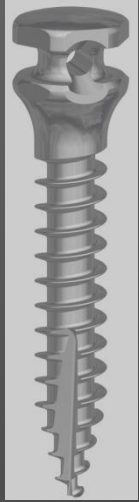


# Concept All In One



CAIRO April 2011

[WWW.SLOT-CONCEPT.COM](http://WWW.SLOT-CONCEPT.COM)

SLOT SOCIETY

**Self Ligating Orthodontic technique**

**BRACKETS R ET C IN OVATION  
DENTSPLY**



**Contribution of new technologies in  
orthodontic therapeutic**

# CHAPTER 1

- ⦿ About general point of view of SLOT  
ORTHODONTIC CHOISE

# WHY TO CHANGE ? and WHY ALL IN ONE CONCEPT

## Concept AIO ?

- Fastest mechanical treatment
- More time for functional and finishing stages
- Less and shorter appointments
- More comfort for the patient
- Concept of low and biological forces
- Pure dental movement ,and less parasite forces

# HOW USING « ALL IN ONE CONCEPT » SLOT SOCIETY

- ① 1. original cephalometric approach with Craniom cephamometric measures
- ② 2. Sliding mechanics and buccal torque control
  - Using interactive self ligating attachment
  - With using full size in anterior segment from upper left lateral incisor to U R L one in slot dimension .020 X .028 inches
  - And sliding mechanics in lateral segment with .024X28 slot dimension attachment
- ③ 3. With using auxiliary anchorage  
Mini implant , Sliding jig (for double mechanic ) a few wire sequence (only 3 wires)
- ④ 4. With using Heat activated memory wires, at the beginning of treatment rectangular section to tridimensional approach
- ⑤ 5. Control Arch form
  - With palatal and lingual auxiliary arch
  - With the choice of ideal arch at the beginning of the treatment



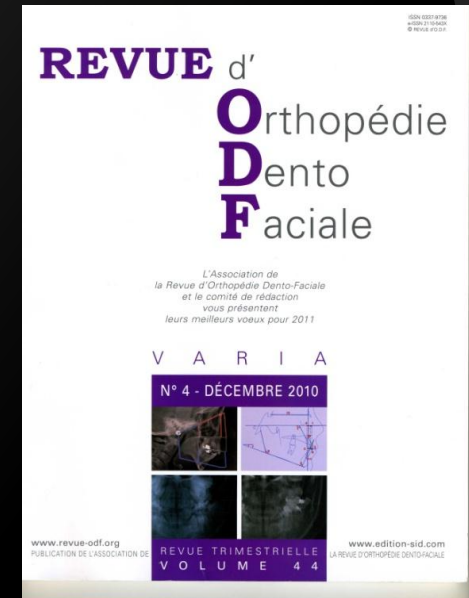
# HOW ...?

## concept AIO

- ⦿ Association of all those objectives in only one time
  - Anchorage, tridimensional control, sliding
- ⦿ To avoid the traditional stages of alignment, leveling, anchorage and retracting stages .
- ⦿ By anticipating the parasitic movements of the mechanical actions

# CHAPTER 2 : DIAGNOSIS SLOT METHOD

Objectives of individualized treatment taking account of the facial growth with the analysis of Craniom and the functional problems



# A new method of using numbers in ODF

It is currently agreed that from cephalometric analysis of North American TWEED, Steiner and Ricketts is questioned .  
CRANIOM group suggest a new method of using numbers that can be considered as an moderate assistance to diagnosis.

- 
- 83 young adults without treatment of O.D.F in Class I occlusion were analyzed by our group .

The newest concept is to use the extremes values of the variables in this population.

Those angular measures are very remote terminals to one another : more than 30 ° difference in inclination values.

**So the original first buccal inclination incisors values are often acceptable and with the VTO , the incisor repositioning is less necessary**

- 
- For this reason , the indication off premolar extraction is less frequent !

The bone measures only describe typology

## KEYWORDS

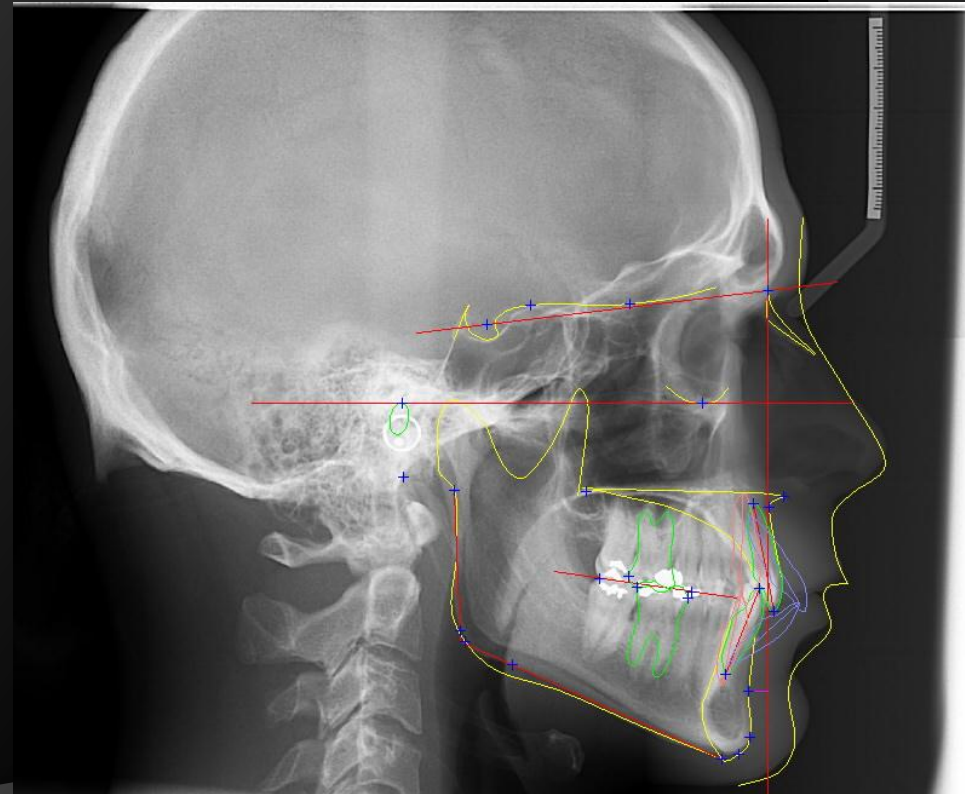
Cephalometry - average – Standard deviation - Extreme Values - Torque incisors - mandibular and facial Forms –Cephamometric repositioning incisor –

# 2. Diagnosis

ABOUT EVALUATION ARCH SIZE DISCREPANCY (ASD) For repositioning lower incisor 1 mm = 2,5° inclination mental arithmetic

## ● Craniom cephalometric method

Mesure	Evolution	Norme	34 ans 11	
Analyse dentaire		Analyse dentaire		
Surplomb	0.00mm/an +/-0.70	2.60mm	5.06mm	(2.46)
Entrec. Incisif vert.	0.00mm/an +/-1.30	2.30mm	6.55mm	(4.25)
i / Mandibule	0.00°/an +/-9.00	96.00°	86.76°	(-9.24)
I / FH	0.00°/an +/-7.45	112.40°	100.65°	(-11.75)
I/Palatin	0.33°/an +/-20.18	108.33°	95.34°	(-13.00)
Inter-incisif	0.00°/an +/-11.63	135.75°	148.39°	(12.64)
Bord Libre Inc Sup to Stom	-0.08mm/an +/-0.50	2.42mm	7.86mm	(5.44)
Analyse osseuse verticale		- Analyse osseuse verticale -		
SN-Plan Mandibulaire	-0.33°/an +/-5.60	28.77°	31.09°	(2.32)
Angle Mandibulaire	-0.83°/an +/-5.70	121.87°	116.83°	(-5.03)
Analyse osseuse antéro-postérieure		- Analyse osseuse antéro-postérieure -		
Déc base A'B'	-0.32mm/an +/-3.15	1.98mm	6.02mm	(4.04)
Point A à Na [L_FH]	-0.08mm/an +/-3.15	2.22mm	0.26mm	(-1.96)
Point B à Na [L_FH]	0.25mm/an +/-4.70	0.25mm	-5.76mm	(-6.01)
Profondeur de la face	1.50mm/an +/-5.00	71.80mm	80.13mm	(8.33)

