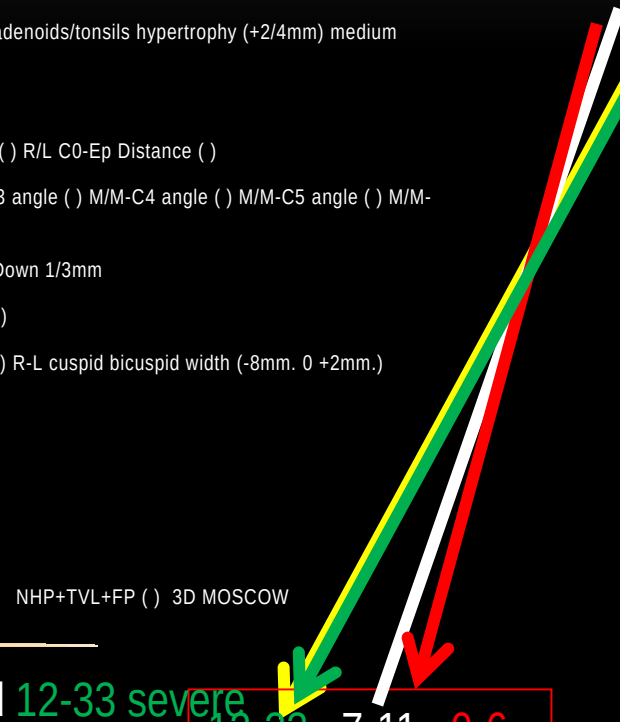
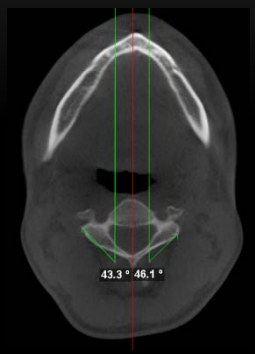
- CORONAL /SLICE MAXILLARY/MANDIBULAR CROSS-SECTIONS BONE REDUCTION/INCREASE cortical plate width (+/-1 mm.) R-L cuspid bicuspid width (-8mm. 0 +2mm.)
- MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE (+/-10 mm)
- SMV SLICE MAXILLO/MANDIBULAR contraction (+/- 7 mm.) expansion (+/- 7 mm.)
- CORTICAL/SUBCORTICAL fMRI PAIN NETWORKS (+5 increase -4 decrease)
- R/L CORONAL/LATERAL MASSETER/STERNOCLEIDOMASTOIDEUS STERNAL INSERTION width/lenght (+/-10mm.)
- McLAUGHLIN CEPHALOMETRICS ( ) FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT McLAUGHLIN CEPHALOMETRICS NHP+TVL+FP ( ) 3D MOSCOW CEPHALOMETRICS ( )

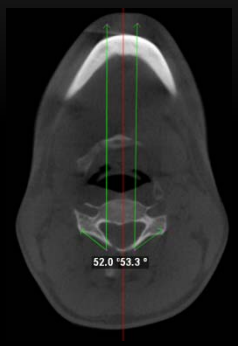


OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

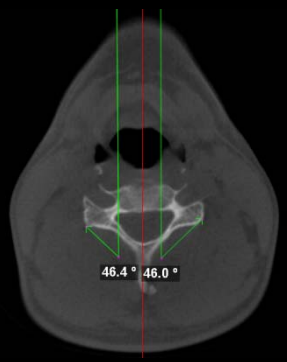
TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

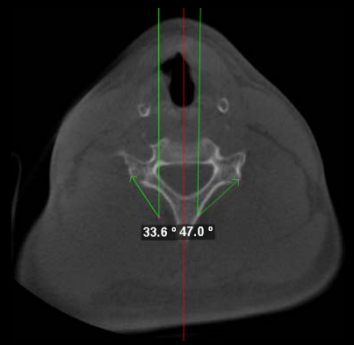
SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP INITIAL



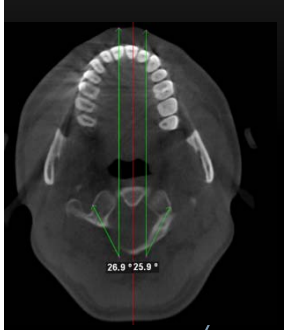


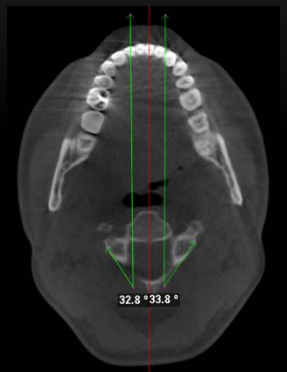
M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )

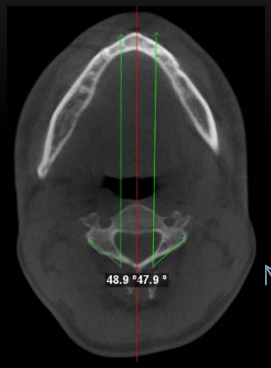


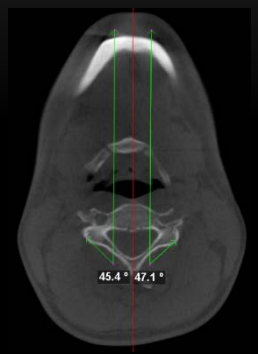


SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP PROGRESS

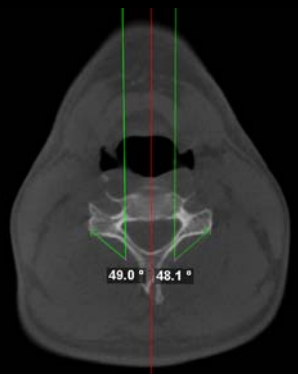


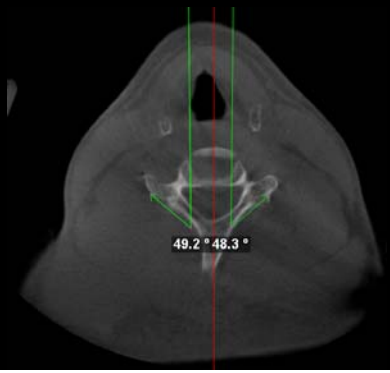




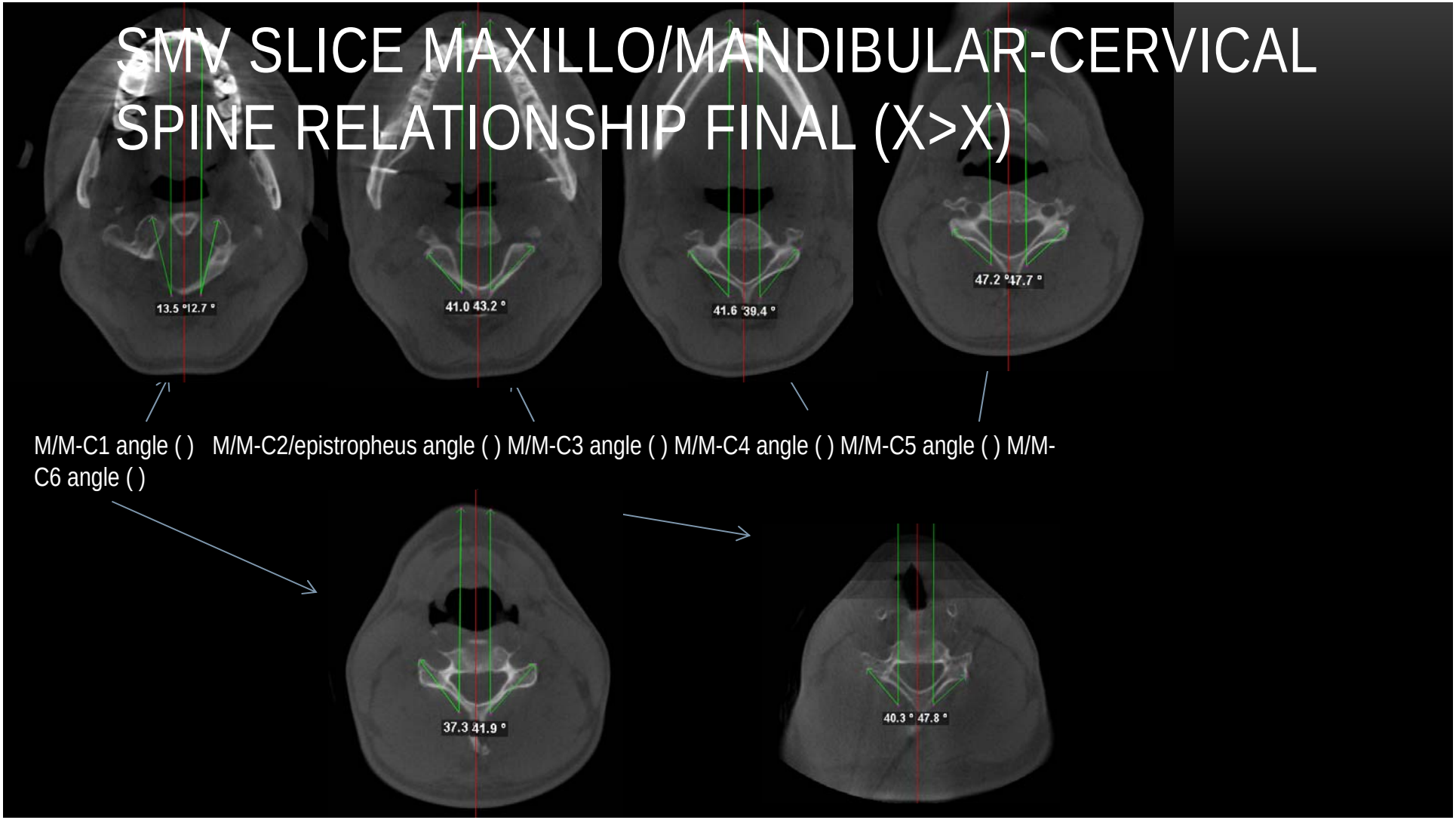


M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )





SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP FINAL (X>X)



M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )

TERAPIA ORTODONTICA DI PAZIENTE CON DISFUNZIONE DELL' ATM MEDIANTE ALLINEATORI. CASE REPORT

TREATMENT OF OPEN BITE IN PATIENT WITH TMJ DISORDER USING INVISALIGN: CASE REPORT

XY. Z,43 aa,:

« Soffro di cefalea e di cervicale da sempre»

«non mi piace il mio sorriso!»

FOTO EXTRAORALI

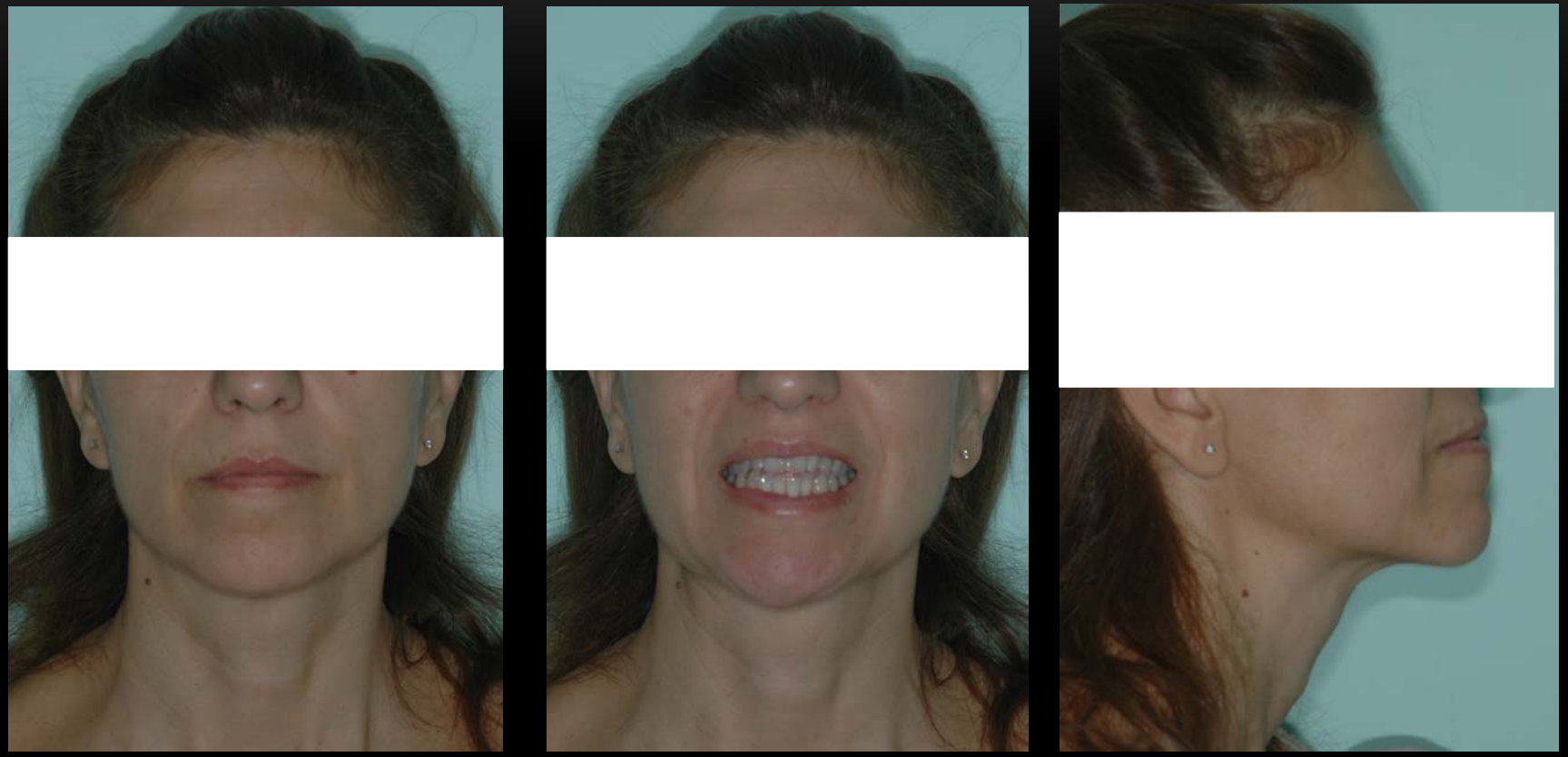
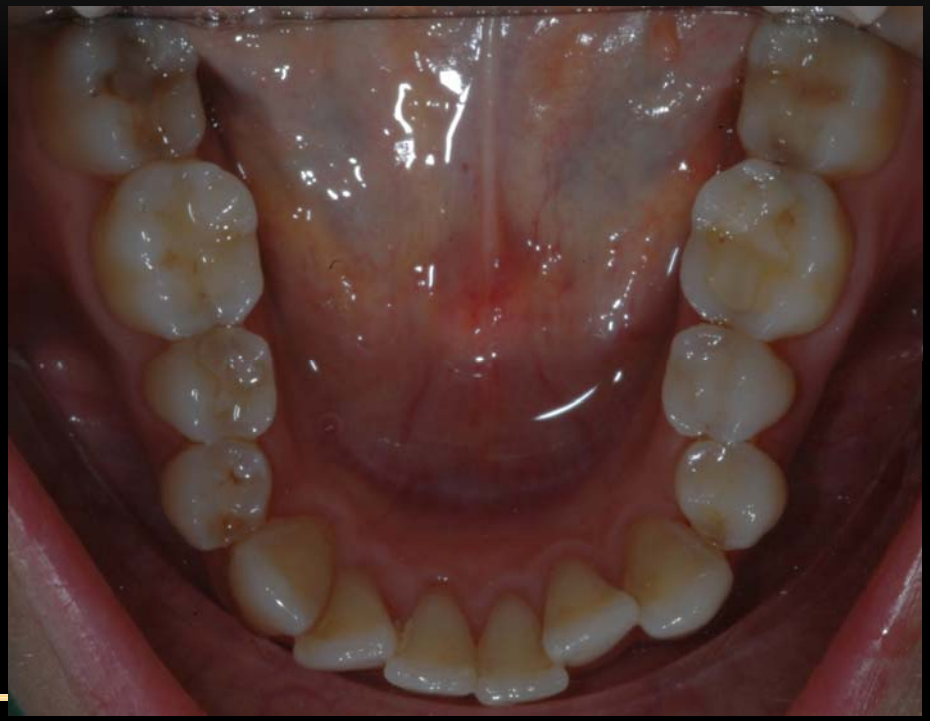
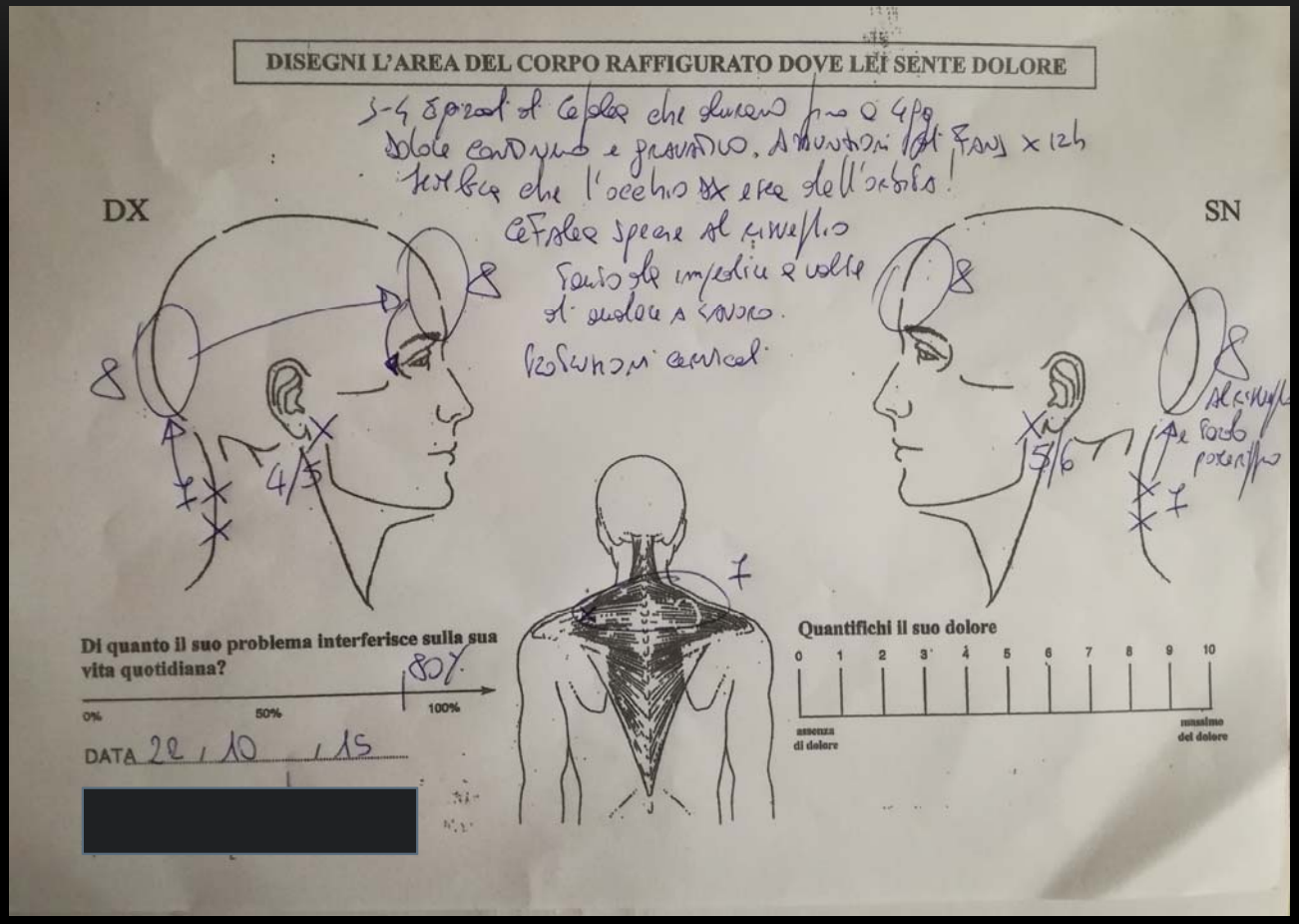