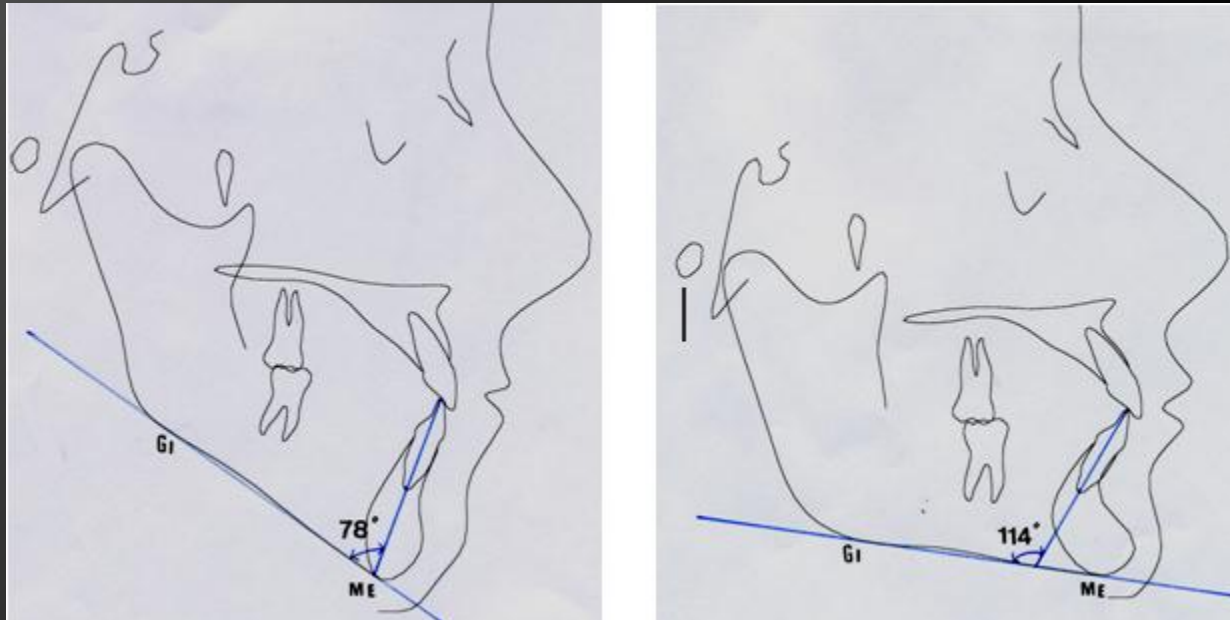


To evaluate extrem cephalometric incisor position

# Cranio cephalometric analysis

## Extrem values with consideration of facial vertical typology

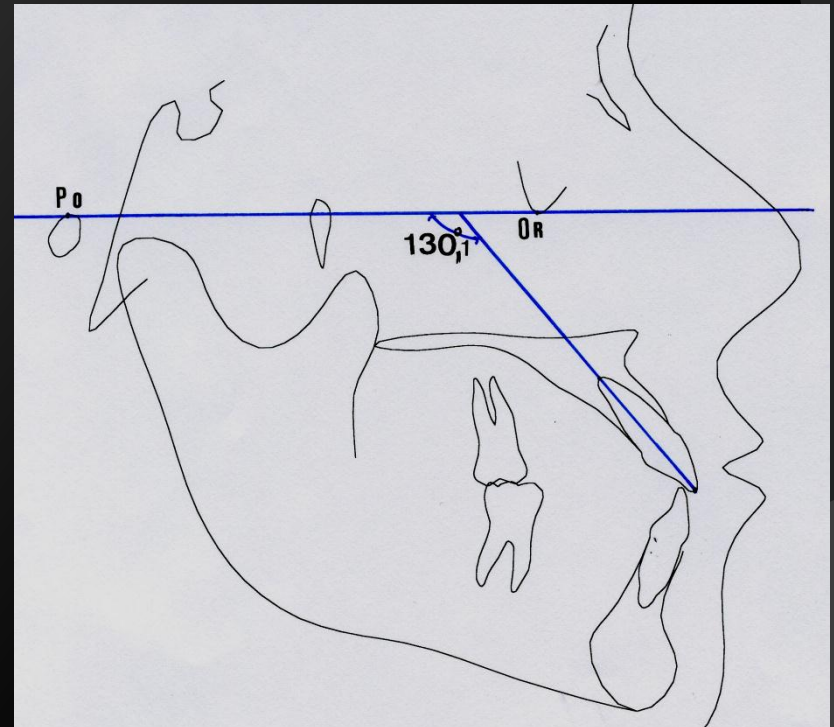
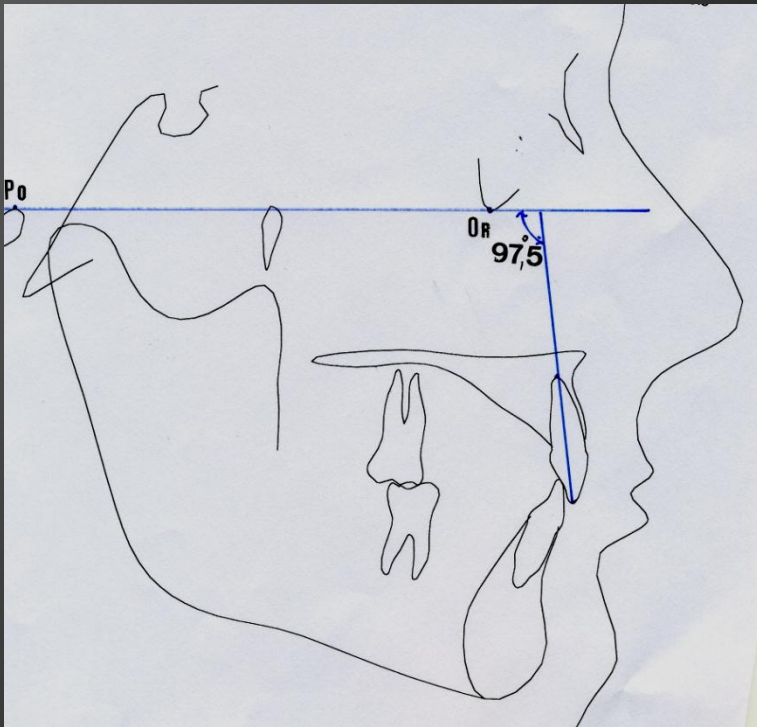
Long face  $78^{\circ}$ - $114^{\circ}$  short face





# 2. Upper incisors

Long face 97,5°-130°short face



# SAGITTAL SKELETAL DISCREPENCY

Measurement of protrusion or retrusion of skeletal basal mandible or maxillary with reference of horizontal Frankfort plane

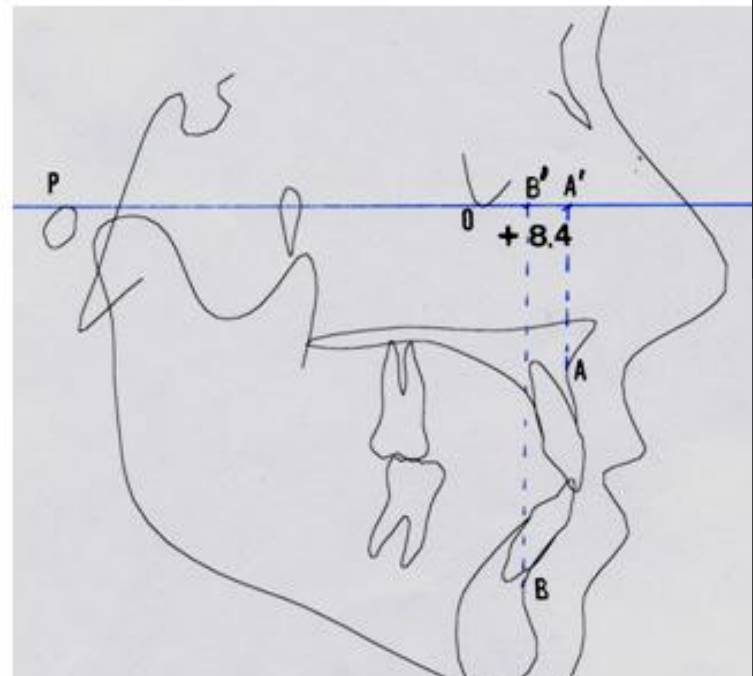
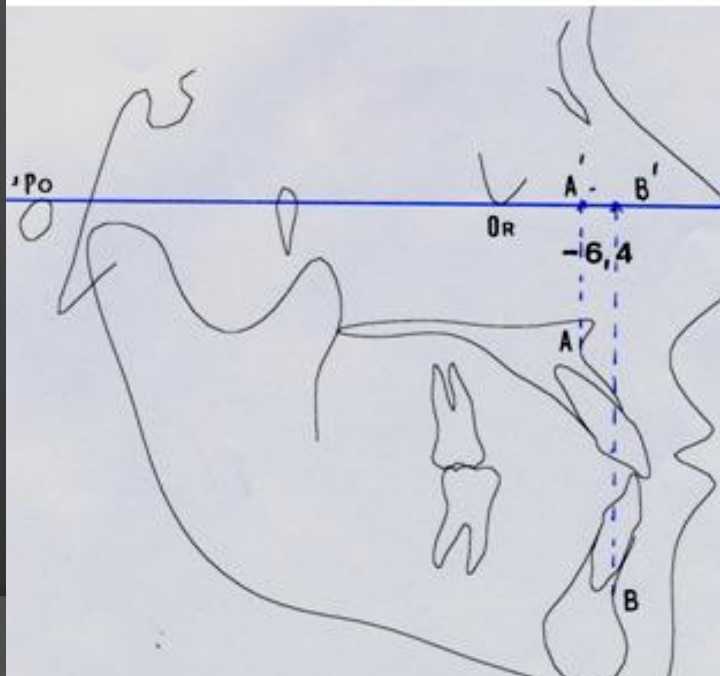
Projection A et B sur francfort

9 ans : average :  $4,2 \pm 3,2$   $+1$  <normal <  $+7,4$  16 ans  
chez le garçon et 14 ans chez la fille

Adulte : average  $2,3 \pm 3,1$   $-0,8$  <normal <  $+5,4$

**Interprétation : Type I ; Type II Type III**

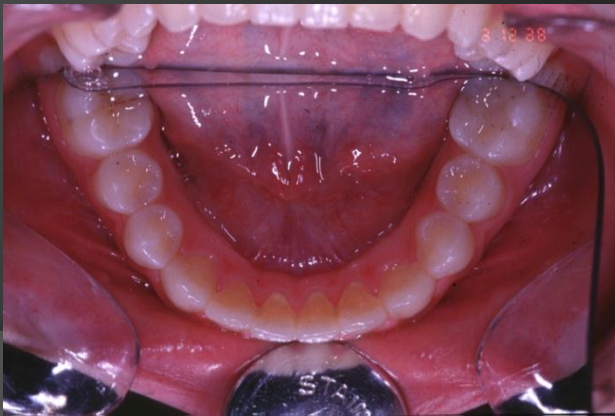
Extrem values



# CHAPTER 3 : ARCH FORM CONTROL :

## WHAT This objective ?

- .1 Find functional harmony between the arches to optimize occlusion





## ②. To respect muscular balances and the context of the skeletal bases

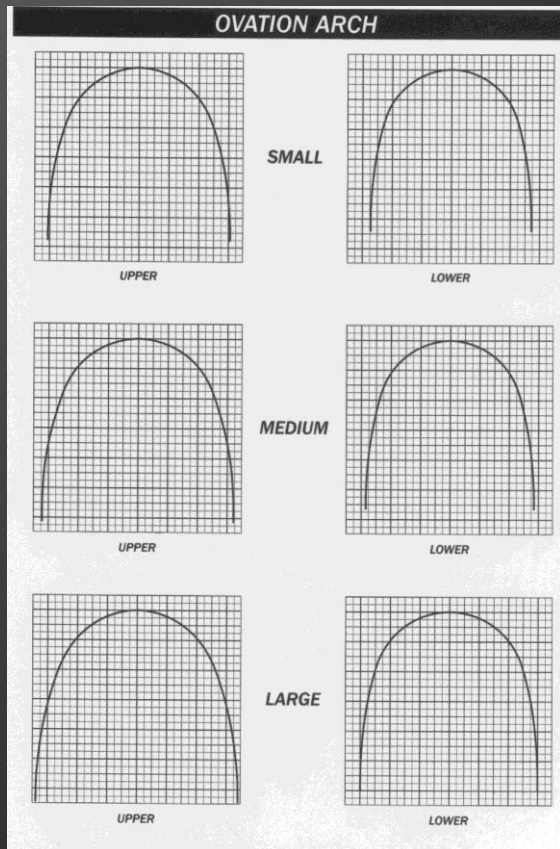
TWO decisive points  
genetic form arch  
muscles balanced

We need to respect those two points !