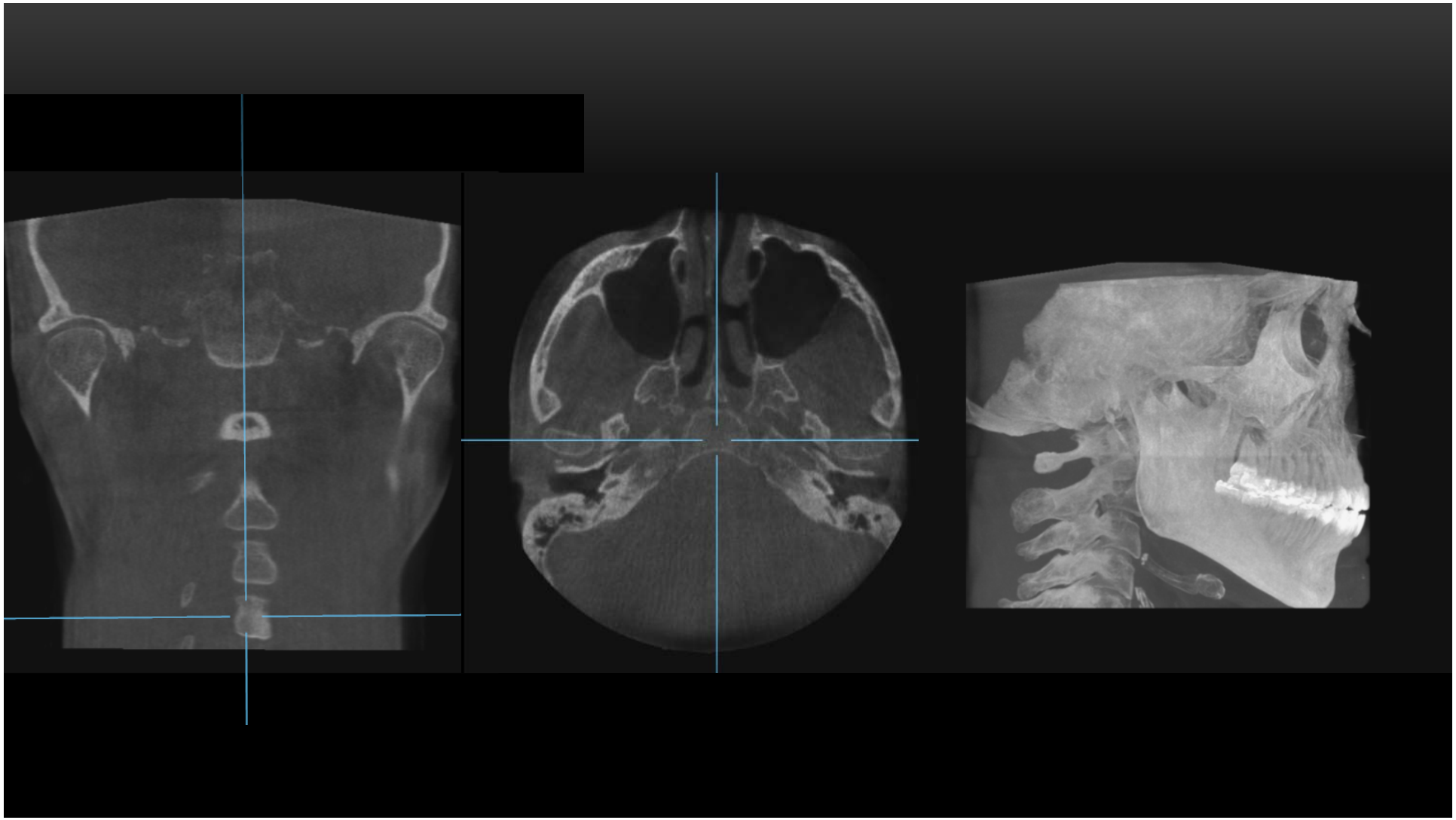
FOTO INTRAORALI

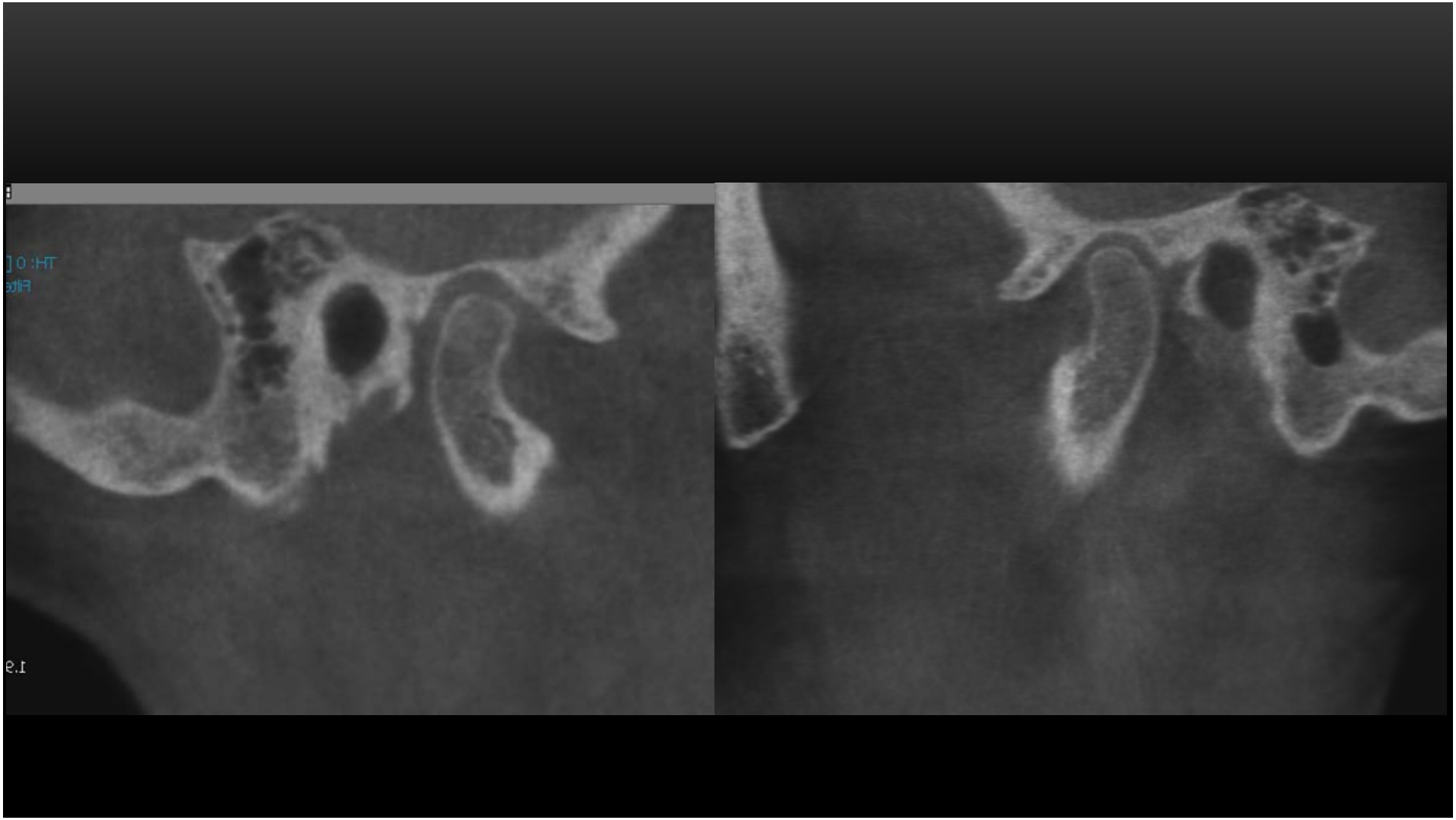
Open bite, affollamento dentale superiore e inferiore, recessioni gengivali diffuse con arcate rastremate.



T0 VAS (VISUAL ANALOGUE SCALE)







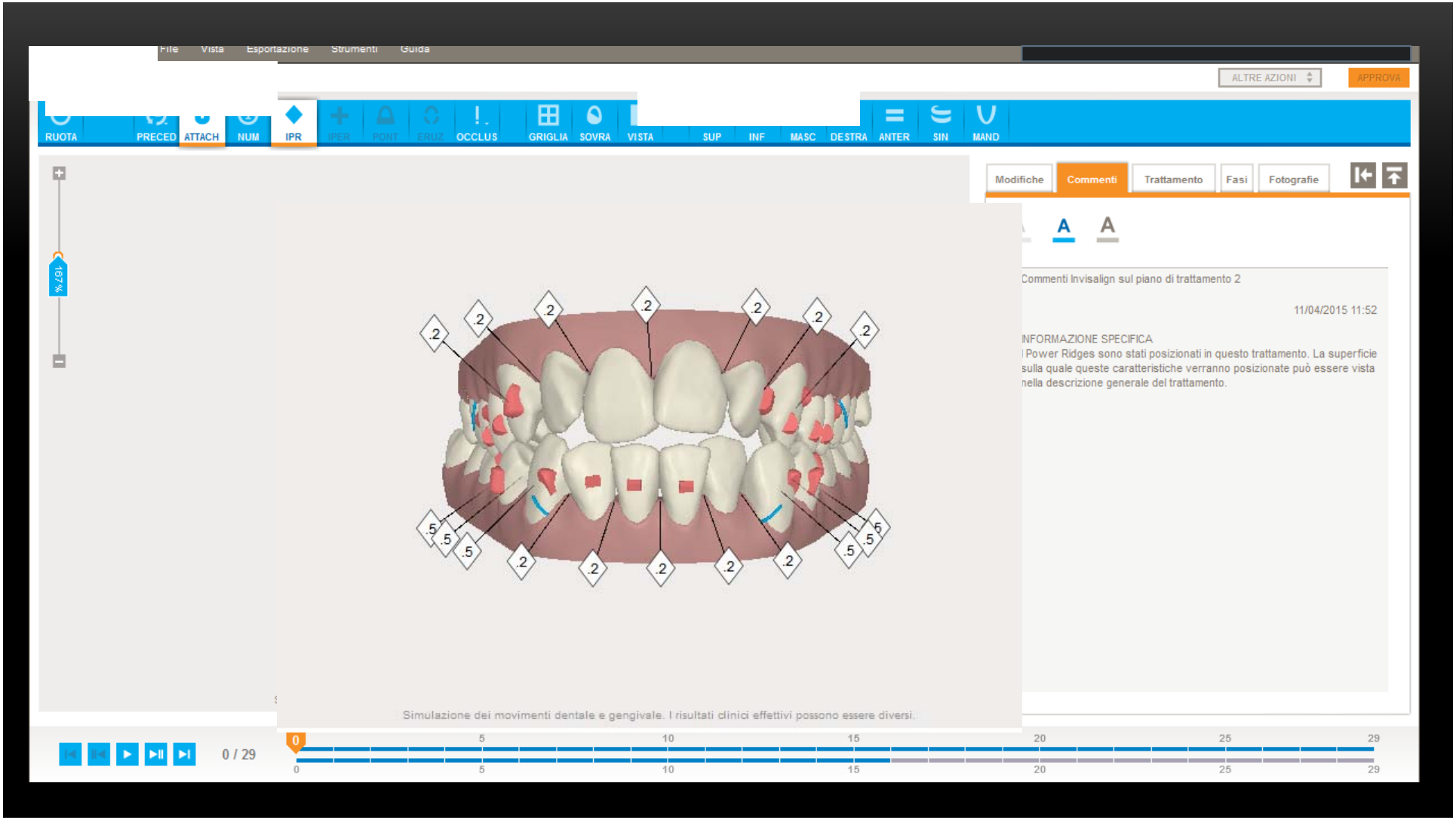
Pianificazione di trattamento

- TRATTAMENTO CON ALLINEATORI PASSIVI.
  ESERCIZI ANTISERRAMENTO.
  FISIOTERAPIA CON ESERCIZI DI ALLUNGAMENTO E POTENZIAMENTO DELLA MUSCOLATURA PARAVERTEBRALE.

- Trattamento con allineatori attivi .

  Esercizi antiserramento.

  Fisioterapia con esercizi di allungamento e potenziamento della muscolatura paravertebrale.


File
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MAND
167 %
Modifiche
Commenti
Trattamento
Fasi
Fotografie
Commenti Invisalign sul piano di trattamento 2
11/04/2015 11:52
INFORMAZIONE SPECIFICA
I Power Ridges sono stati posizionati in questo trattamento. La superficie
sulla quale queste caratteristiche verranno posizionate può essere vista
nella descrizione generale del trattamento.
Simulazione dei movimenti dentale e gengivale. I risultati clinici effettivi possono essere diversi.
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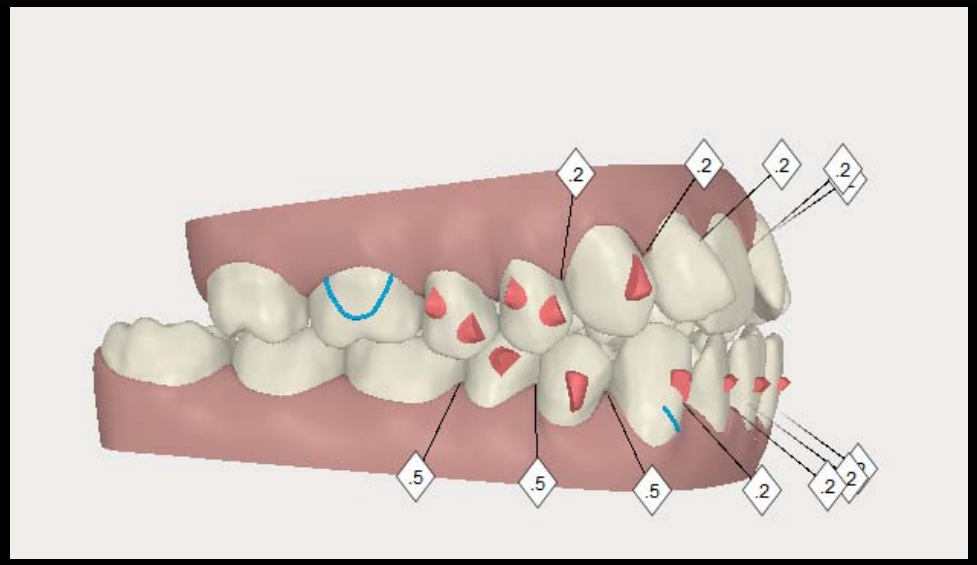
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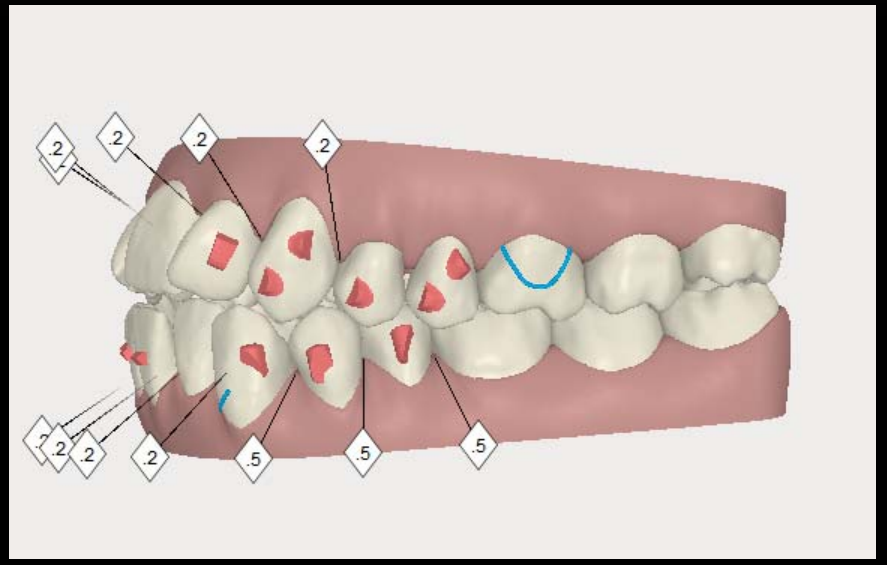
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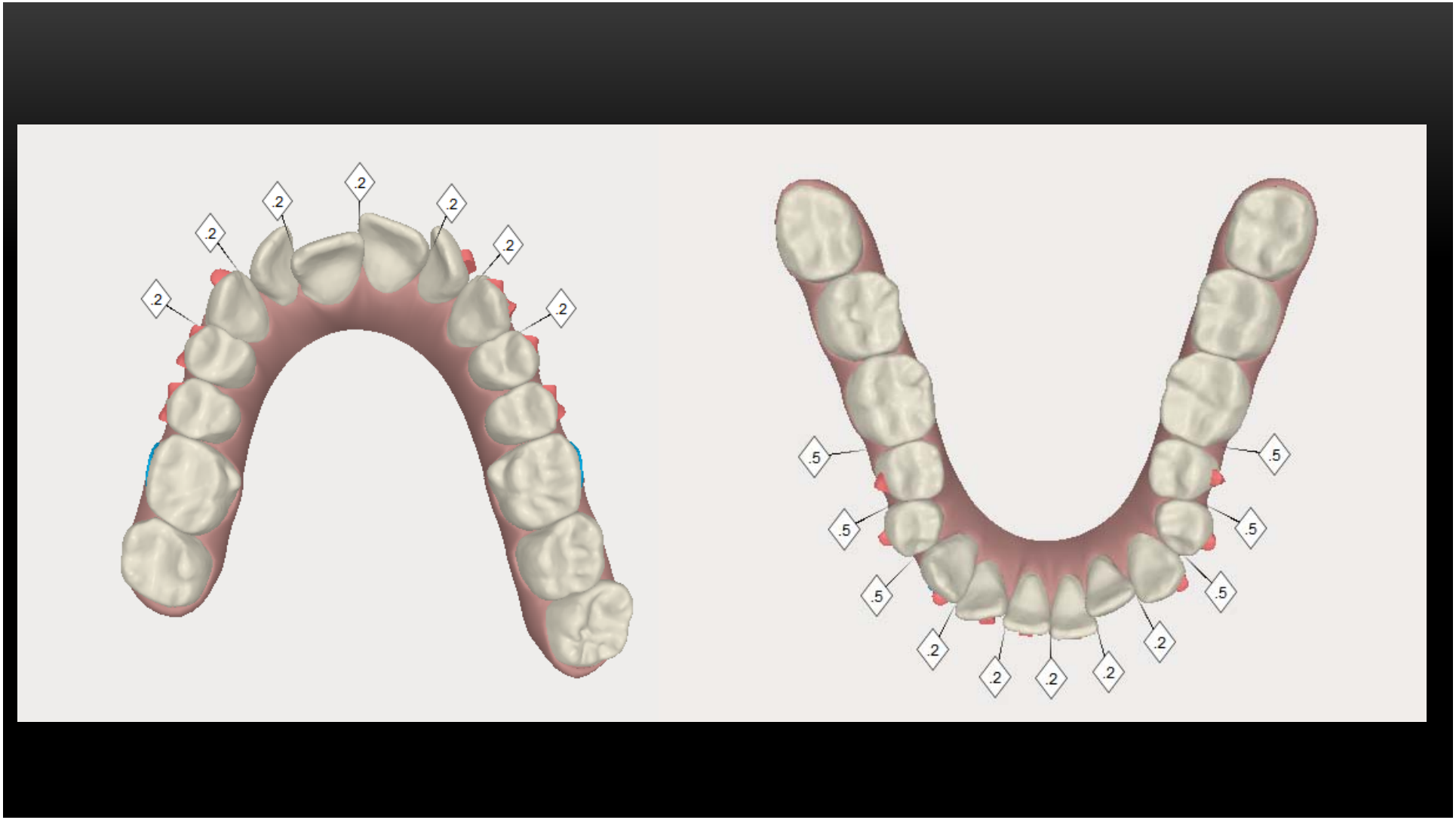
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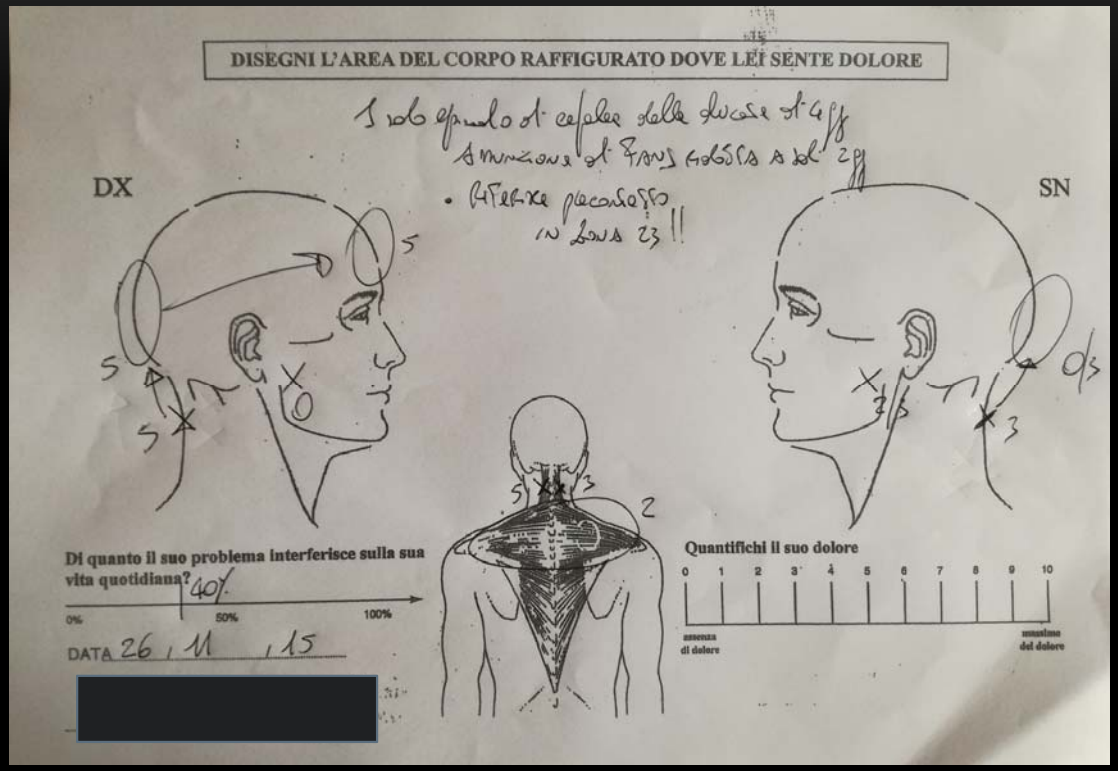
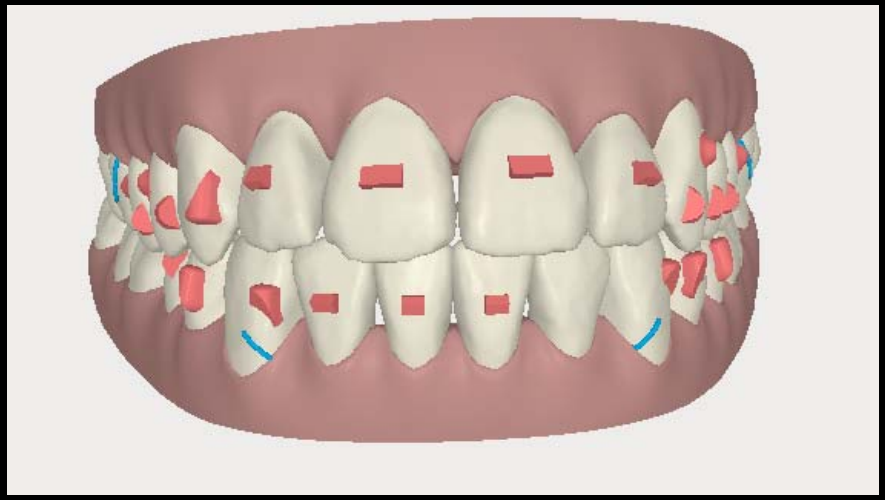
T1 Vas



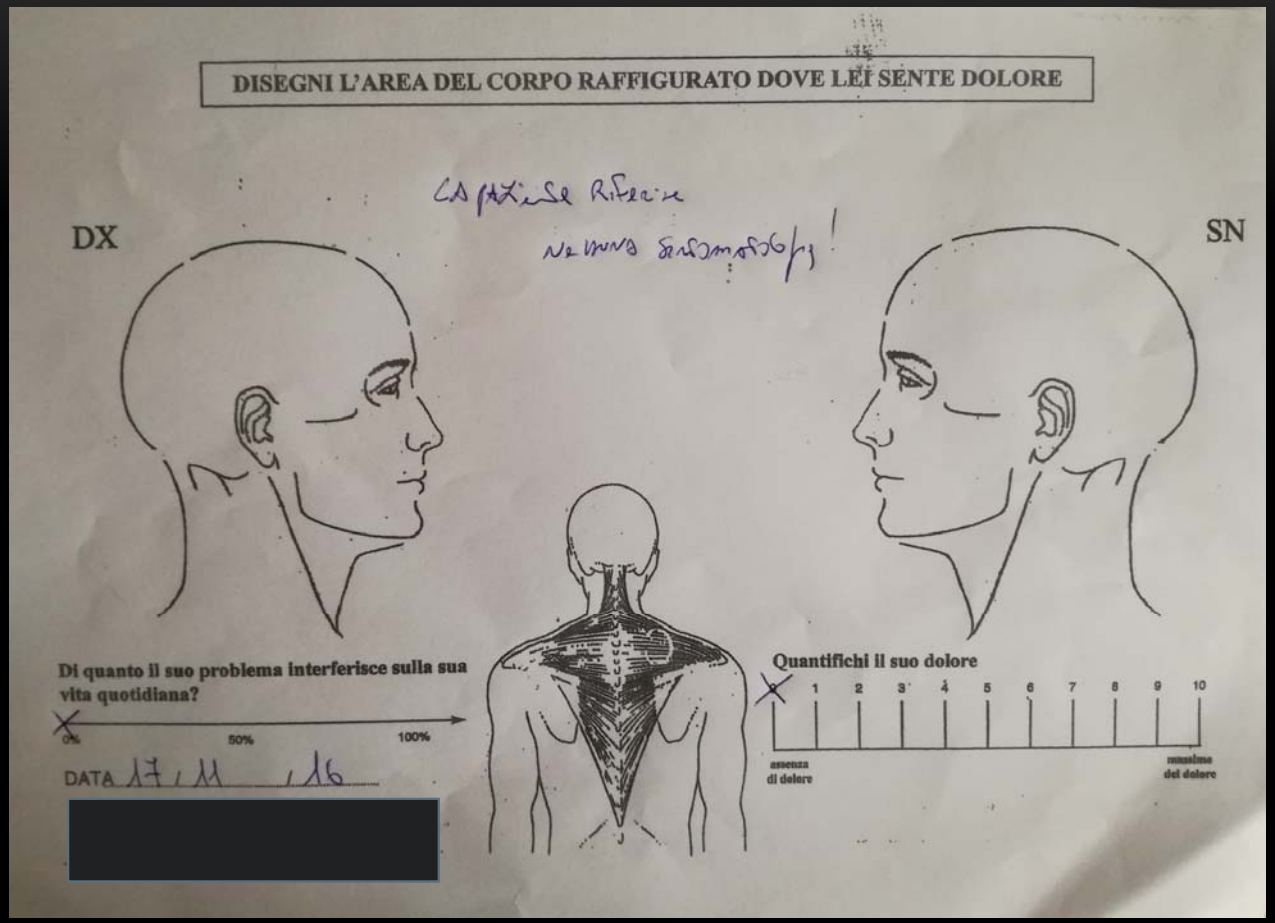
DOPO 1 MESE DI TERAPIA CON ALLINEATORI PASSIVI

TRATTAMENTO ORTODONTICO ATTIVO CON ALLINEATORI ATTIVI

17-11-16 24 COPPIA DI ALLINEATORI ATTIVI



T2 VAS



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%

DATA 17 / 11 / 16

[redacted]