# How control ARCH FORM

- With use chart arch form individualised

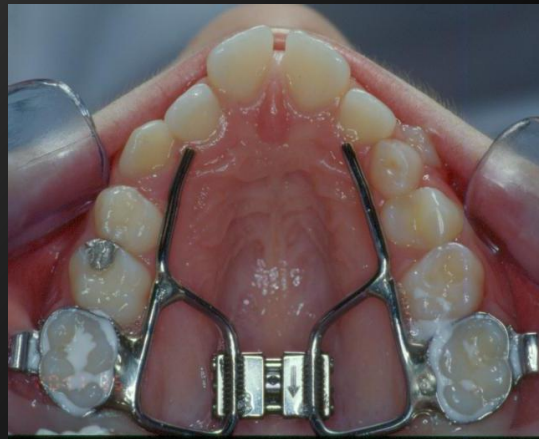


- If you want to change form you must use functional appliance in early treatment or of the end of mechanic fixed appliance

# How control ARCHES With auxiliary arch



- Lingual arch
- Palatal arch
- Expansive palatal arch
- Rapid expansive palatal
- Passive anchorage : mini implant



# How control ARCH FORM

- ◉ With using good prescriptions

Principle of Andrews information's with Roth system but with some particularities  
SLOT 20X28 upper incisor front to much control torque

SLOT 24X28 to the others for a best sliding tooth movement

- ◉ But no time to develop !
- ◉ No abusive palate torque on upper canine and upper molar to let free the mandible natural growth
- ◉ Liberty movements between upper and lower canines
- ◉ Optimized molar occlusion
- ◉ Optimized incisor guidance

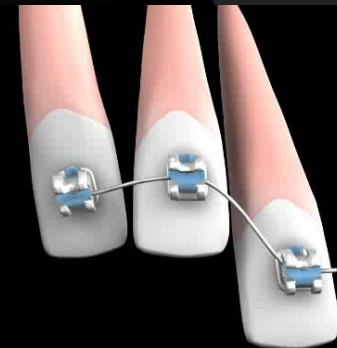
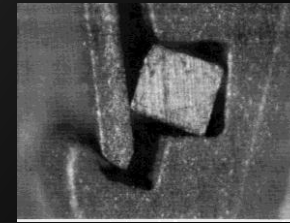


# Chapter 4 : choice of tools

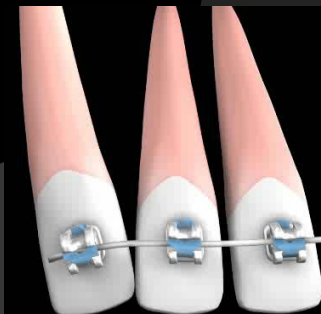
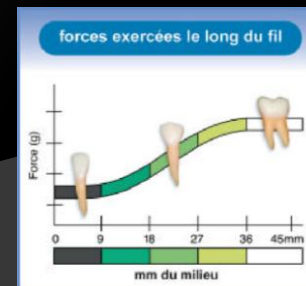
- Sliding property , **passive** in posterior segment
- Buccal Torque control to ovoid « rabiting » **active properties** in frontal segment arch with full information in the slot
- My choice : **interactive attachment**: In Ovation (GAC dentsply) better for control torque : .020X.028 SLOT on incisor ) and Empower (American Orthodontic ) better for sliding in segment posterior arch .024X.028 )
- The wire : ACCU FORM (maxillary arch ); normal form lower arch
  - Wire sequences : 018 SENTALOY or titanium (alignment, rotation)
  - .020X.020 TRITANIUM or BIOFORCE leveling ,alignment 3D,expansion ,retracting unless 3mm)
  - .020X.025 stainless steel (stiffness, sliding , retracting action more than 3 mm)

## Concerning the choice of the brackets and wire

Interactive concept



Bioforce property variant stiffness



# Last chapter

## ⦿ DEMONSTRATING CASES

- 1 .Early TREATMENT WITH FUNCTIONAL APPROCH : 3 cases of CLII correction
- 2.Teenager treatment
  - Simple cases : CLI CROWDINDS
  - CLII :compensation without extraction
- 3.Adult treatment
  - CLII subdivision
  - CLI crowding ASD
- 4 .About the auxiliary systems
  - THE ICKARE RETRACTING system
  - MINISCEWS CASES
- 5 .LINGUAL 2D orthodontic

## CASE

### ○ PRETREATMENT

Male, 21 years old. His primary complaint was that her front teeth were crowded



- **TREATMENT OBJECTIVES**

- Simple alignment with lingual 2 D low cost

- Indirect bonding tool With easy silicon method with

- regi-trans de bisico

- Memosyl !

Method of indirect easier without dental laboratory without targ or any 3 D information

Obligation to use only round wire





# 1<sup>st</sup> APPOINTMENT

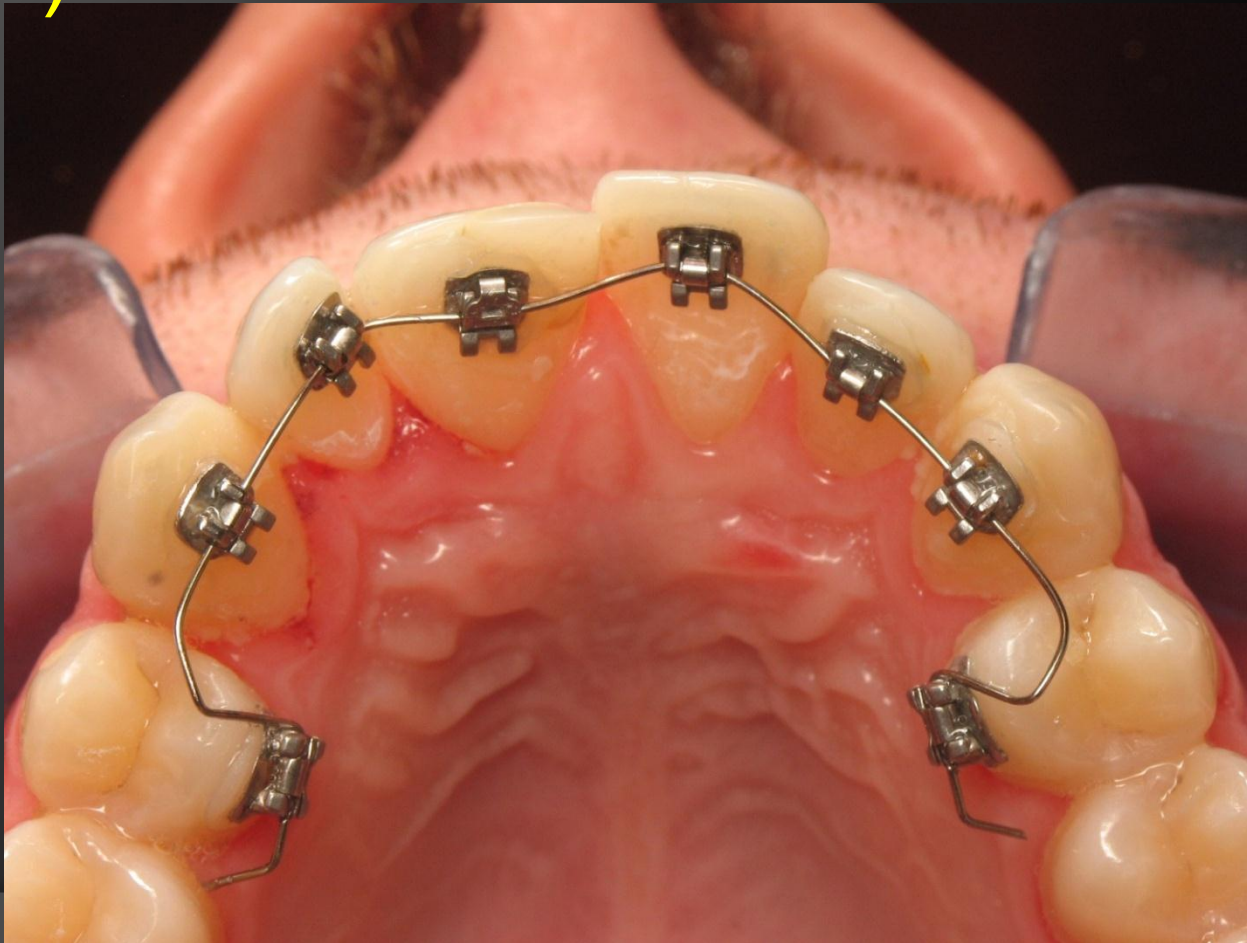


.012 Niti in tension on the inset of form mushroom wire

2<sup>nd</sup> appointment : 4 weeks

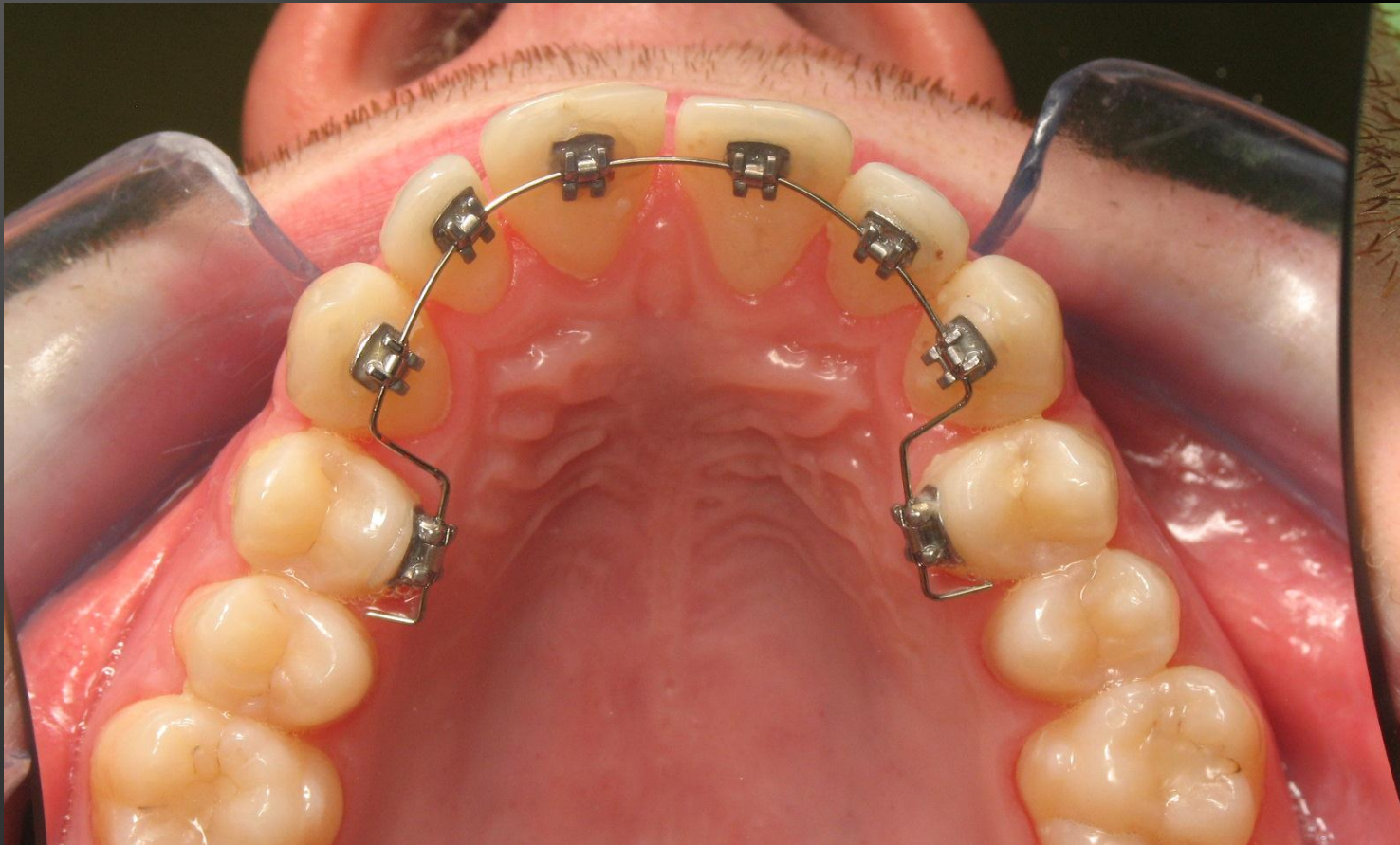
Bonding ULR and UCL

.014 Niti in tension (compressive action)