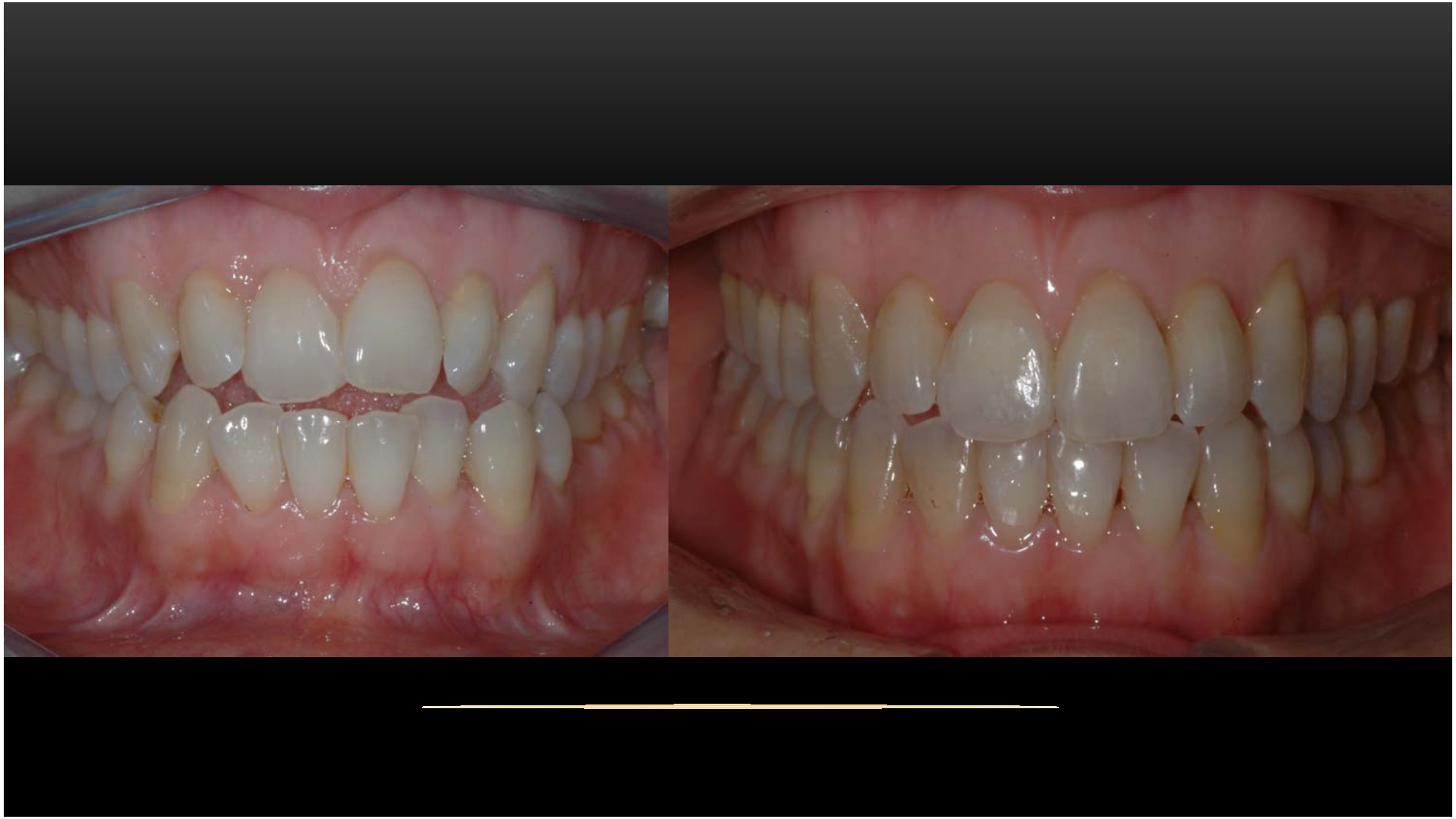
Quantifichi il suo dolore

0 1 2 3 4 5 6 7 8 9 10

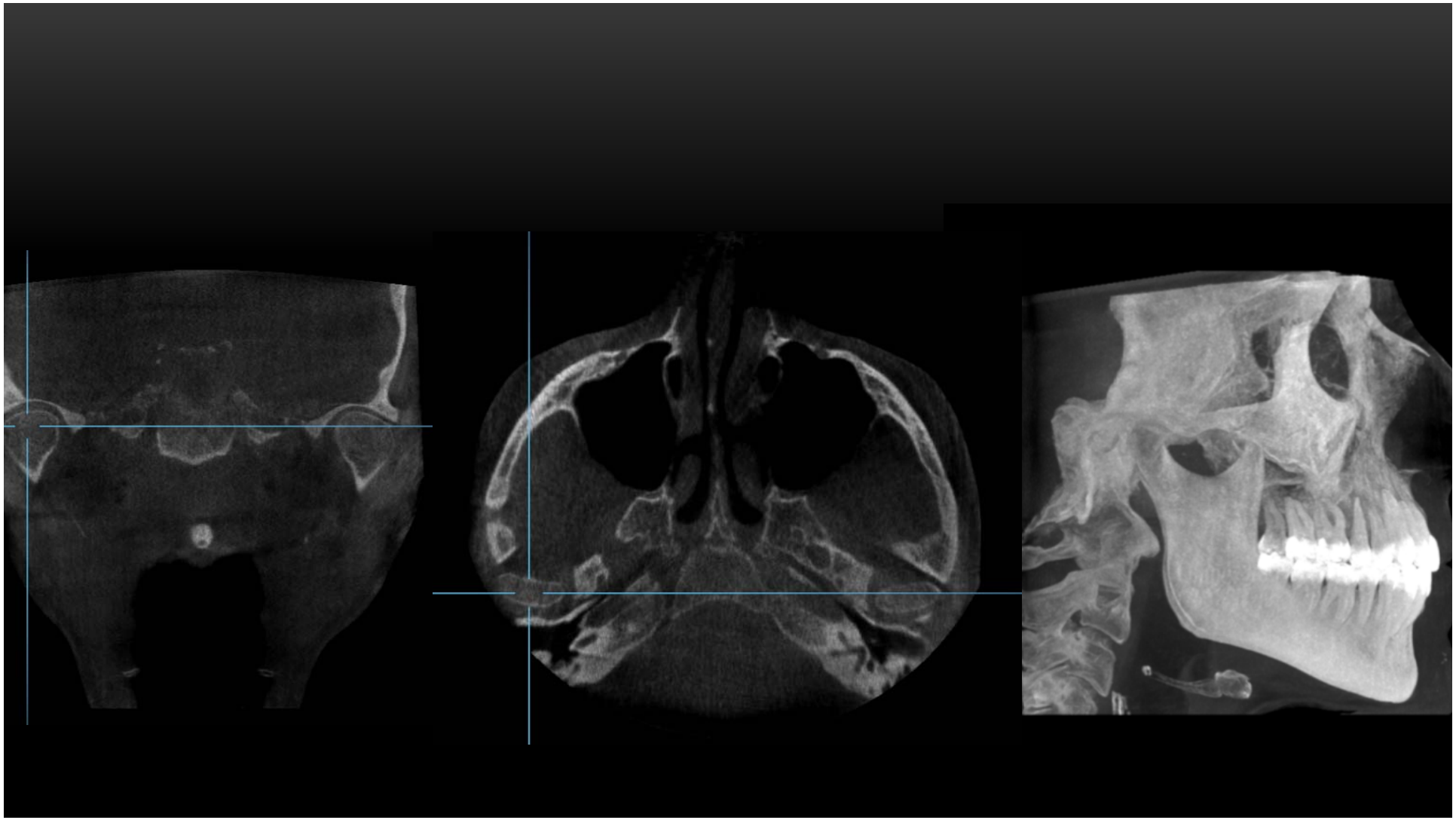
assenza di dolore

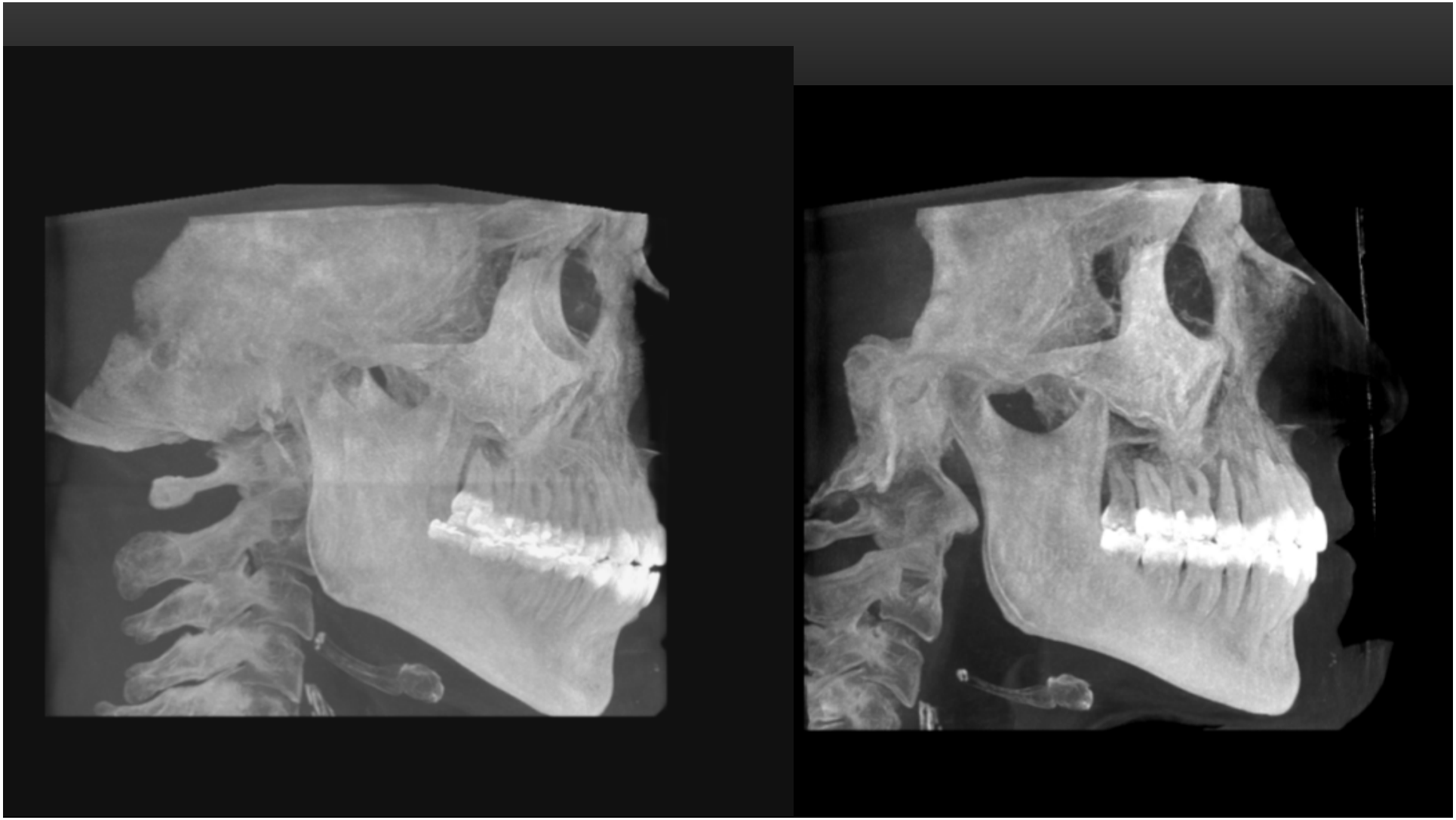
massimo del dolore

FOTO FINALI PRE-REFINEMENT



F FOTO EXTRAORALI FINALI

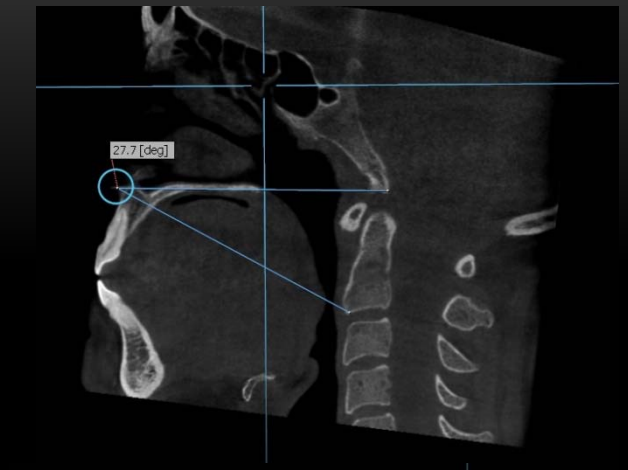


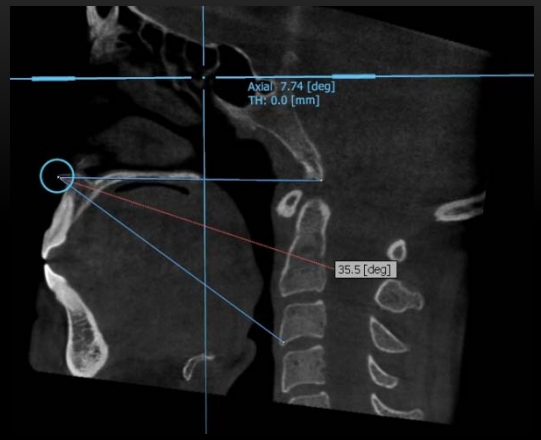


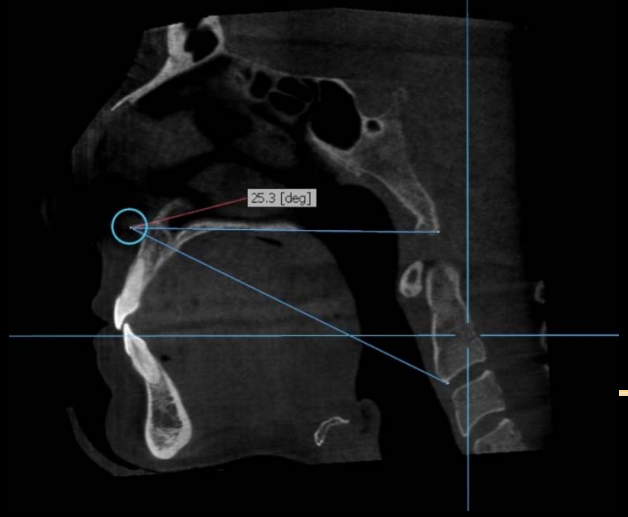
C2 SNA-BA

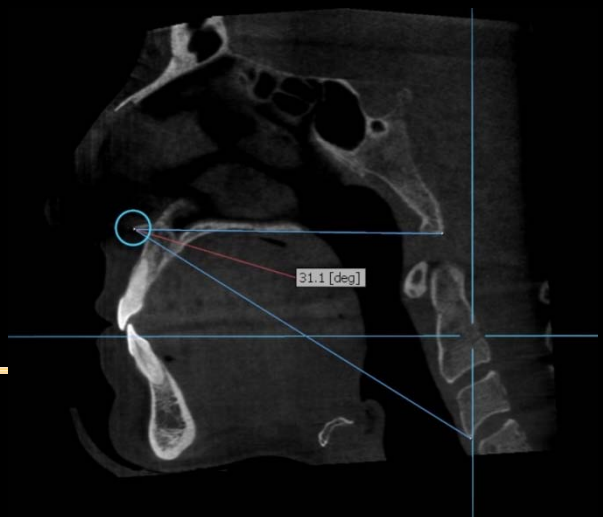
C3 SNA-BA

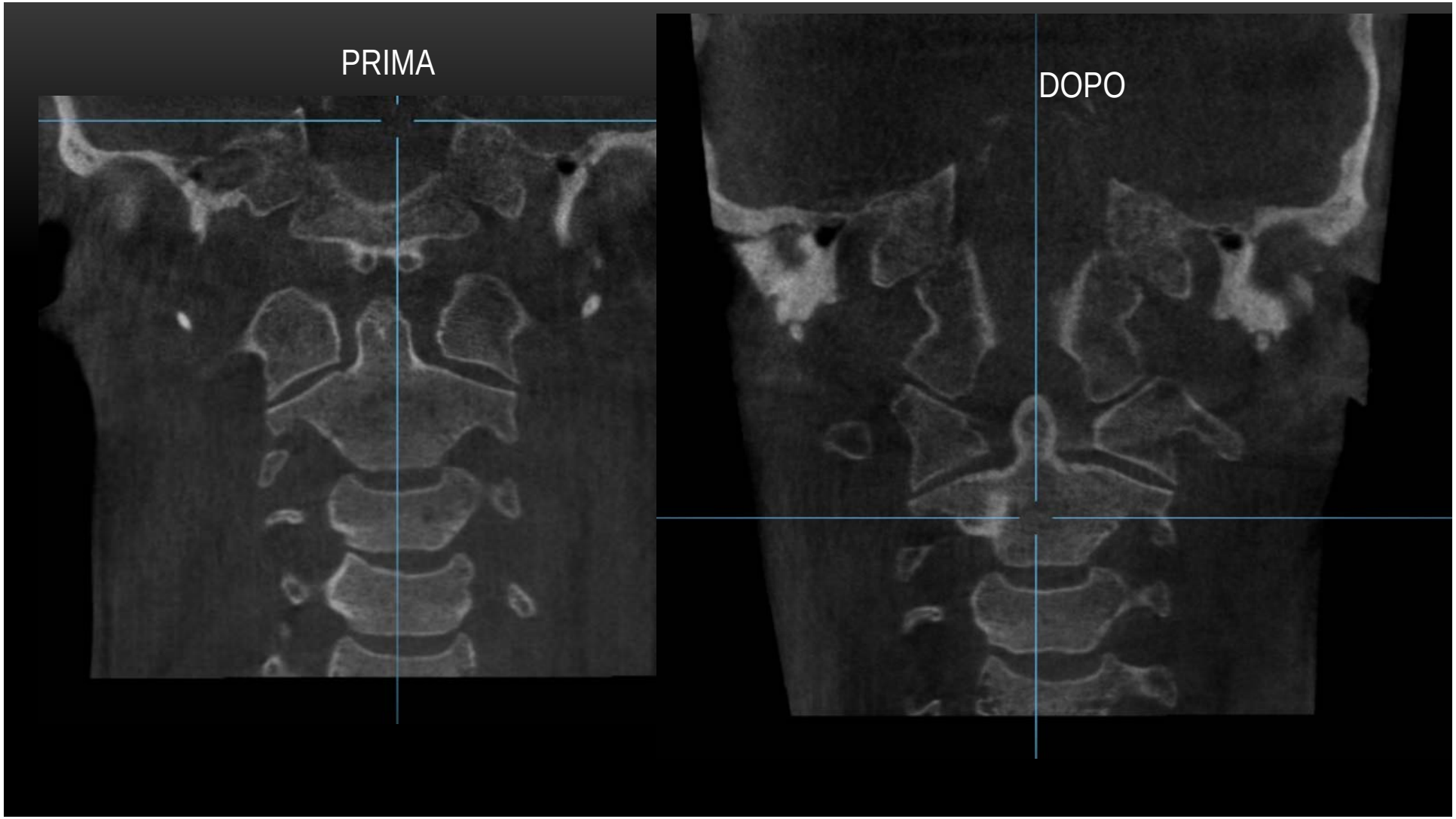
PRIMA

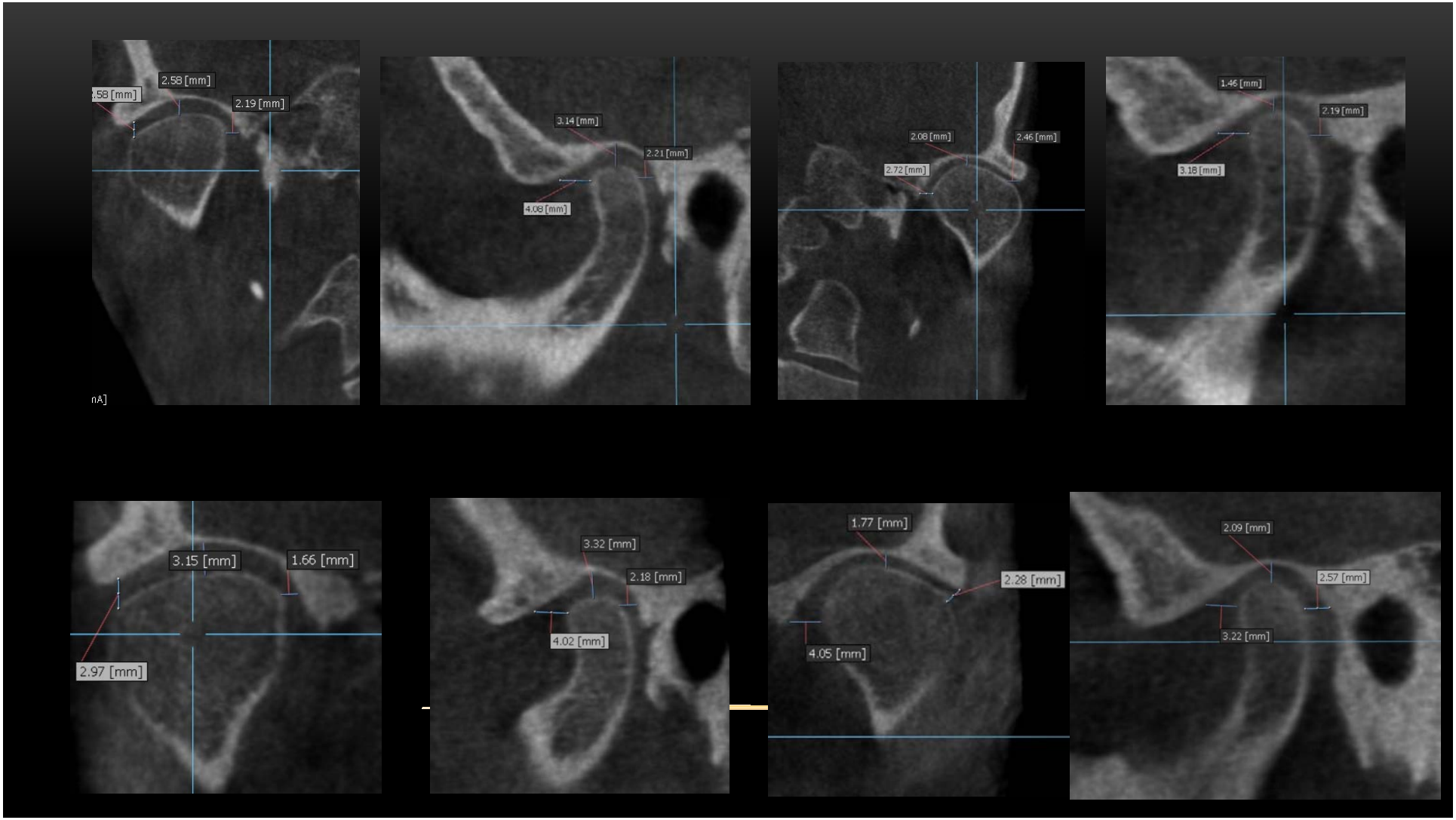









PRIMA
DOPO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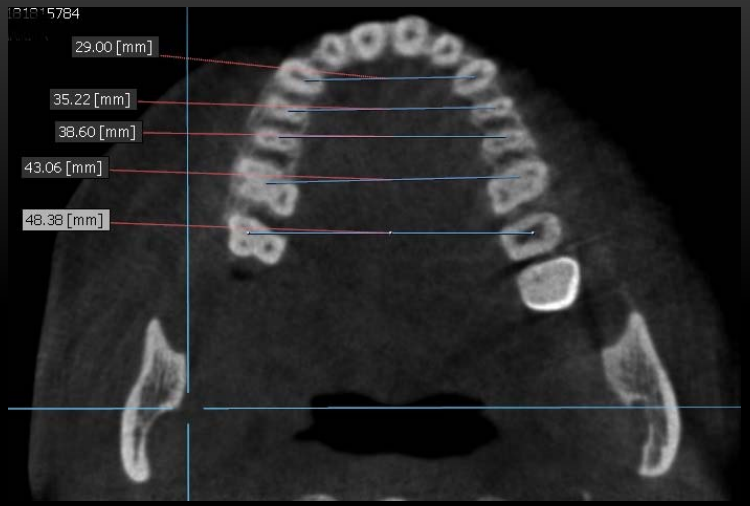
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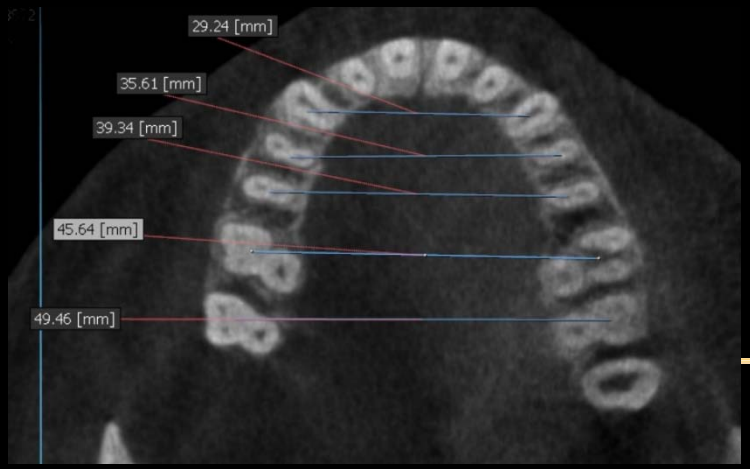
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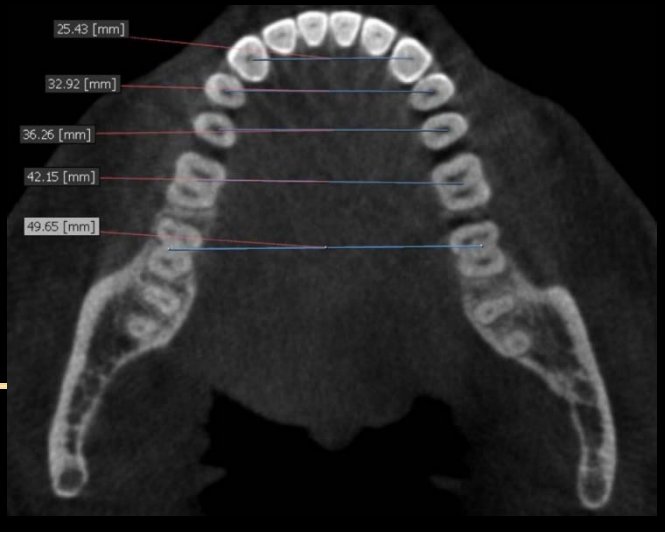
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36.26 [mm]
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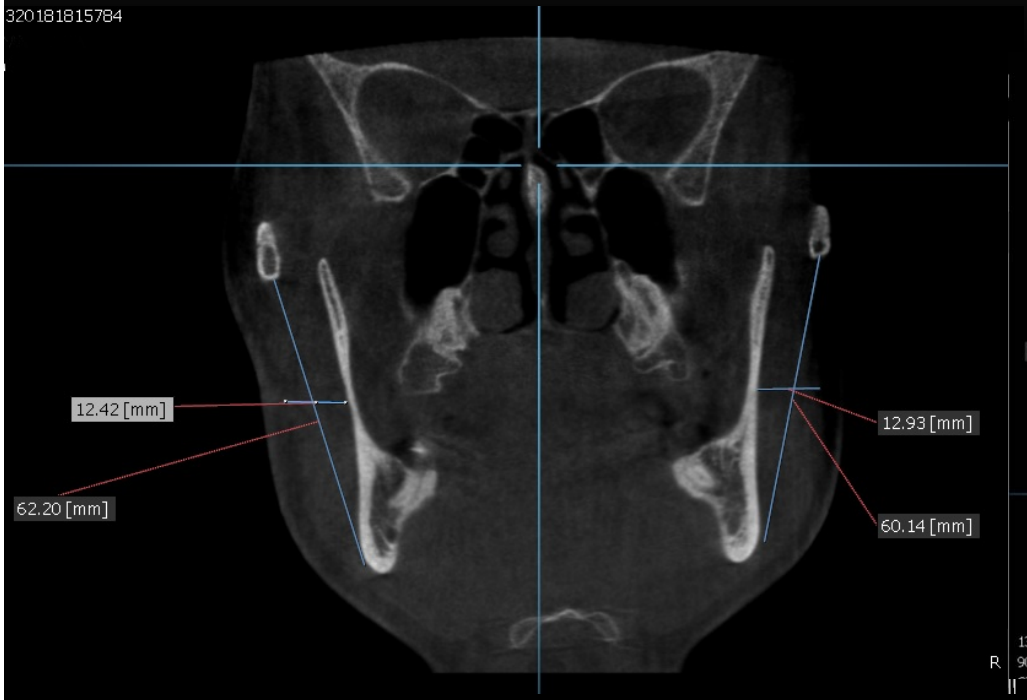
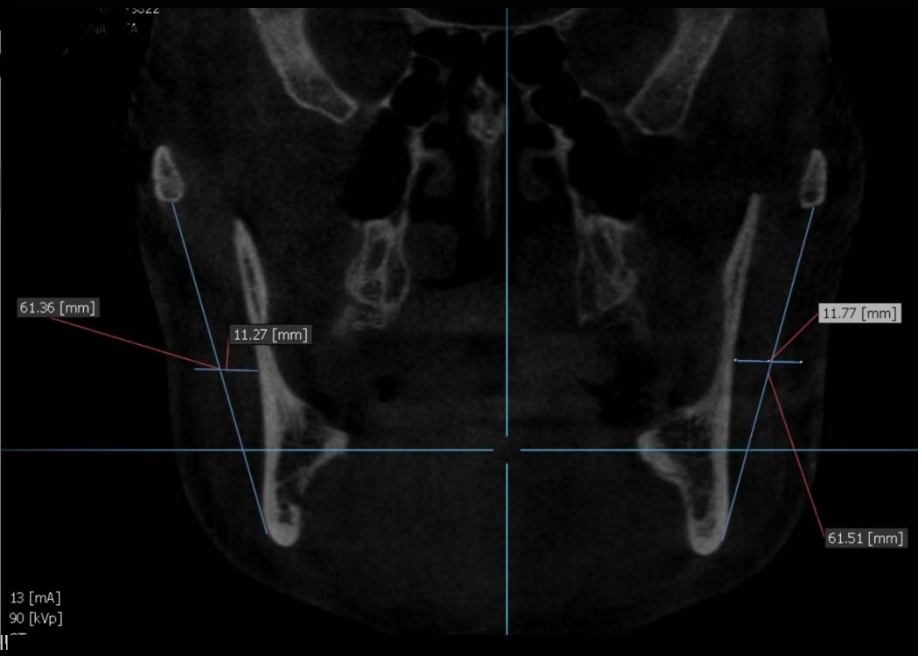
MASSETERI PRIMA



MASSETERI DOPO



PRE-CONGRESS COURSES

Thursday, October 10, 2019

Transaction from 2D to 3D

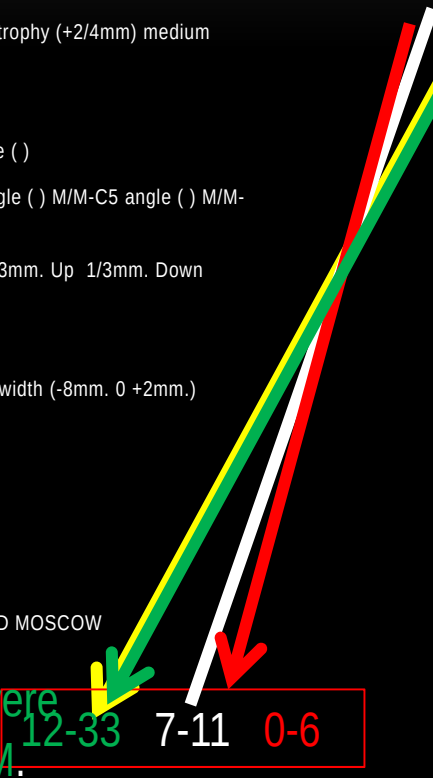
Sponsored by Dolphin Imaging & Management

Italian Language Only

9.00-9.15	Welcome	
9.15-10.00	**Festa Felice**	The 3D clinical chart. CBCT low-dose
10.00-11.15	**Festa Felice**	Segmentation, head orientation in space and repeatability of 3D measurements (Part I Theory)
11.15-11.45	**Coffee break**	
11.45-12.30	**Ventorre Dario**	Surgical planning with Dolphin 3D Surgery: from CBCT to SPLINT - Part I
12.30-13.15	**Ventorre Dario**	Surgical planning with Dolphin 3D Surgery: from CBCT to SPLINT - Part II
13.15-14.00	**Conti Davide** **Sartori Orlando**	Completion of 3D Dolphin sofware insertion on participants' computers
14.00-15.00	**Lunch**	
15.00-15.45	**Festa Felice**	Segmentation, head orientation in space and repeatability of 3D measurements (Part II practice on participants' computers with tutor support)
15.45-16.30	**Festa Felice**	Projecting virtual X-rays: comparison and distortions Continuing Part II practice on computers
16.30-17.15	**Festa Felice**	Continuing Part II practice on computers Clinical cases and conclusions

FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

- CLINICAL CHART ORTHODONTICS ( ) TMJ ( ) ORT.+TMJ ( )
- LATERAL/FRONTAL TELERADIOGRAPHY ( ) ORTO ( ) LOWDOSE CONEBEAM ( ) SEGMENTATION ALFA ( ) BETA ( ) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
- LATERAL/FRONTAL CORONAL SLICE TELERADIOGRAPHY Ba-A ( ) Ba-B ( ) R/L condyle head-Gonion distance (+/-15 mm) occlusal plane asimmetry (+/-10mm.) palatal suture Menton asimmetry (+/- 15mm.)
- LATERAL/FRONTAL/AXIAL SLICE TELERADIOGRAPHY UPPER/MEDIUM/LOWER AIRWAYS turbinate hypertrophy (+1/4mm.) adenoids/tonsils hypertrophy (+2/4mm) medium lower airways reduction (-10/20mm) sleep apnea (+/-) Ramus Retromolar-C2-Medium Airways( )
- R/IL PONTICULUS POSTICUS ( )
- LATERAL/CORONAL SLICE CERVICAL SPINE RELATIONSHIP A-C1 ( ) A-C2 ( ) A-C3 ( ) A-C4( ) A-C5 ( ) Coronal Ba Ep Angle ( ) R/L C0-Ep Distance ( )
- SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )
- CORONAL/LATERAL SLICE CONDYLE FOSSA RELATIONSHIP Lateral Pole ( ) Center ( ) Medial Pole ( ) 2mm. Back 0mm. Centered 2mm. Forward 1/3mm. Up 1/3mm. Down 1/3mm
- CORONAL/LATERAL SLICE CONDYLE SHAPE/ANATOMY curvature(5°-45°) flattening(1-3) cortical collapse(1-3) osteofitosis (1-4)
- CORONAL /SLICE MAXILLARY/MANDIBULAR CROSS-SECTIONS BONE REDUCTION/INCREASE cortical plate width (+/-1 mm.) R-L cuspid bicuspid width (-8mm. 0 +2mm.)
- MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE (+/-10 mm)
- SMV SLICE MAXILLO/MANDIBULAR contraction (+/- 7 mm.) expansion (+/- 7 mm.)
- CORTICAL/SUBCORTICAL fMRI PAIN NETWORKS (+5 increase -4 decrease)
- R/L CORONAL/LATERAL MASSETER/STERNOCLEIDOMASTOIDEUS STERNAL INSERTION width/lenght (+/-10mm.)
- McLAUGHLIN CEPHALOMETRICS ( ) FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT McLAUGHLIN CEPHALOMETRICS NHP+TVL+FP ( ) 3D MOSCOW CEPHALOMETRICS ( )

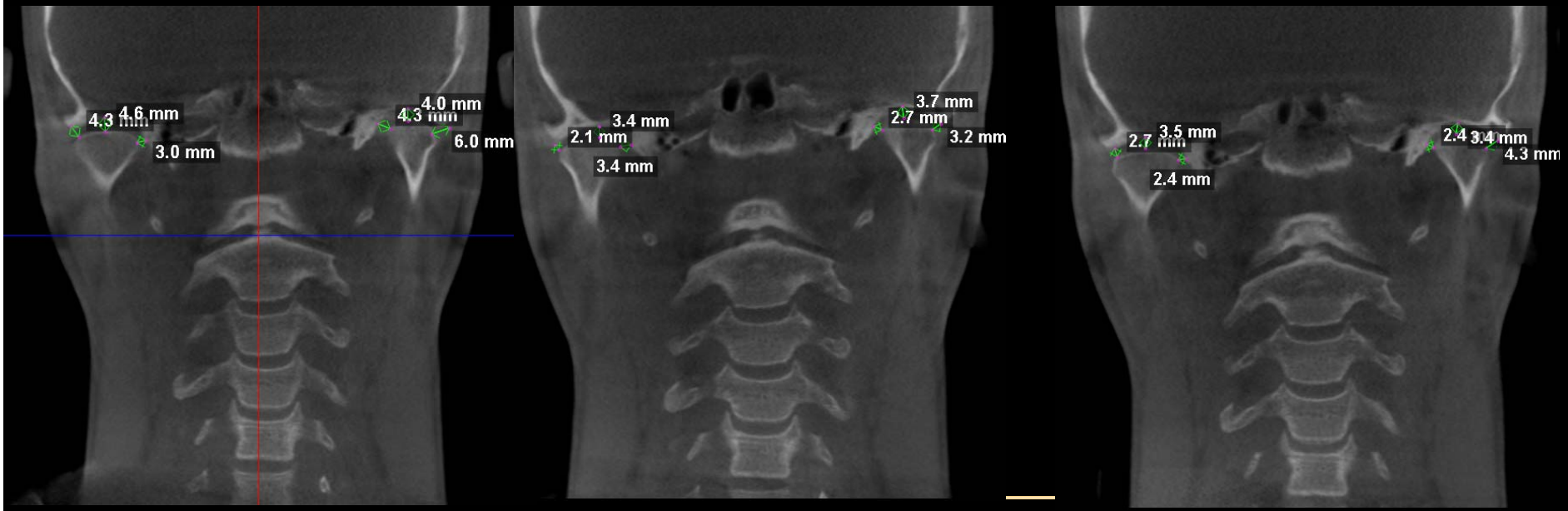


OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

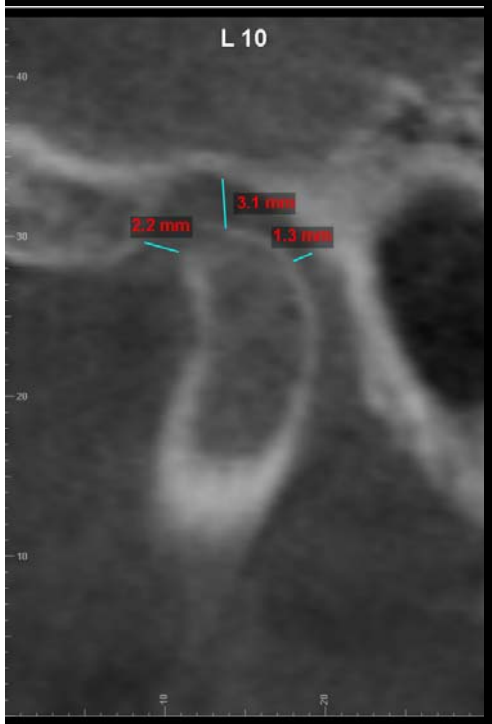
CORONAL SLICE CONDYLE FOSSA RELATIONSHIP

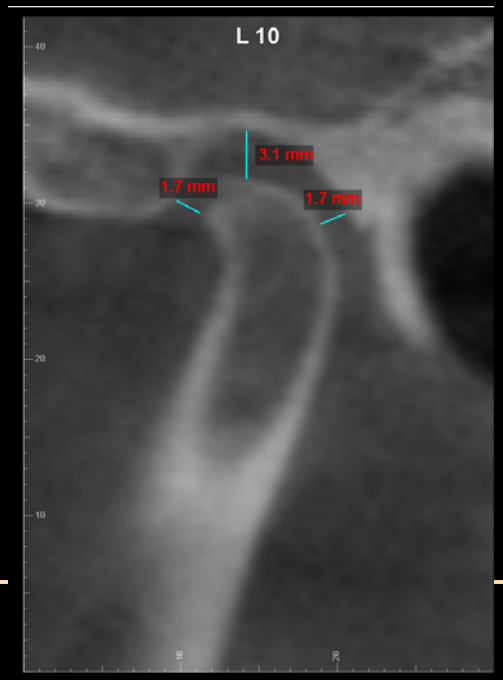
INITIAL PROGRESS FINAL (XX>X)