3rd Appointment **8 weeks**  
we achieve leveling



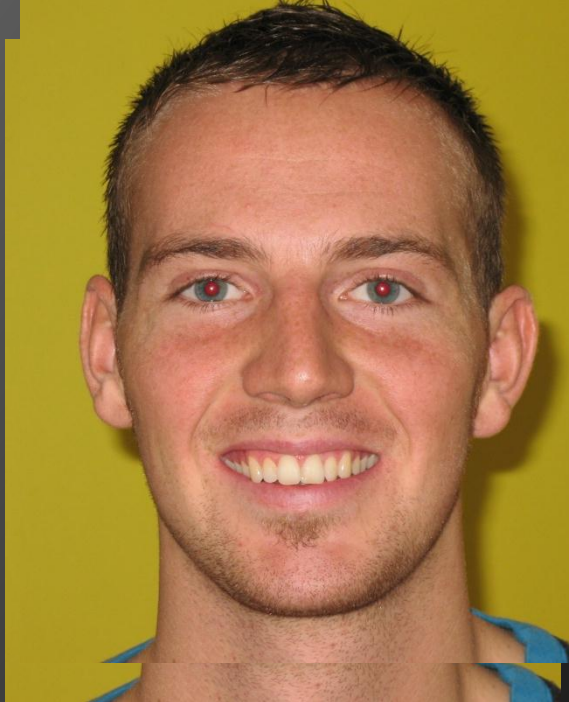
4th Month

016 TMA finition (aesthetic deformation or bonding finition)





Treatment results  
only 5 months !



# 3 Cases studies :

## EARLY TREATMENTS

To demonstrate my tool choice

- ⦿ CLII malocclusion in mixed dentition with global retracting (en masse retraction) mechanic without extraction therapy with **ADSL SYSTEM** .
- ⦿ Efficiency thanks to sliding and buccal torque control property
- ⦿ Efficiency thanks to the growth potential of mandible !

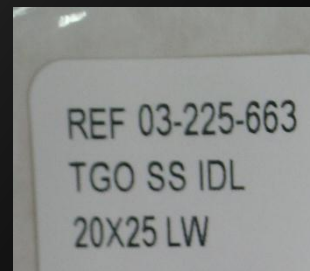
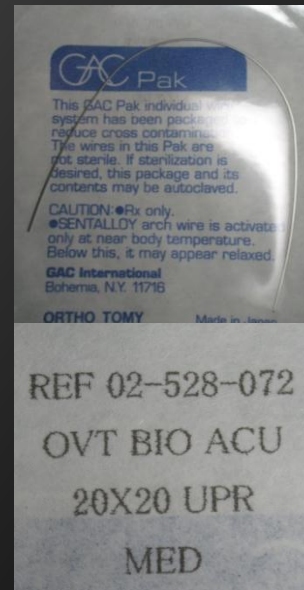
# Experiment on typodont ADSL system

## Wire sequences

- Stage 1 : Insertion on the upper arch 20X20 BIOFORCE ACU FORM wire with intermaxillary elastic CLII traction( low force 50g) on lingual arch . The choice of Acu form is to avoid bowing effect with the retraction of the upper arch and for the expanding effect
- Stage 2 : insertion .020X.025 stainless steel wire Acu form with inter maxillary elastic CLII stronger

## RESULTS

- Excellent control of incisor torque
- Distalizing molar action quickly with optimized sliding mechanics





# CASE 1

12640

## PRETREATMENT

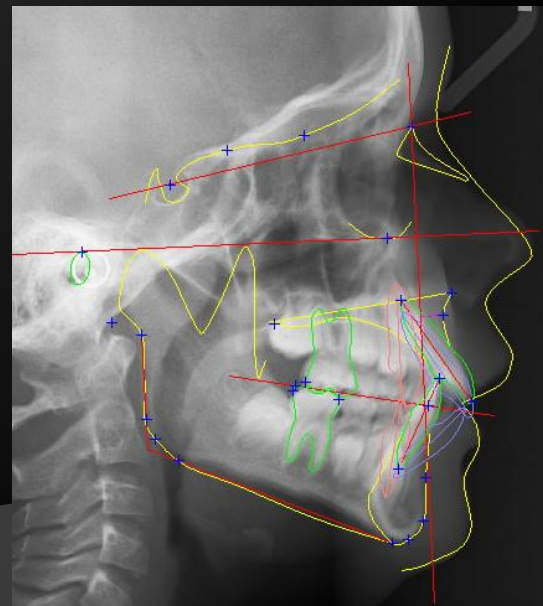
male , 9 years old exhibited CL II , over jet 10 mm , retrusive profile

## Pretreatment Ceph

Upper incisors protrusion with buccal inclination , skeletal vertical normal , deep bite , skeletal CL II by maxillary protrusion

## TREATMENT OBJECTIVES

Correct the over jet by mixed action :retraction of maxillary arch and intrusion of the frontal maxillary arch with protrusion and growth of the mandible with transverse action to move locking occlusion





# TREATMENT PLAN

## STAGE ONE

**Maxillary arch:** 20X20 Bioforce neosentaloy maxillary acu form with bonding self ligating in ovation c appliance during **three months** to obtain maxillary expansion  
**lower arch :** crozat lingual arch

## Stage two ;3 months

20X25 stainless steel wire  
Control class II elastics (6,5 oz ;4 ,5 mm size 3/16 ") 24/24 h

## Stage 3 :6 months

Stop elastics and control of stability and decision  
debonding with myotainer 3 months later



After 6 months  
Only 2 appointments



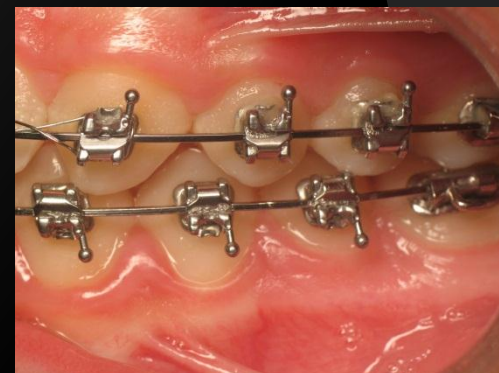
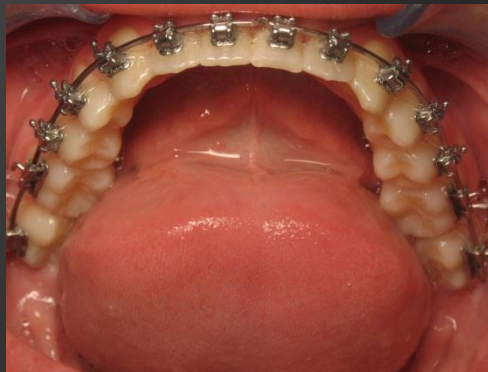
# TREATMENT PLANE AND PRIMARY RESULTS

- STAGE 4:  
Debonding and insertion  
myotrainner for functional  
rehabilitation
- Stage 5 : keep a  
permanent control on  
result with the trainer  
With 1 visit every 6  
months before adult  
dentition.

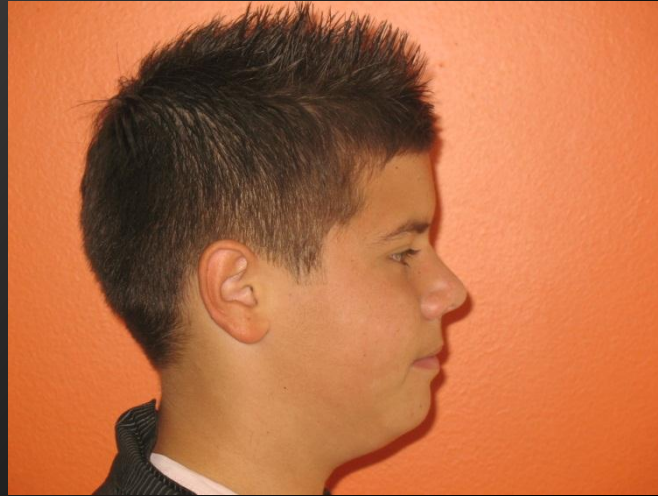
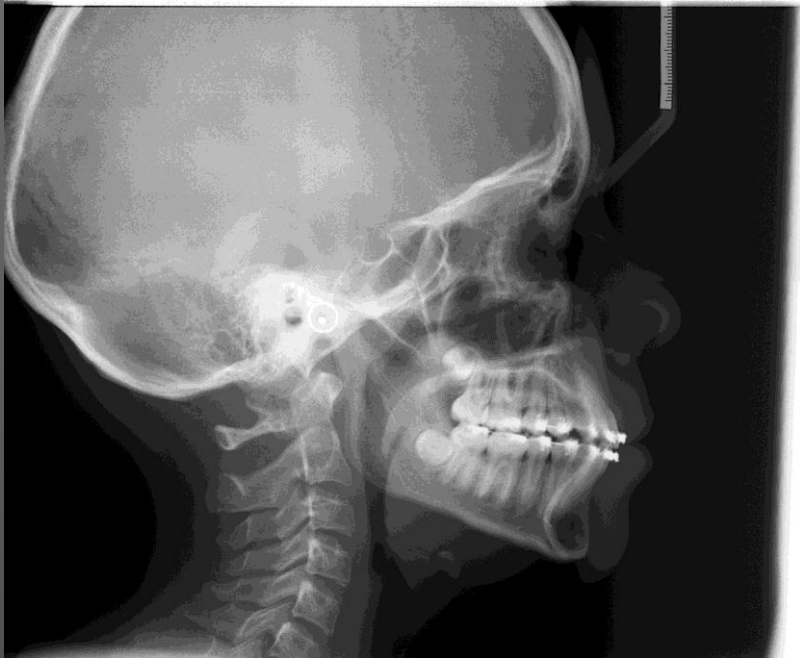


# Adult dentition finishing

- Stage 6
  - Fixed Appliance
  - 020X020 BIOFORCE direct
  - 6 months







Results



Reward !