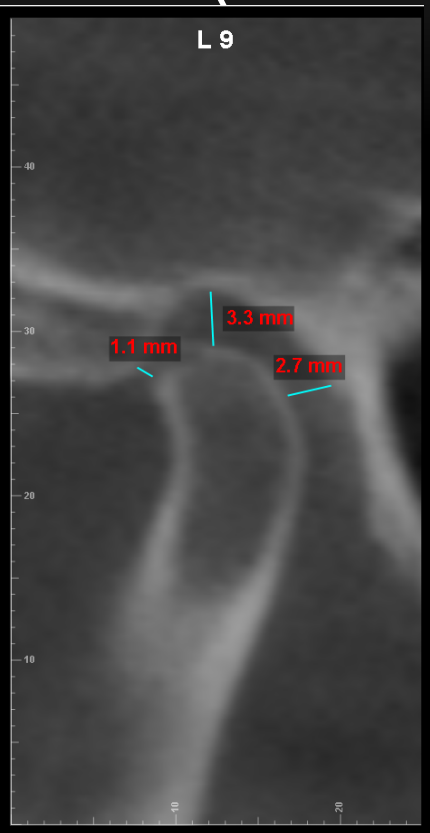


LATERAL SLICE CONDYLE FOSSA RELATIONSHIP

INITIAL PROGRESS FINAL(XXX>X)

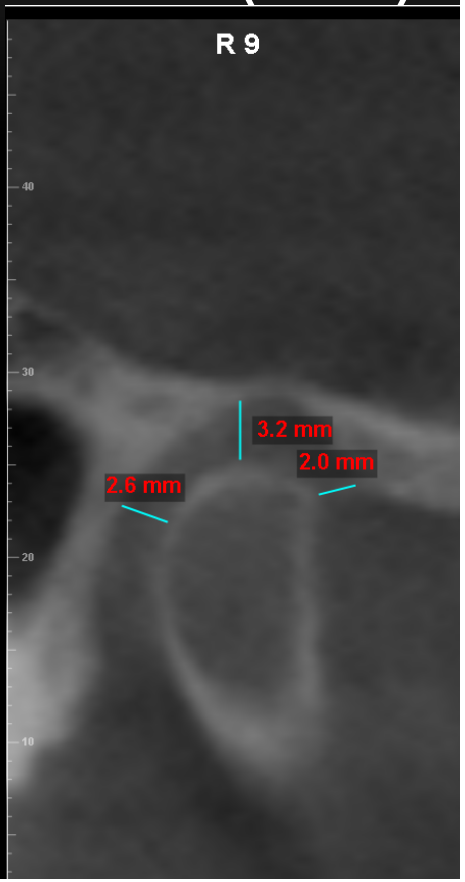






LATERAL SLICE R CONDYLE FOSSA RELATIONSHIP

INITIAL PROGRESS FINAL (X>X)



FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

- CLINICAL CHART ORTHODONTICS ( ) TMJ ( ) ORT.+TMJ ( )
- LATERAL/FRONTAL TELERADIOGRAPHY ( ) ORTO ( ) LOWDOSE CONEBEAM ( ) SEGMENTATION ALFA ( ) BETA ( ) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
- LATERAL/FRONTAL CORONAL SLICE TELERADIOGRAPHY Ba-A ( ) Ba-B ( ) R/L condyle head-Gonion distance (+/-15 mm) occlusal plane asimmetry (+/-10mm.) palatal suture Menton asimmetry (+/- 15mm.)
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- R/IL PONTICULUS POSTICUS ( )
- LATERAL/CORONAL SLICE CERVICAL SPINE RELATIONSHIP A-C1 ( ) A-C2 ( ) A-C3 ( ) A-C4( ) A-C5 ( ) Coronal Ba Ep Angle ( ) R/L C0-Ep Distance ( )
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- CORONAL/LATERAL SLICE CONDYLE FOSSA RELATIONSHIP Lateral Pole ( ) Center ( ) Medial Pole ( ) 2mm. Back 0mm. Centered 2mm. Forward 1/3mm. Up 1/3mm. Down 1/3mm
- CORONAL/LATERAL SLICE CONDYLE SHAPE/ANATOMY curvature(5°-45°) flattening(1-3) cortical collapse(1-3) osteofitosis (1-4)
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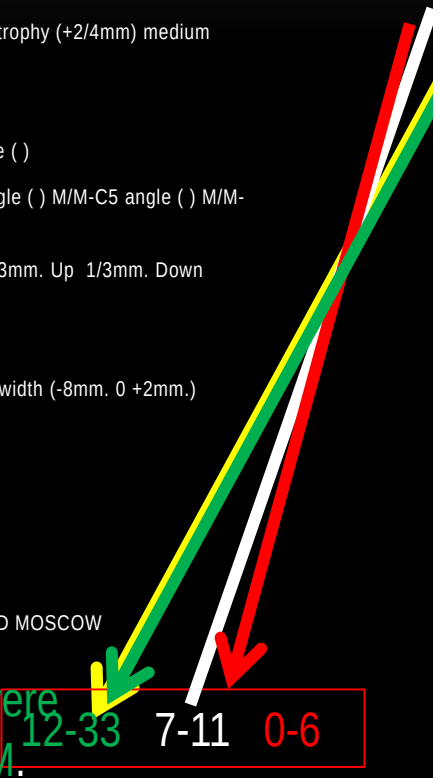
- MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE (+/-10 mm)
- SMV SLICE MAXILLO/MANDIBULAR contraction (+/- 7 mm.) expansion (+/- 7 mm.)
- CORTICAL/SUBCORTICAL fMRI PAIN NETWORKS (+5 increase -4 decrease)
- R/L CORONAL/LATERAL MASSETER/STERNOCLEIDOMASTOIDEUS STERNAL INSERTION width/lenght (+/-10mm.)
- McLAUGHLIN CEPHALOMETRICS ( ) FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT McLAUGHLIN CEPHALOMETRICS NHP+TVL+FP ( ) 3D MOSCOW CEPHALOMETRICS ( )

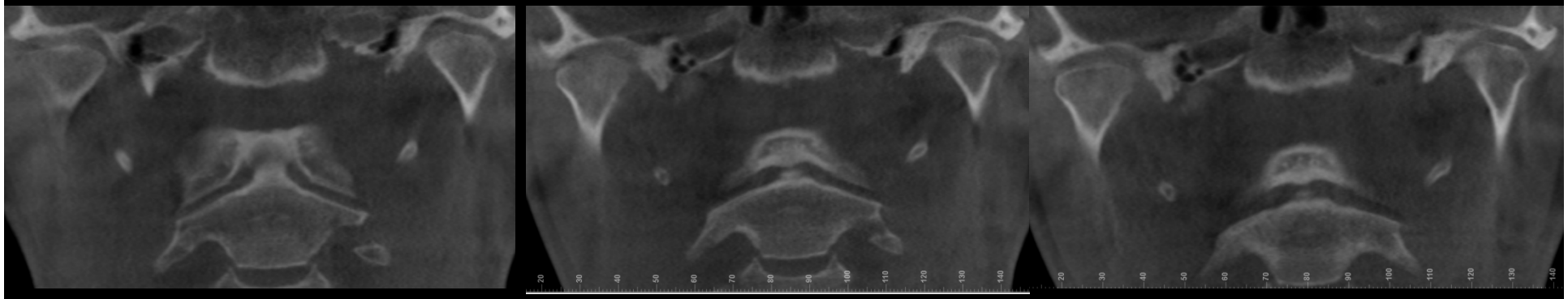


OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

CORONAL SLICE CONDYLE SHAPE/ANATOMY

INITIAL PROGRESS FINAL(X>X)



CORONAL /SLICE MAXILLARY/MANDIBULAR CROSS-SECTIONS BONE REDUCTION/INCREASE

INITIAL

PROGRESS

FINAL (X>X)

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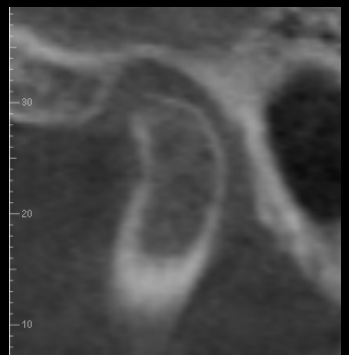

FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

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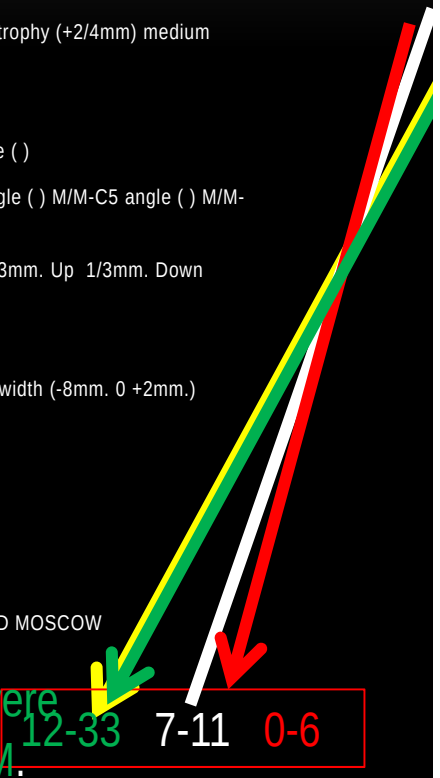
- LATERAL/FRONTAL TELERADIOGRAPHY ( ) ORTO ( ) LOWDOSE CONEBEAM ( ) SEGMENTATION ALFA ( ) BETA ( ) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
- LATERAL/FRONTAL CORONAL SLICE TELERADIOGRAPHY Ba-A ( ) Ba-B ( ) R/L condyle head-Gonion distance (+/-15 mm) occlusal plane asimmetry (+/-10mm.) palatal suture Menton asimmetry (+/- 15mm.)
- LATERAL/FRONTAL/AXIAL SLICE TELERADIOGRAPHY UPPER/MEDIUM/LOWER AIRWAYS turbinate hypertrophy (+1/4mm.) adenoids/tonsils hypertrophy (+2/4mm) medium lower airways reduction (-10/20mm) sleep apnea (+/-) Ramus Retromolar-C2-Medium Airways( )
- R/IL PONTICULUS POSTICUS ( )
- LATERAL/CORONAL SLICE CERVICAL SPINE RELATIONSHIP A-C1 ( ) A-C2 ( ) A-C3 ( ) A-C4( ) A-C5 ( ) Coronal Ba Ep Angle ( ) R/L C0-Ep Distance ( )
- SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )
- CORONAL/LATERAL SLICE CONDYLE FOSSA RELATIONSHIP Lateral Pole ( ) Center ( ) Medial Pole ( ) 2mm. Back 0mm. Centered 2mm. Forward 1/3mm. Up 1/3mm. Down 1/3mm
- CORONAL/LATERAL SLICE CONDYLE SHAPE/ANATOMY curvature(5°-45°) flattening(1-3) cortical collapse(1-3) osteofitosis (1-4)
- CORONAL /SLICE MAXILLARY/MANDIBULAR CROSS-SECTIONS BONE REDUCTION/INCREASE cortical plate width (+/-1 mm.) R-L cuspid bicuspid width (-8mm. 0 +2mm.)
- MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE (+/-10 mm)
- SMV SLICE MAXILLO/MANDIBULAR contraction (+/- 7 mm.) expansion (+/- 7 mm.)
- CORTICAL/SUBCORTICAL fMRI PAIN NETWORKS (+5 increase -4 decrease)
- R/L CORONAL/LATERAL MASSETER/STERNOCLEIDOMASTOIDEUS STERNAL INSERTION width/lenght (+/-10mm.)
- McLAUGHLIN CEPHALOMETRICS ( ) FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT McLAUGHLIN CEPHALOMETRICS NHP+TVL+FP ( ) 3D MOSCOW CEPHALOMETRICS ( )