**CASE 2. THE SLOT TECHNIC  
AND INSTRUCTION OF  
ORTHOPEDIC TIME IN  
EARLY TREATMENT OF  
CLII1 DYSMORPHIC  
ANOMALIES WITH SEVERE  
MANDIBULAR RETRUSION  
BUT A GOOD POTENTIAL OF**



8903



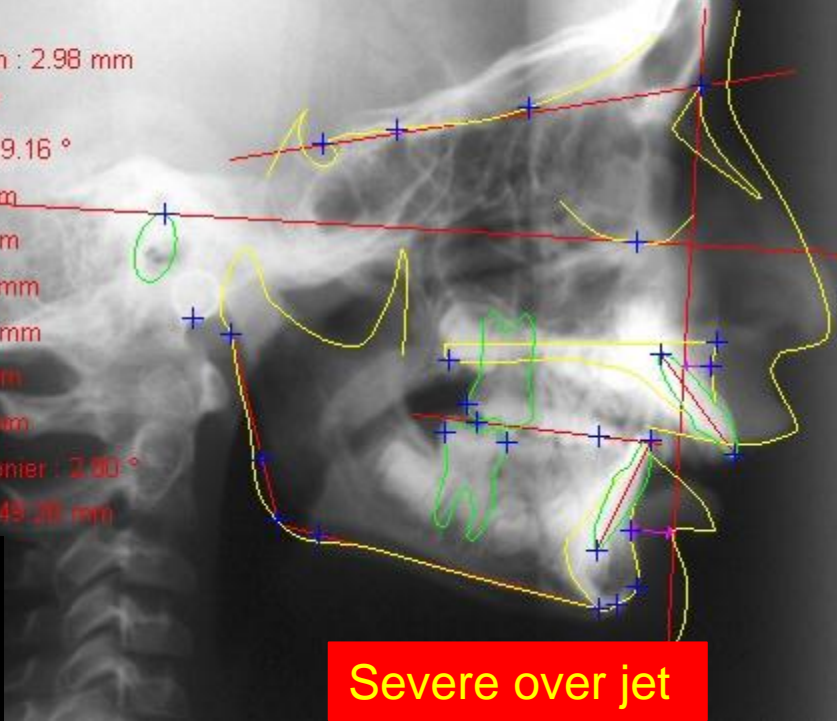


Surplomb : 11.55 mm  
 Entrec. Incisif vert. : 1.44 mm  
 i / Mandibule : 100.83 °  
 I / FH : 130.07 °  
 Inter-incisif : 117.57 °  
 B.L. Inc Sup to Stomion : 2.98 mm  
 SN-Mandibule : 23.67 °  
 Angle Mandibulaire : 119.16 °  
 Déc base A'B' : 9.57 mm  
 Tendance A'B' : 9.57 mm  
 Déc base A''B'' : 10.85 mm  
 Tendance A''B'' : 10.85 mm  
 A / Na (L\_FH) : 3.77 mm  
 B / Na (L\_FH) : -5.80 mm  
 Profil Sous Naso-Mentonier : 2.80 °  
 Profondeur de la face : 49.28 mm

**PRETREATMENT  
Young boy 7 YEARS OLD**



**Retrusive face**



**Severe over jet**



# TREATMENT PLAN: Stage one; TWIN BLOCK OF CLARK:

subnormal protration effect with posterior inclusion :kinesthetic approach





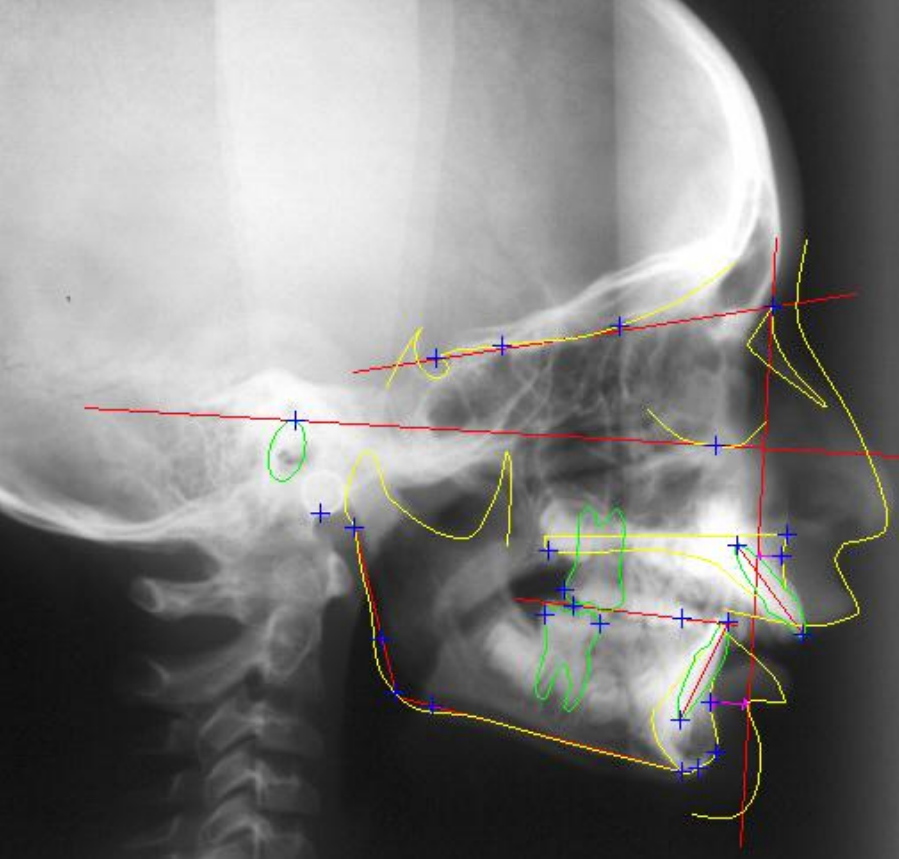
# Evolution of case

Expansion screw in the palatal plate ; bumper on lower plate

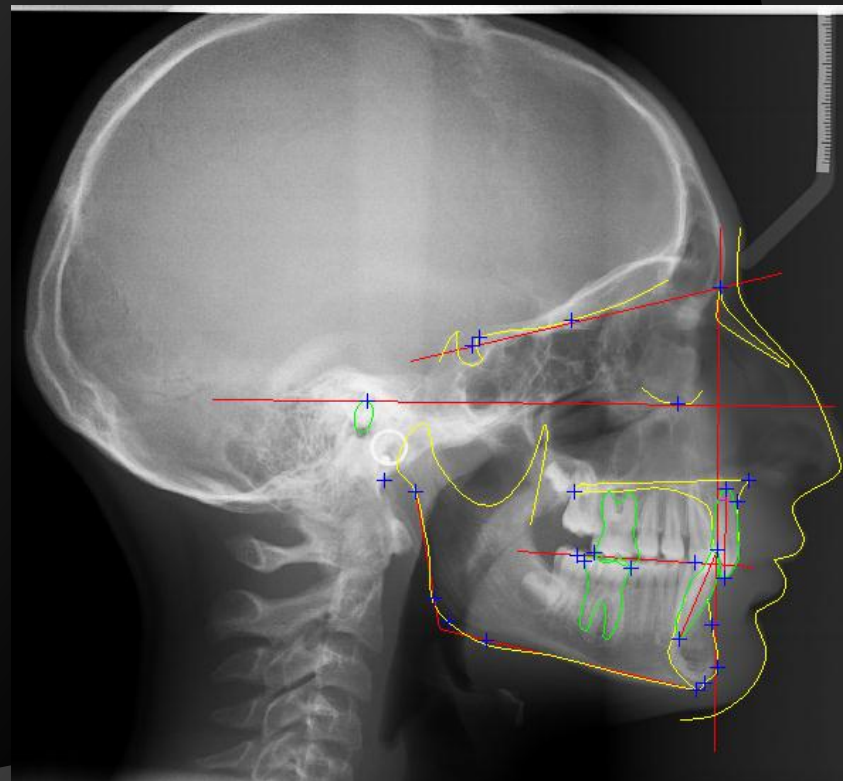


Restoration of occlusion after 4 months

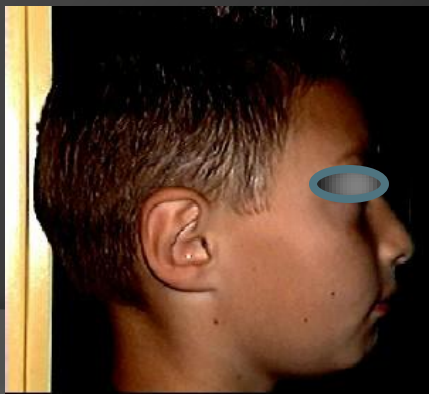




Cephalometric result  
TWIN BLOCK ACTION  
CLII1 .....CLII2  
Six months action



Improvement of profil !  
Supression of over jet

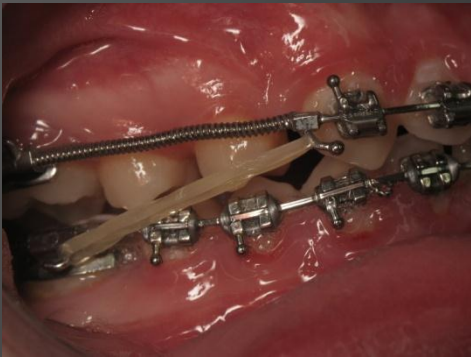




# Permanent dentition after two years off interruption



Stage one : BIO ACU 20X20 Upper and LOWER ARCH , ADSL



Stage 2 ; stainless steel 20X25 with intermaxillary elastics







Last stage : Surgery of soft tissues only: resection and chin muscles apical positioning to ovoid relapse



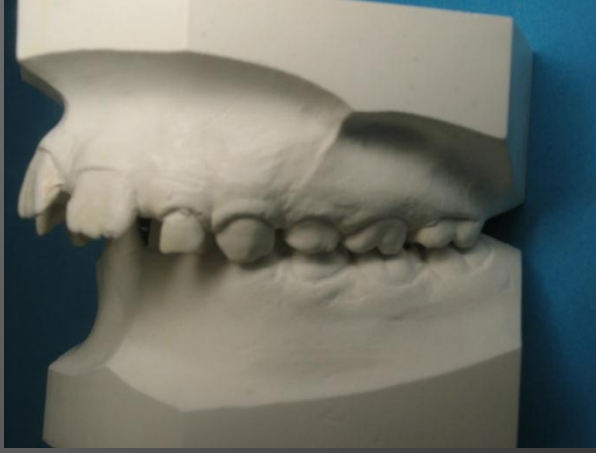
before



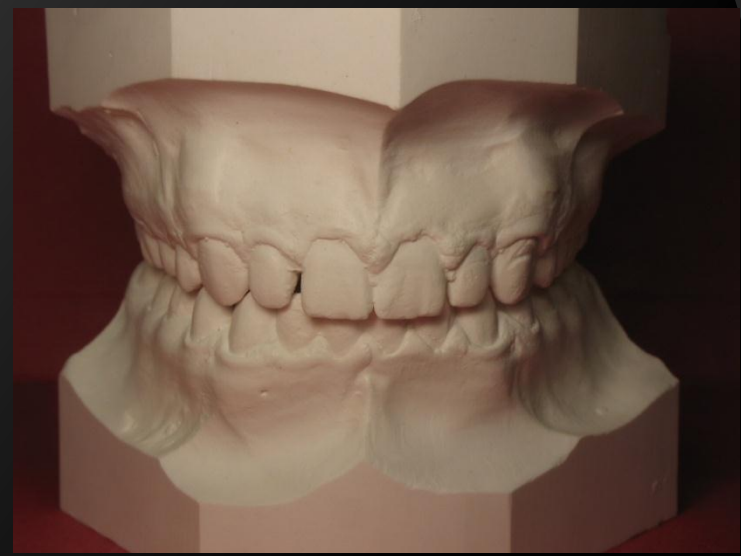
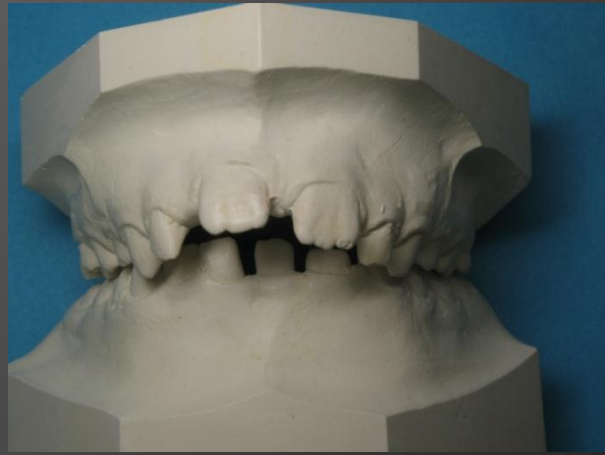
after







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Finishing models

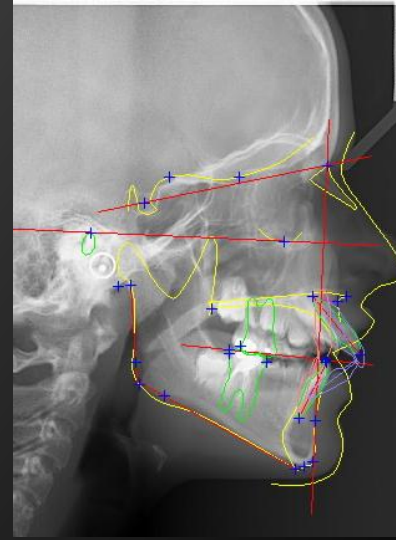


**CASE 3**  
**PRETREATMENT**

12033

CLII OPEN BITE DYSMORPHOSIS  
Oral breathing , tongue dysfunction  
Premaxillar contraction (endognathia )

**TREATMENT OBJECTIVES**  
REEDUCATION ALL IN ONE  
MECHANICAL therapy  
So you begin by functional appliance



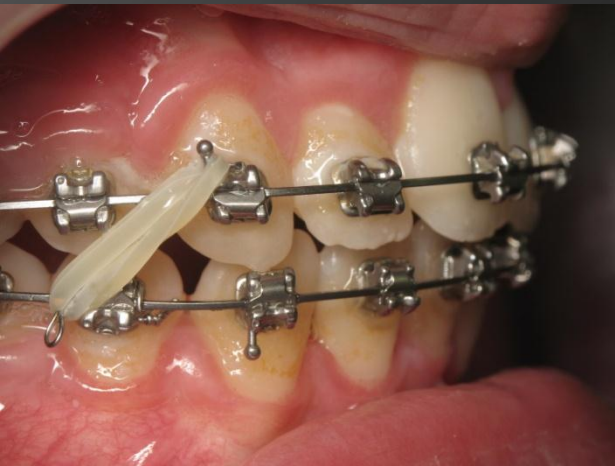


# Treatment plan

**First stage** : Functional appliance With Monobloc with subluxation of temporo mandibular joint during 6 months . Expansive action with expansion screw and guiding tongue plane .



**Second stage** ■ SELF LIGATING Fixed appliance BONDING with insertion in first intention of 20X20 bioforce acu form upper and 20X20 NORMAL FORM LOWER with in the same time intermaxillary short CLII elastics





# Treatment results

Records 1 year after the end of treatment



The braces was removed 24 months form the beginning of my action therapy

The stable result is obtained thanks with using all in one action of functional therapy and adjusted appropriate mechanic !

Finition with functional educator appliance (EF trainer)

**Retention protocol** : bonding lingual maxillary and mandible retainer



# Parenthesis : Concept all in one

- I presented you those cases to speak about my functional approach and not only about the mechanical one !

**2. TEENAGERS  
TREATMENTS  
ADULT DENTITION  
SIMPLE CASE**

## Case N° 4

### PRETRATMENT

CLI molar and CLII CANINE  
Deep bite , normal face

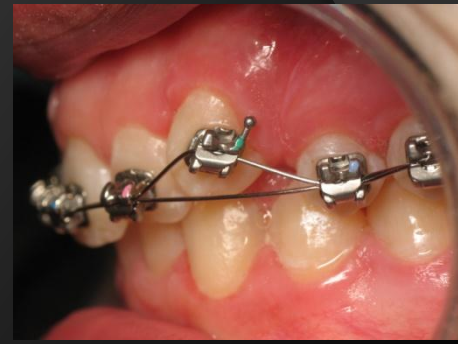
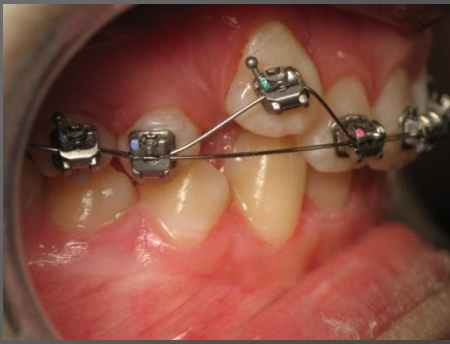
### Objectives of treatment

Global mechanic « en masse  
mechanic » CLII and intrusion

TREATMENT PLAN .....







1<sup>st</sup> stage .014 X 2 double wire !



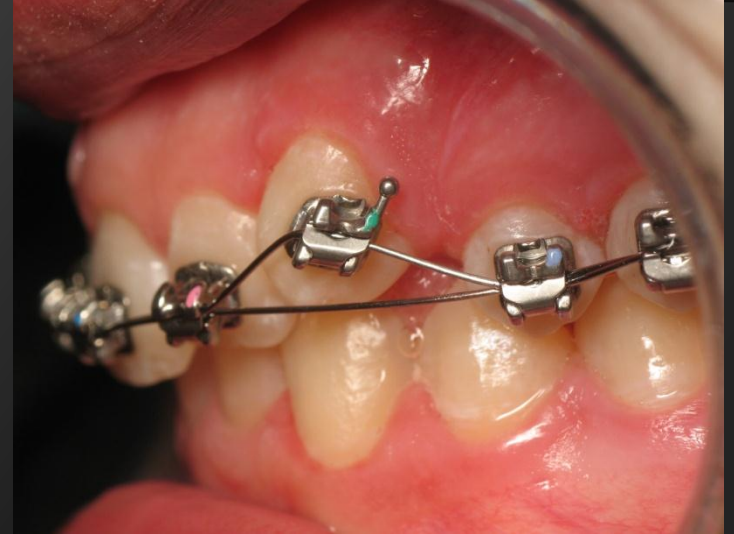
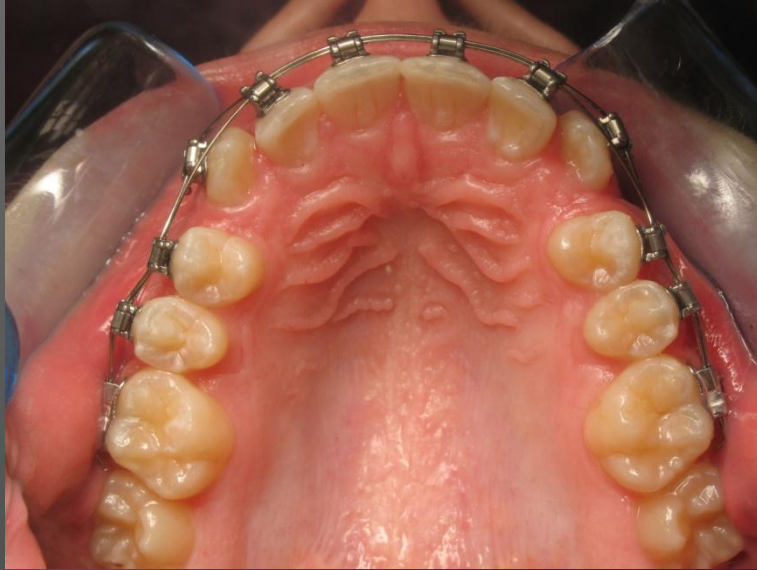
2nd stage ligual arch with incisors contact + 20X20 form acu



3rd stage : superior bonding self ligating appliance + lower 20 X20 normal form with intermaxillary CLII short elastics

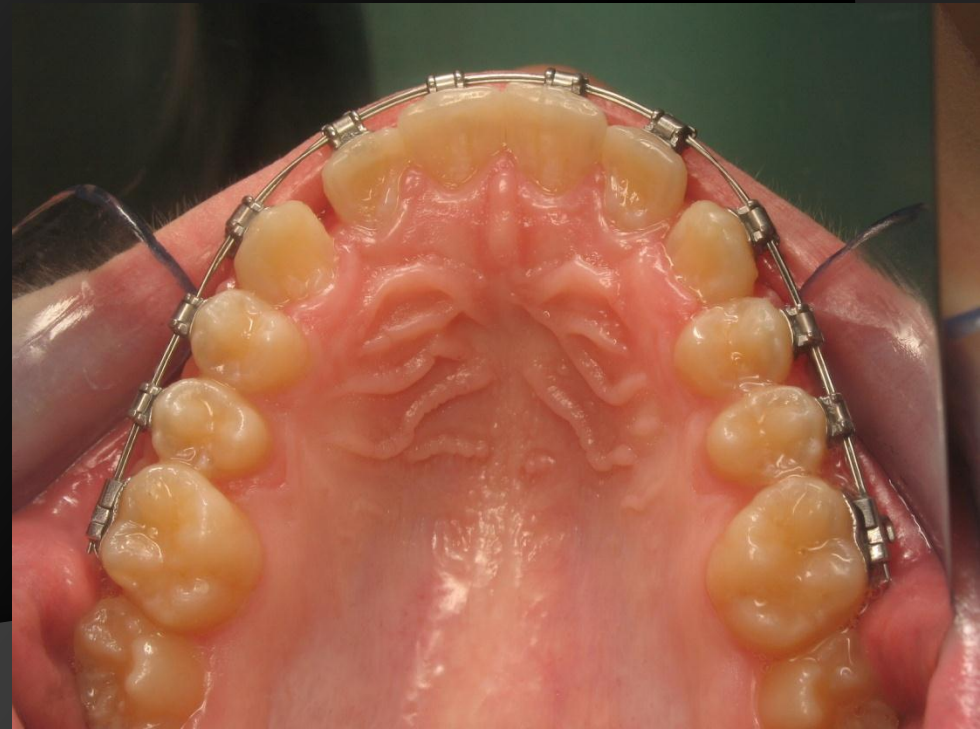


Six months later !