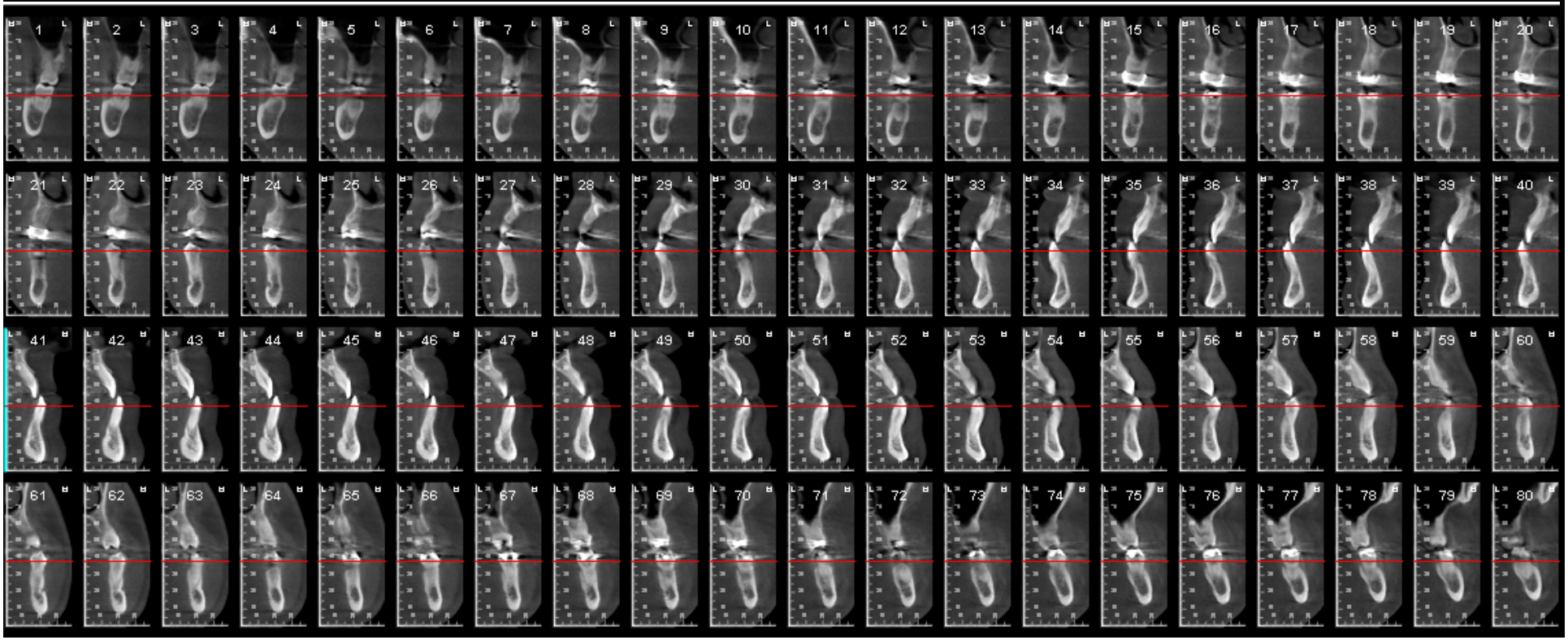


OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

LATERAL SLICE CONDYLE SHAPE/ANATOMY

INITIAL PROGRESS FINAL



LATERAL SLICE CONDYLE SHAPE/ANATOMY

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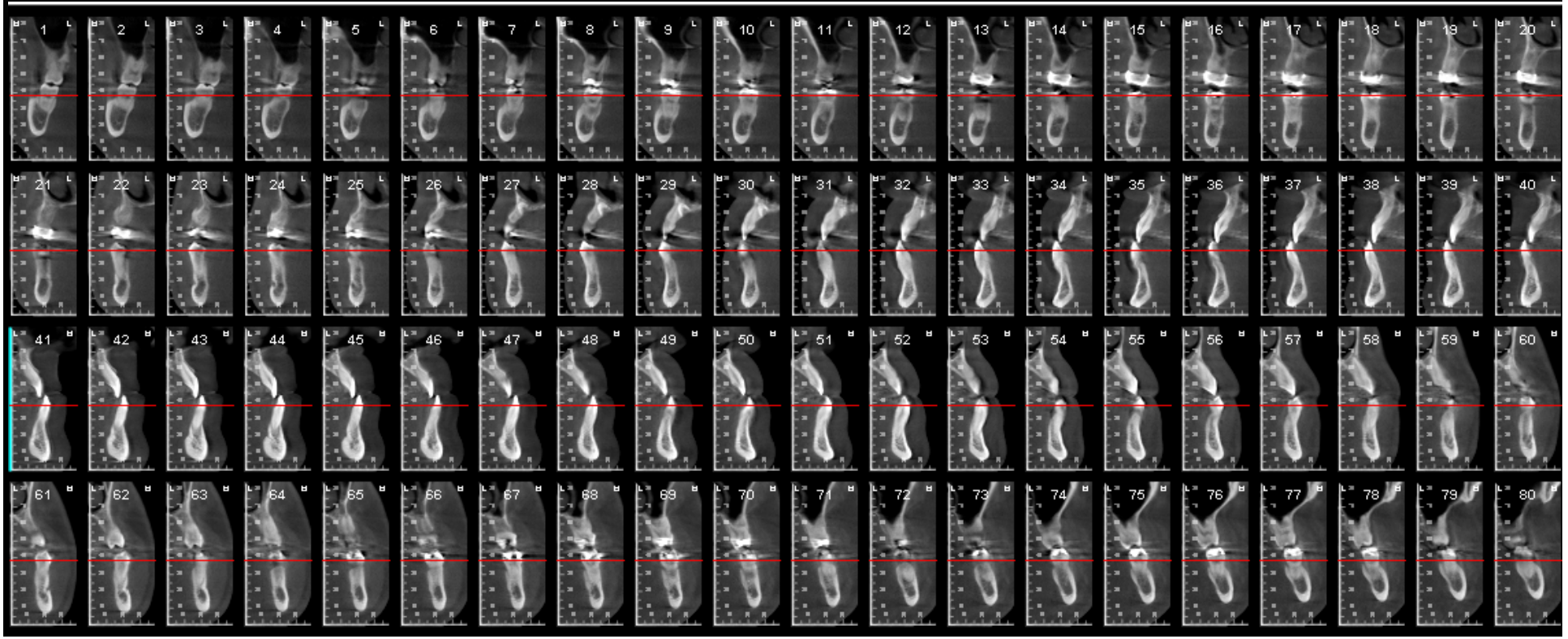
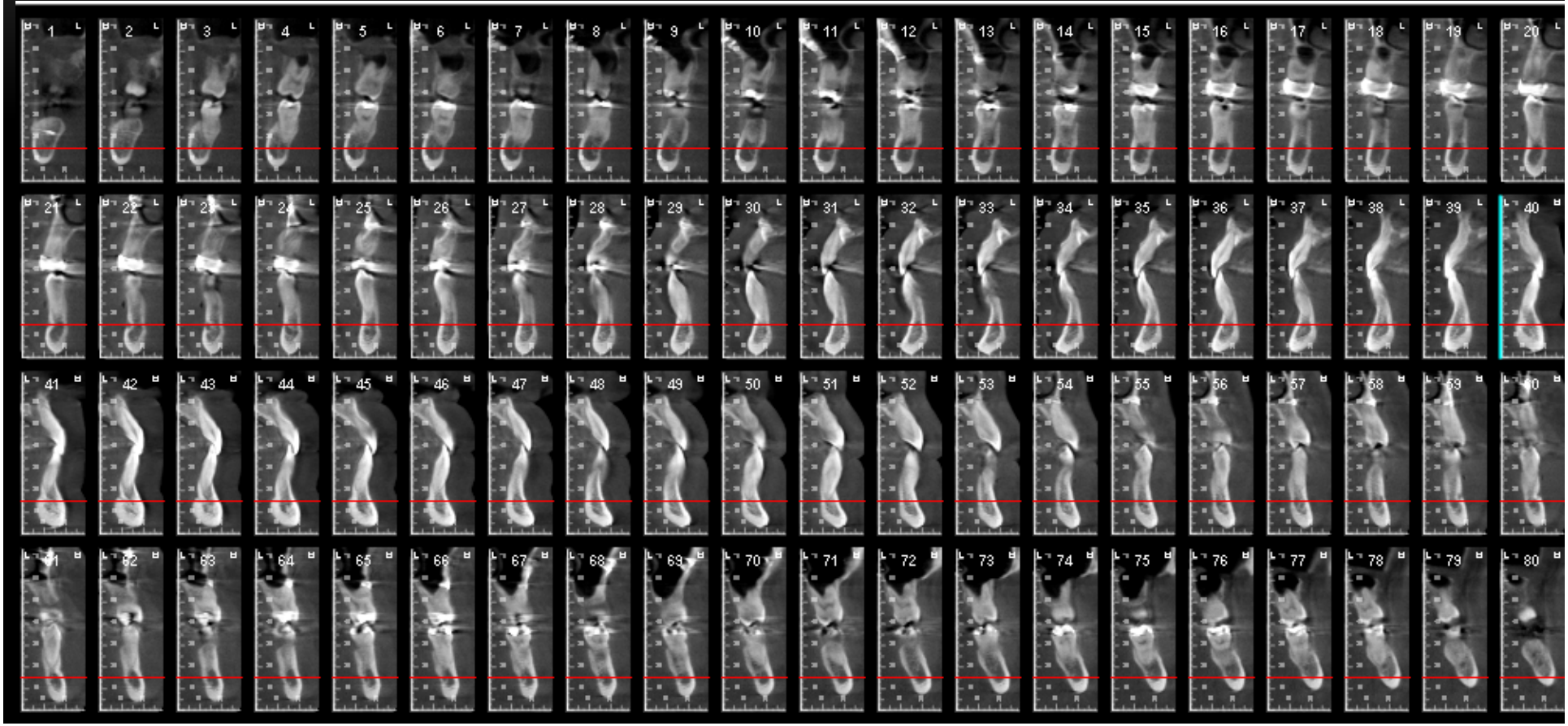


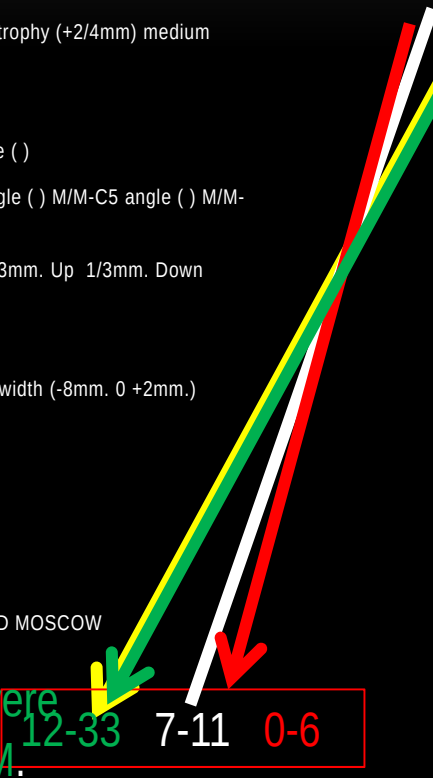
LATERAL SLICE CONDYLE SHAPE/ANATOMY

INITIAL PROGRESS FINAL (XXX-X)



FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

- CLINICAL CHART ORTHODONTICS ( ) TMJ ( ) ORT.+TMJ ( )
- LATERAL/FRONTAL TELERADIOGRAPHY ( ) ORTO ( ) LOWDOSE CONEBEAM ( ) SEGMENTATION ALFA ( ) BETA ( ) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
- LATERAL/FRONTAL CORONAL SLICE TELERADIOGRAPHY Ba-A ( ) Ba-B ( ) R/L condyle head-Gonion distance (+/-15 mm) occlusal plane asimmetry (+/-10mm.) palatal suture Menton asimmetry (+/- 15mm.)
- LATERAL/FRONTAL/AXIAL SLICE TELERADIOGRAPHY UPPER/MEDIUM/LOWER AIRWAYS turbinate hypertrophy (+1/4mm.) adenoids/tonsils hypertrophy (+2/4mm) medium lower airways reduction (-10/20mm) sleep apnea (+/-) Ramus Retromolar-C2-Medium Airways( )
- R/IL PONTICULUS POSTICUS ( )
- LATERAL/CORONAL SLICE CERVICAL SPINE RELATIONSHIP A-C1 ( ) A-C2 ( ) A-C3 ( ) A-C4( ) A-C5 ( ) Coronal Ba Ep Angle ( ) R/L C0-Ep Distance ( )
- SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )
- CORONAL/LATERAL SLICE CONDYLE FOSSA RELATIONSHIP Lateral Pole ( ) Center ( ) Medial Pole ( ) 2mm. Back 0mm. Centered 2mm. Forward 1/3mm. Up 1/3mm. Down 1/3mm
- CORONAL/LATERAL SLICE CONDYLE SHAPE/ANATOMY curvature(5°-45°) flattening(1-3) cortical collapse(1-3) osteofitosis (1-4)
- CORONAL /SLICE MAXILLARY/MANDIBULAR CROSS-SECTIONS BONE REDUCTION/INCREASE cortical plate width (+/-1 mm.) R-L cuspid bicuspid width (-8mm. 0 +2mm.)
- MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE (+/-10 mm)
- SMV SLICE MAXILLO/MANDIBULAR contraction (+/- 7 mm.) expansion (+/- 7 mm.)
- CORTICAL/SUBCORTICAL fMRI PAIN NETWORKS (+5 increase -4 decrease)
- R/L CORONAL/LATERAL MASSETER/STERNOCLEIDOMASTOIDEUS STERNAL INSERTION width/lenght (+/-10mm.)
- McLAUGHLIN CEPHALOMETRICS ( ) FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT McLAUGHLIN CEPHALOMETRICS NHP+TVL+FP ( ) 3D MOSCOW CEPHALOMETRICS ( )

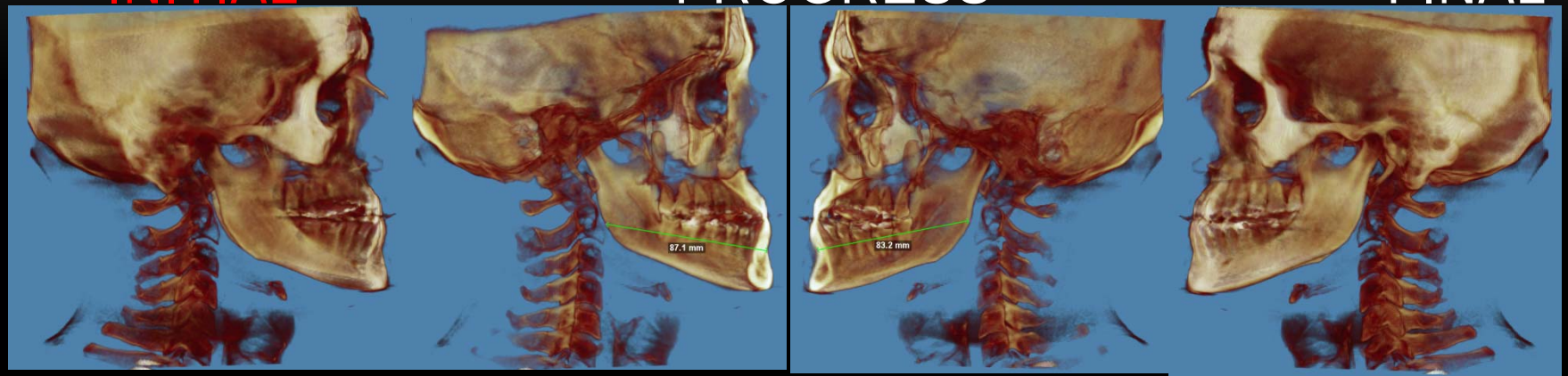


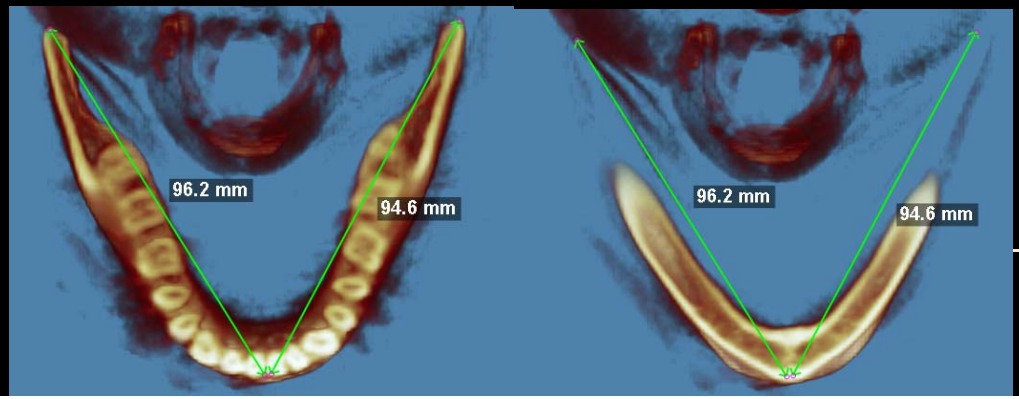
OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE

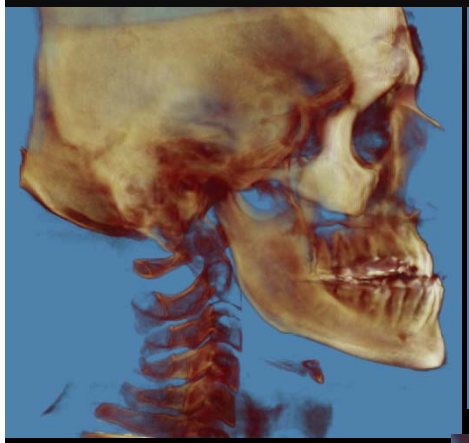
INITIAL PROGRESS FINAL

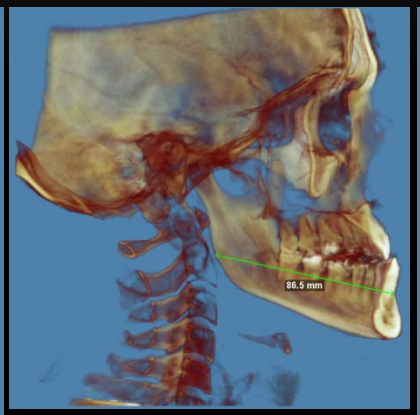


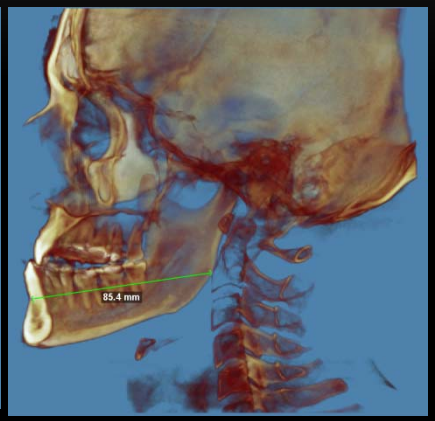


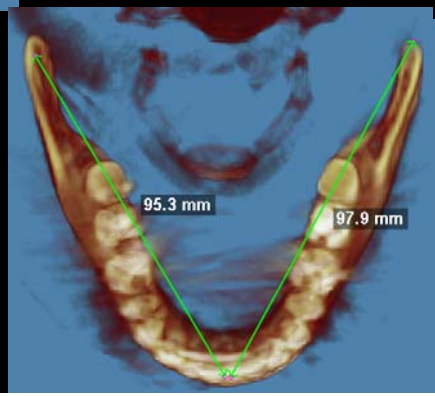
MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE

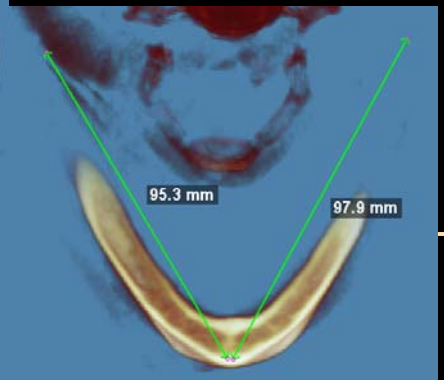
INITIAL PROGRESS FINAL





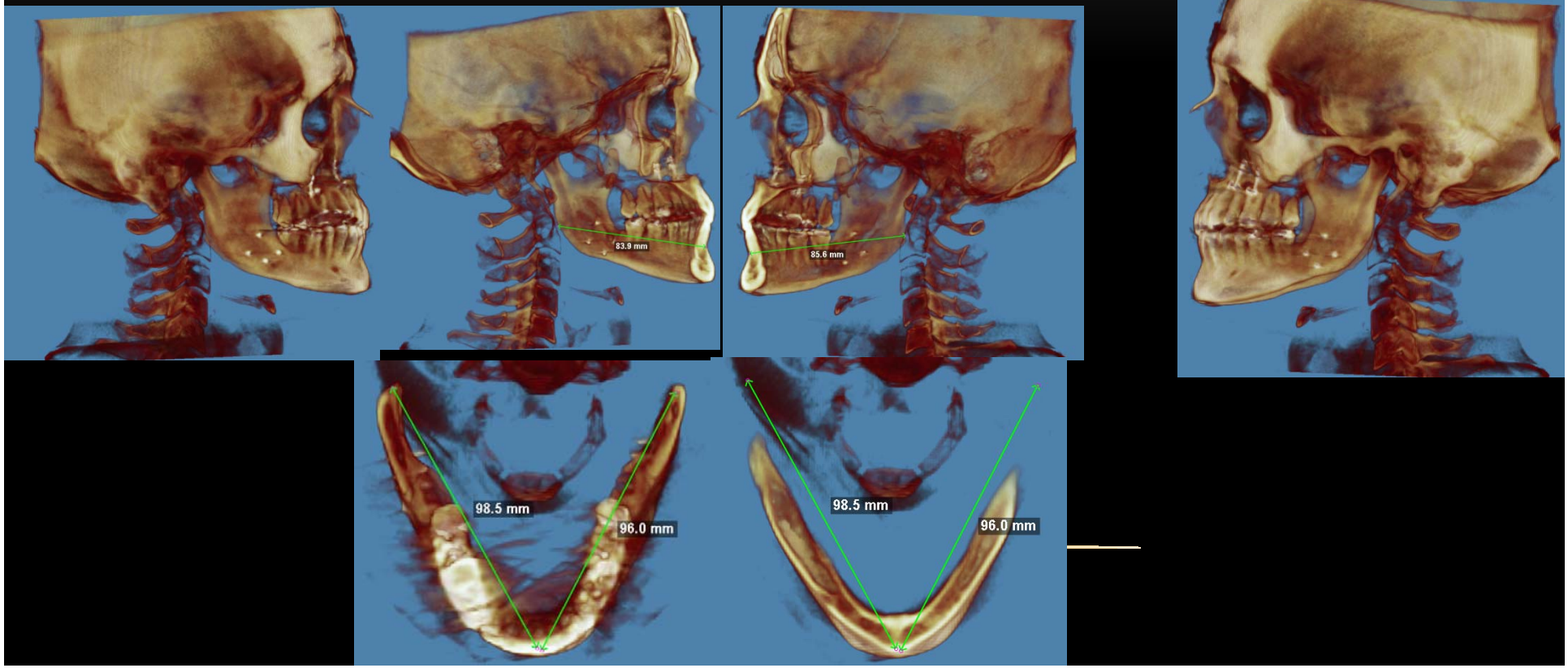






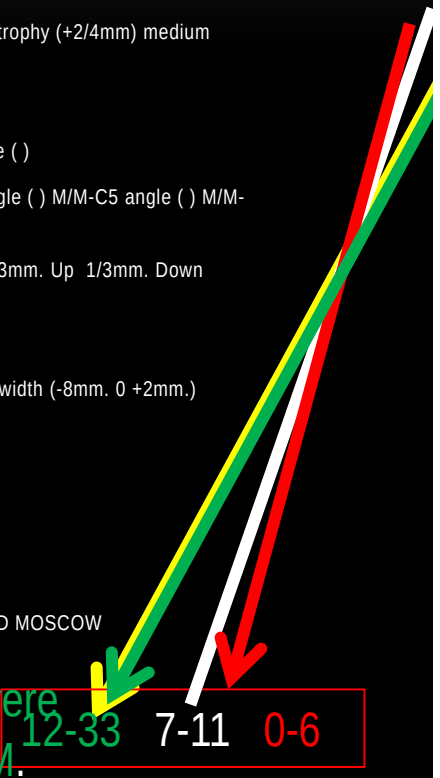
MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE

INITIAL PROGRESS FINAL (X>X)



FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

- CLINICAL CHART ORTHODONTICS ( ) TMJ ( ) ORT.+TMJ ( )
- LATERAL/FRONTAL TELERADIOGRAPHY ( ) ORTO ( ) LOWDOSE CONEBEAM ( ) SEGMENTATION ALFA ( ) BETA ( ) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
- LATERAL/FRONTAL CORONAL SLICE TELERADIOGRAPHY Ba-A ( ) Ba-B ( ) R/L condyle head-Gonion distance (+/-15 mm) occlusal plane asimmetry (+/-10mm.) palatal suture Menton asimmetry (+/- 15mm.)
- LATERAL/FRONTAL/AXIAL SLICE TELERADIOGRAPHY UPPER/MEDIUM/LOWER AIRWAYS turbinate hypertrophy (+1/4mm.) adenoids/tonsils hypertrophy (+2/4mm) medium lower airways reduction (-10/20mm) sleep apnea (+/-) Ramus Retromolar-C2-Medium Airways( )
- R/IL PONTICULUS POSTICUS ( )
- LATERAL/CORONAL SLICE CERVICAL SPINE RELATIONSHIP A-C1 ( ) A-C2 ( ) A-C3 ( ) A-C4( ) A-C5 ( ) Coronal Ba Ep Angle ( ) R/L C0-Ep Distance ( )
- SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )
- CORONAL/LATERAL SLICE CONDYLE FOSSA RELATIONSHIP Lateral Pole ( ) Center ( ) Medial Pole ( ) 2mm. Back 0mm. Centered 2mm. Forward 1/3mm. Up 1/3mm. Down 1/3mm
- CORONAL/LATERAL SLICE CONDYLE SHAPE/ANATOMY curvature(5°-45°) flattening(1-3) cortical collapse(1-3) osteofitosis (1-4)
- CORONAL /SLICE MAXILLARY/MANDIBULAR CROSS-SECTIONS BONE REDUCTION/INCREASE cortical plate width (+/-1 mm.) R-L cuspid bicuspid width (-8mm. 0 +2mm.)
- MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE (+/-10 mm)
- SMV SLICE MAXILLO/MANDIBULAR contraction (+/- 7 mm.) expansion (+/- 7 mm.)
- CORTICAL/SUBCORTICAL fMRI PAIN NETWORKS (+5 increase -4 decrease)
- R/L CORONAL/LATERAL MASSETER/STERNOCLEIDOMASTOIDEUS STERNAL INSERTION width/lenght (+/-10mm.)
- McLAUGHLIN CEPHALOMETRICS ( ) FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT McLAUGHLIN CEPHALOMETRICS NHP+TVL+FP ( ) 3D MOSCOW CEPHALOMETRICS ( )



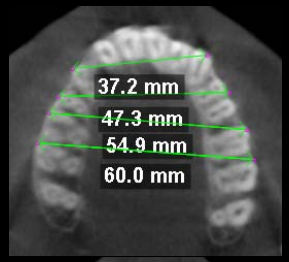
OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

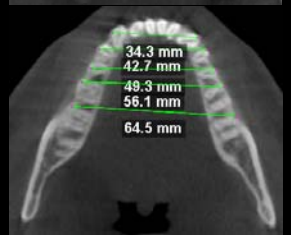
TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

SMV SLICE MAXILLO/MANDIBULAR

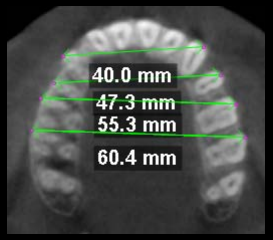
OPI

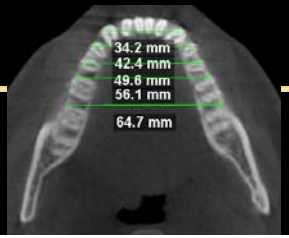
INITIAL



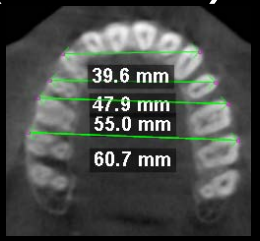


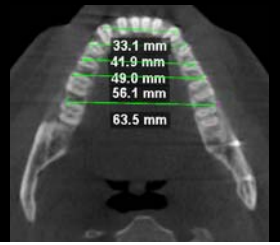
PROGRESS





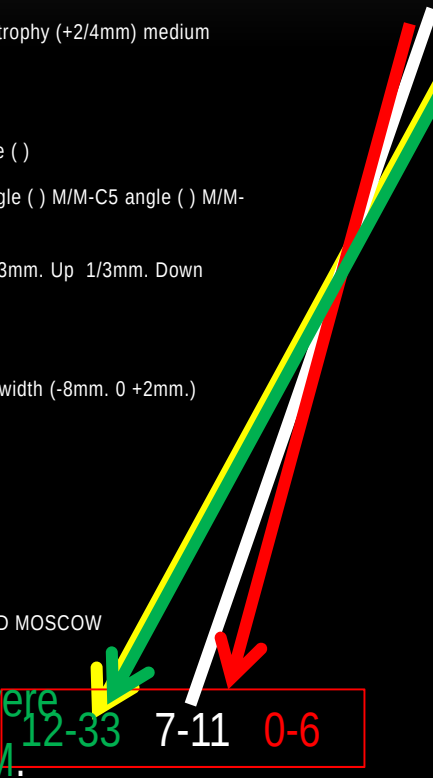
FINAL (XXX>X)





FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

- CLINICAL CHART ORTHODONTICS ( ) TMJ ( ) ORT.+TMJ ( )
- LATERAL/FRONTAL TELERADIOGRAPHY ( ) ORTO ( ) LOWDOSE CONEBEAM ( ) SEGMENTATION ALFA ( ) BETA ( ) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
- LATERAL/FRONTAL CORONAL SLICE TELERADIOGRAPHY Ba-A ( ) Ba-B ( ) R/L condyle head-Gonion distance (+/-15 mm) occlusal plane asimmetry (+/-10mm.) palatal suture Menton asimmetry (+/- 15mm.)
- LATERAL/FRONTAL/AXIAL SLICE TELERADIOGRAPHY UPPER/MEDIUM/LOWER AIRWAYS turbinate hypertrophy (+1/4mm.) adenoids/tonsils hypertrophy (+2/4mm) medium lower airways reduction (-10/20mm) sleep apnea (+/-) Ramus Retromolar-C2-Medium Airways( )
- R/IL PONTICULUS POSTICUS ( )
- LATERAL/CORONAL SLICE CERVICAL SPINE RELATIONSHIP A-C1 ( ) A-C2 ( ) A-C3 ( ) A-C4( ) A-C5 ( ) Coronal Ba Ep Angle ( ) R/L C0-Ep Distance ( )
- SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )
- CORONAL/LATERAL SLICE CONDYLE FOSSA RELATIONSHIP Lateral Pole ( ) Center ( ) Medial Pole ( ) 2mm. Back 0mm. Centered 2mm. Forward 1/3mm. Up 1/3mm. Down 1/3mm
- CORONAL/LATERAL SLICE CONDYLE SHAPE/ANATOMY curvature(5°-45°) flattening(1-3) cortical collapse(1-3) osteofitosis (1-4)
- CORONAL /SLICE MAXILLARY/MANDIBULAR CROSS-SECTIONS BONE REDUCTION/INCREASE cortical plate width (+/-1 mm.) R-L cuspid bicuspid width (-8mm. 0 +2mm.)
- MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE (+/-10 mm)
- SMV SLICE MAXILLO/MANDIBULAR contraction (+/- 7 mm.) expansion (+/- 7 mm.)
- CORTICAL/SUBCORTICAL fMRI PAIN NETWORKS (+5 increase -4 decrease)
- R/L CORONAL/LATERAL MASSETER/STERNOCLEIDOMASTOIDEUS STERNAL INSERTION width/lenght (+/-10mm.)
- McLAUGHLIN CEPHALOMETRICS ( ) FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT McLAUGHLIN CEPHALOMETRICS NHP+TVL+FP ( ) 3D MOSCOW CEPHALOMETRICS ( )

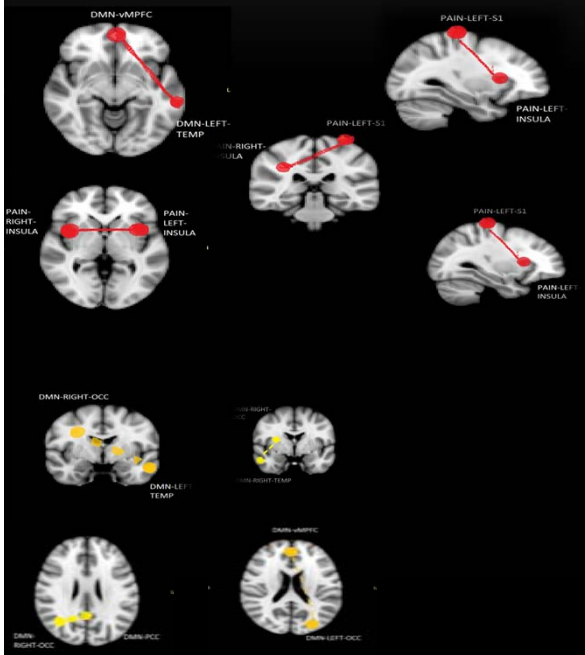


OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

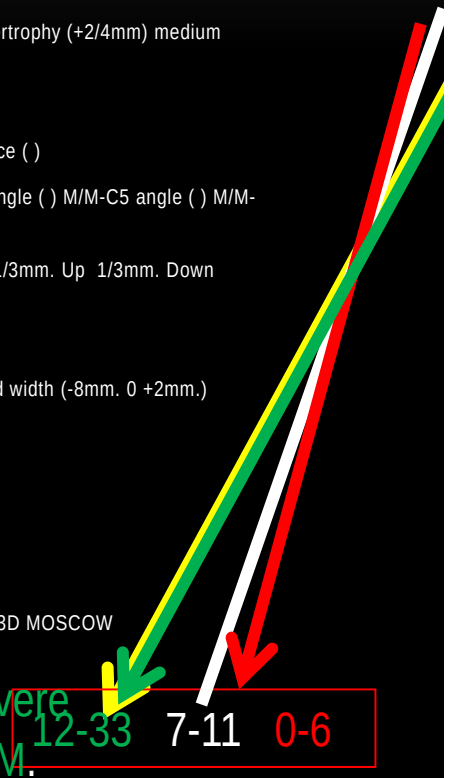
CORTICAL/SUBCORTICAL FMRI PAIN NETWORKS

INITIAL PROGRESS FINAL



FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

- CLINICAL CHART ORTHODONTICS ( ) TMJ ( ) ORT.+TMJ ( )
- LATERAL/FRONTAL TELERADIOGRAPHY ( ) ORTO ( ) LOWDOSE CONEBEAM ( ) SEGMENTATION ALFA ( ) BETA ( ) ORTHOGONAL ( ) PERSPECTIVE ( ) NHP+TVL+FP ( )
- LATERAL/FRONTAL CORONAL SLICE TELERADIOGRAPHY Ba-A ( ) Ba-B ( ) R/L condyle head-Gonion distance (+/-15 mm) occlusal plane asimmetry (+/-10mm.) palatal suture Menton asimmetry (+/- 15mm.)
- LATERAL/FRONTAL/AXIAL SLICE TELERADIOGRAPHY UPPER/MEDIUM/LOWER AIRWAYS turbinate hypertrophy (+1/4mm.) adenoids/tonsils hypertrophy (+2/4mm) medium lower airways reduction (-10/20mm) sleep apnea (+/-) Ramus Retromolar-C2-Medium Airways( )
- R/IL PONTICULUS POSTICUS ( )
- LATERAL/CORONAL SLICE CERVICAL SPINE RELATIONSHIP A-C1 ( ) A-C2 ( ) A-C3 ( ) A-C4( ) A-C5 ( ) Coronal Ba Ep Angle ( ) R/L C0-Ep Distance ( )
- SMV SLICE MAXILLO/MANDIBULAR-CERVICAL SPINE RELATIONSHIP M/M-C1 angle ( ) M/M-C2/epistropheus angle ( ) M/M-C3 angle ( ) M/M-C4 angle ( ) M/M-C5 angle ( ) M/M-C6 angle ( )
- CORONAL/LATERAL SLICE CONDYLE FOSSA RELATIONSHIP Lateral Pole ( ) Center ( ) Medial Pole ( ) 2mm. Back 0mm. Centered 2mm. Forward 1/3mm. Up 1/3mm. Down 1/3mm
- CORONAL/LATERAL SLICE CONDYLE SHAPE/ANATOMY curvature(5°-45°) flattening(1-3) cortical collapse(1-3) osteofitosis (1-4)
- CORONAL /SLICE MAXILLARY/MANDIBULAR CROSS-SECTIONS BONE REDUCTION/INCREASE cortical plate width (+/-1 mm.) R-L cuspid bicuspid width (-8mm. 0 +2mm.)
- MAXILLARY/MANDIBULAR CROSS-SECTIONS BODY LENGHT REDUCTION/INCREASE (+/-10 mm)
- SMV SLICE MAXILLO/MANDIBULAR contraction (+/- 7 mm.) expansion (+/- 7 mm.)
- CORTICAL/SUBCORTICAL fMRI PAIN NETWORKS (+5 increase -4 decrease)
- R/L CORONAL/LATERAL MASSETER/STERNOCLEIDOMASTOIDEUS STERNAL/clavicular INSERTION width/lenght (+/-10mm.)
- McLAUGHLIN CEPHALOMETRICS ( ) FESTA2FACE® TMJPOSTURE® MODIFIED ARNETT McLAUGHLIN CEPHALOMETRICS NHP+TVL+FP ( ) 3D MOSCOW CEPHALOMETRICS ( )

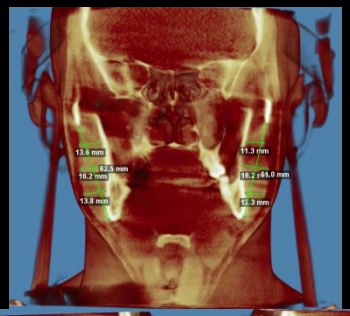


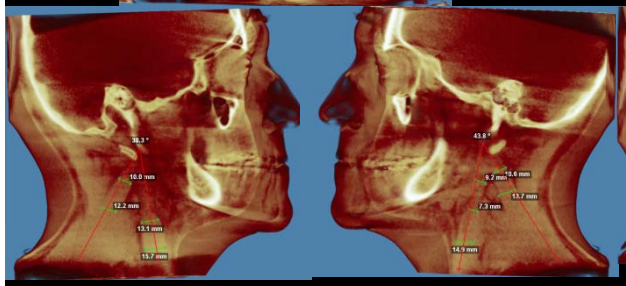
OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-11 mild 12-33 severe

TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.

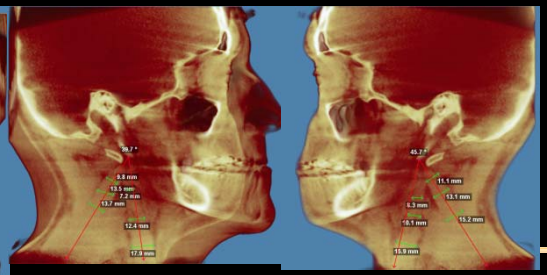
R/L CORONAL/LATERAL
MASSETER/STERNOCLEIDOMASTOIDEUS
STERNAL/CLAVICULAR INSERTION

INITIAL

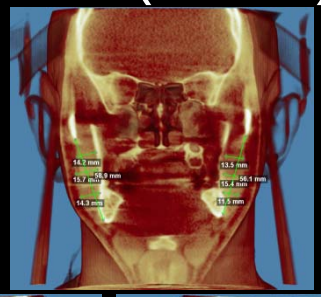


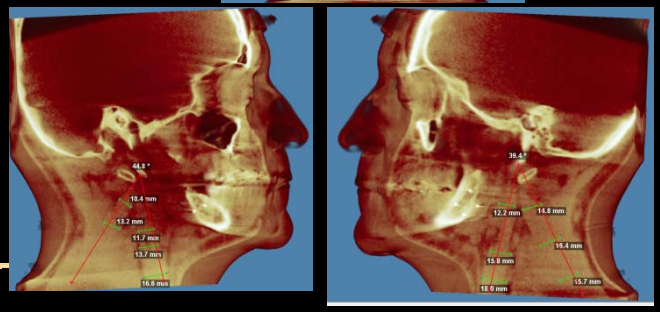


PROGRESS



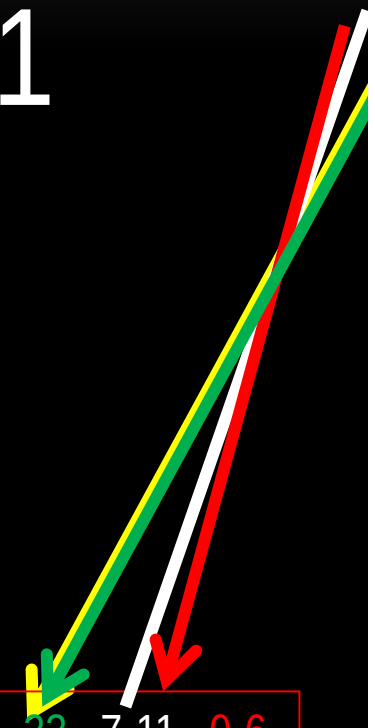
FINAL (XX>X)





FESTA2FACE TMJ POSTURE 3D OCCLUSION TMJ SPINE DYSFUNCTION DIAGNOSTIC PROTOCOL FLOW CHART-SCORE

INITIAL 27 > FINAL 11



OCCLUSION TMJ SPINE DYSFUNCTION SCORE 0-6 light 7-9 mild 10-16 severe

TMJ ORTHO. TREATM. TMJ ORTHO. TREATM. TMJ ORTHO. SURG. TREATM.