Double arch wire .014 »Professor  
RONCON «

Shorts elastics







**Result** : 10 months : removing appliances and insertion ideal positionner finisher  
Only four appointments with fixed appliance !





# Case studie

- ⦿ CLII malocclusion with global retraction (en masse retraction) mechanics without extraction therapy with **double short cl II elastics** .
- ⦿ **Efficiency thanks to sliding and buccal torque control property**
- ⦿ **Efficiency thanks to the growth potential of mandible !**

## CASE 5

### PRETREATMENT

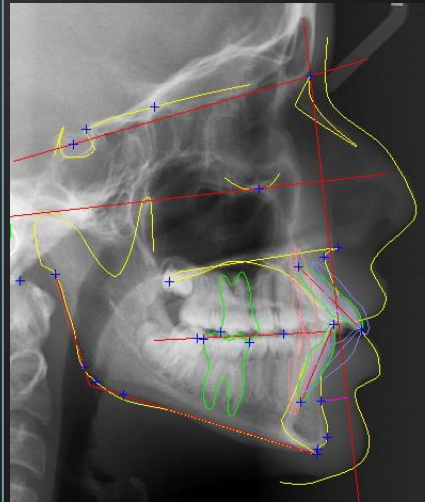
Female , 13 years old exhibited CL II , over jet 10 mm ,

### Pretreatment ceph

Upper incisors protrusion with buccal inclination , skeletal vertical normal , deep bite , skeletal CL II by mandibular retrusion

### TREATMENT OBJECTIVES

Correct the over jet by mixed action :retraction of maxillary arch and intrusion of the frontal maxillary arch with protrusion and growth of the mandible with transverse action to move locking occlusion



# TREATMENT PLAN

## STAGE ONE

**Maxillary arch:** 20X20 Bioforce neosentaloy maxillary acu form with bonding self ligating in ovation c appliance during **three months** to obtain maxillary expansion

**lower arch :** bonding in ovation R with .020X.020 bioforce normal form With **simultaneously** double short class II elastics (6,5 oz ;4 ,5 mm size 3/16 ") all the day

## Stage two ;3 months

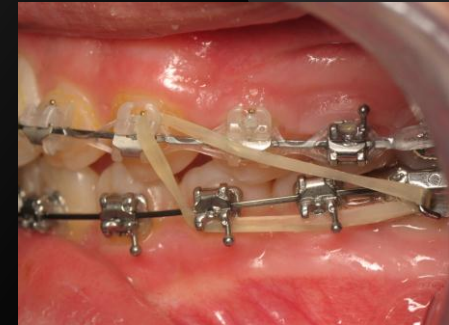
20X25 stainless steel wire  
Control class II elastics (6,5 oz ;4 ,5 mm size 3/16 ") during the night

## Stage Three :6 months

Stop elastics and control of stability and decision debonding with tooth positionner 3 month later



Records after 3 months

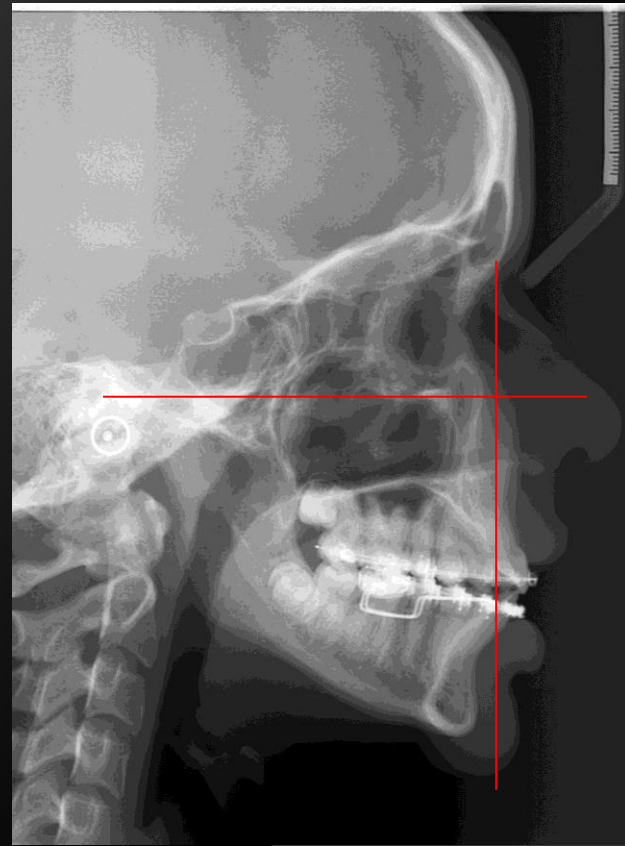
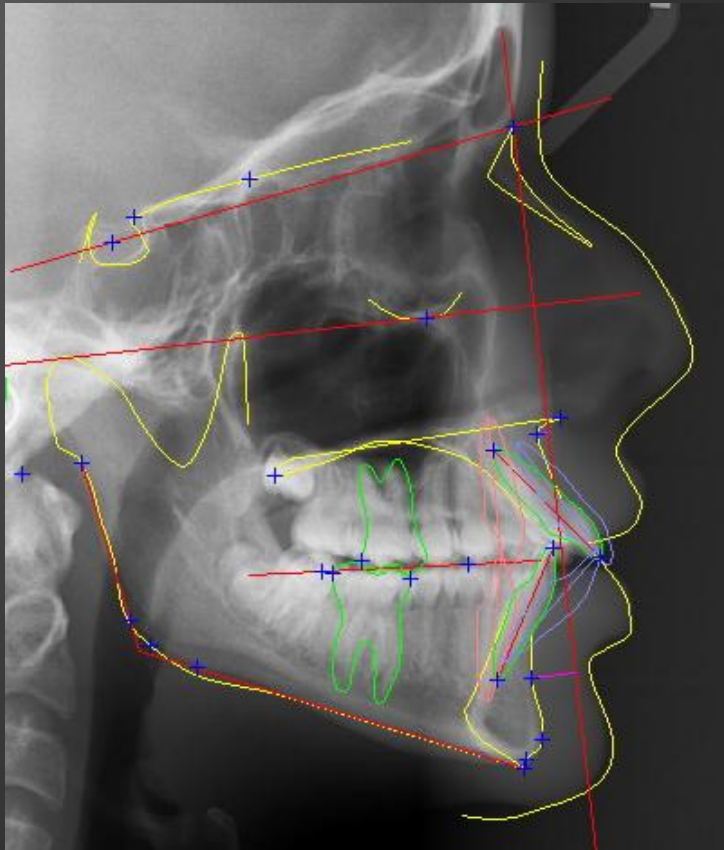


Records after 6 months





The final ceph tracing illustrate the retraction of the upper arch and the mandible incisors were proclined while the mandible molars moved forward with a mandible growth



# Treatment results

Photographs 1 year after the end of treatment



The braces was removed 10 months form the beginning of my action therapy.

This short treatment time is obtained thanks to the all in one action to retracted the maxillary arch and moved forward the madibular arch in one control movement with good sliding and low friction!

Finition with tooth positioner

Retention protocol : 12 MONTH bonding lingual maxillary retainer and thermo splint



**3. ADULT TREATMENT  
ASYMMETRIC MECHANIC  
CLII  
WITHOUT EXTRACTION**



## Case 6

### Pretreatment

Male 19 YEARS old , right full CLII , deviation middle incisors line

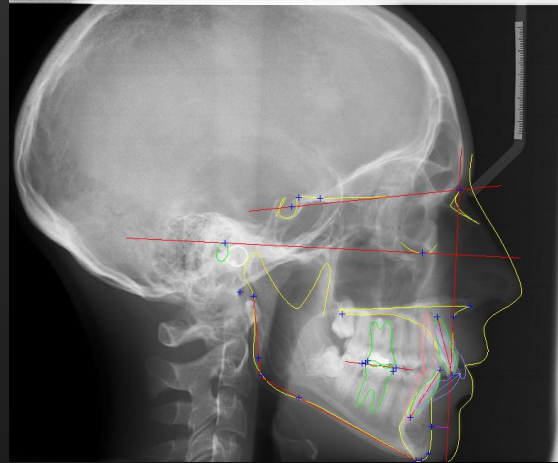


### Objectives of treatment

Sliding retract mechanic on the right upper arch and advance on the lower arch in « sequential molar retraction »

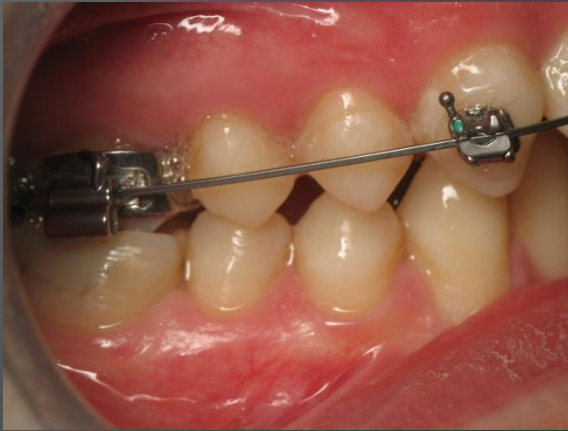
### Cephalometric analysis

Vertical Normal face ; SKELETAL CLII by mandible retrognathic



## TREATMENT PLAN

**First stage** : sequential right bonding fixed appliance without premolar sector with 20X20 acu sup neo sentaloy (the second upper molar are bonding)



**Second stage** : 20X25 stainless steel upper wire with expansion and bonding lower arch with 20X20 Bioforce wire with intermaxillary elastics on ADSL SLOT SYSTEM





**Third stage** : Bonding right bicuspid zone , and 20X20 BIOFORCE is placed with double short mechanic CLII



**Fourth stage** : TMA wire finition with resolve 19X25



8 RDV !



Results : 14  
MONTH LATER



# 5.ADULT CASE WITH CLI ASD (ARCH SIZE DISCREPANCY ) THE DIFFICULTY IS THE NATURAL HEAVY ANCHORAGE OF CORTICAL BONE



Case 7



## PRETREATMENT

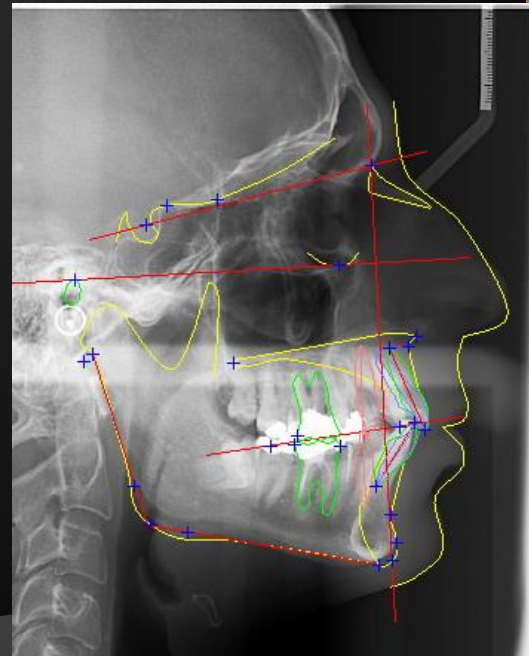
male , 35 years old exhibited CL I , Biprotrusion ,crowding -10 mm ,

## Pretreatment ceph

Upper and lower incisors biprotrusion with buccal inclination , skeletal vertical normal , , skeletal CL II by maxillary protrusion

## TREATMENT OBJECTIVES

Lingual repositioning incisors with extractions of four bicuspids (the second (restoration caries )in lower arch and first on upper arch )





# TREATMENT PLAN

## STAGE ONE

**Maxillary arch:** 20X20 Bioforce neosentaloy maxillary acu form with bonding self ligating in ovation c appliance during **three months** to obtain maxillary expansion

**lower arch :** bonding in ovation C with .020X.020 bioforce normal form

With **simultaneously sequential mechanic of retracting canine with closed coil neo sentaloy heavy force 250g and closed power chain on lower arch**

## Stage two ;3 months

20X25 stainless steel wire

Control class II elastics (6,5 oz ;4 ,5 mm size 3/16 ") during the night

## Stage 3 :6 months

Retracting upper incisors

Records after 3 months



Records after 6 months





# TREATMENT PLAN

## STAGE 4 10 months

20X25 stainless steel on mandibular and maxillary arches are inserted with closed power chain and CLII inter-maxillary elastics with a small accentuate reverse curve to upper arch and small reverse on lower arch to correct the deep bite ! With the ICKARE system (will see later the description).....

## Stage 5 14 months

Stabilization and final space closure ,



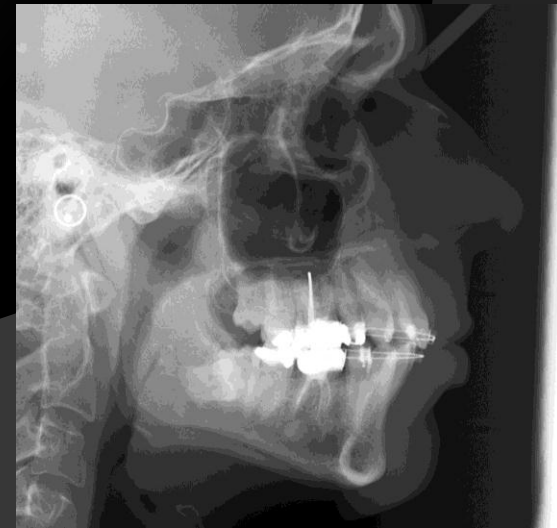
# Treatment results

Photographs 1 year after the end of treatment

18months of treatment !

The treatment time is obtained thanks the self ligating conception in the concept all in one

**Retention protocol** : Finition with tooth positioner and retention with thermo splint to prevent open space relapse and after bonded retainer





- ABOUT the auxiliary system in the slot concept





Paris - France  
September 10-14, 2005

[www.wfoparis2005.org](http://www.wfoparis2005.org)

# 1. ABOUT THE ICKARE CRANIOM-ARCH SYSTEM FOR INCISORS RETRACTION AND INTRUSION



The old presentation



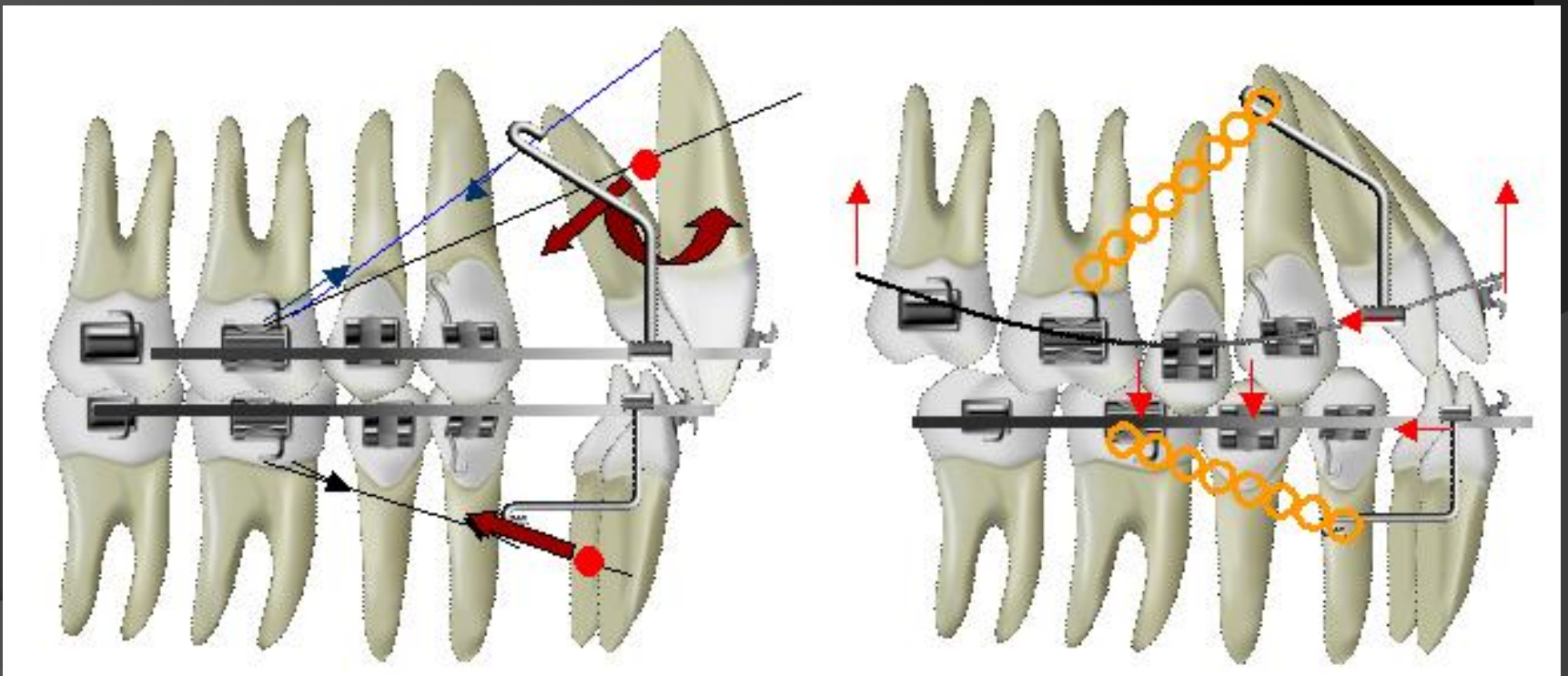
the new model !

# ICKARE -Definition

- I :intrusion
- C:Craniom (name of our former society)
- K :KYR (the old system)
- A:Arch
- R : Retraction
- E: Extrusion

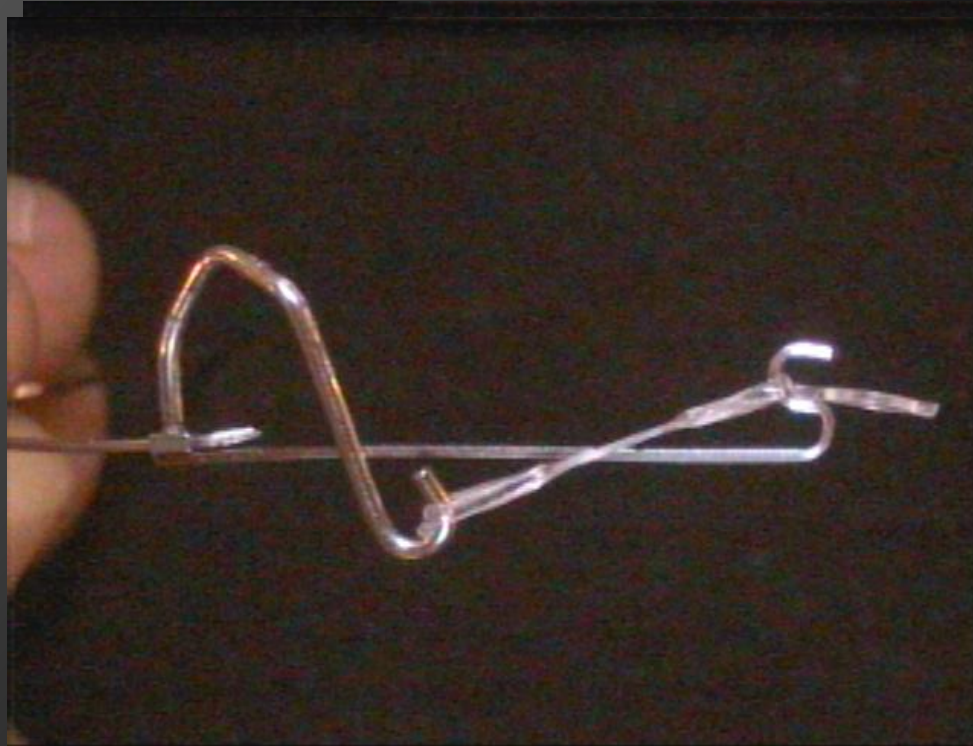


So we decided to explain the mechanical system of force behind these movements .We call this bending effect : cintrage . It has the same effect than a reverse curve of spee **without having to remove the arch wire**

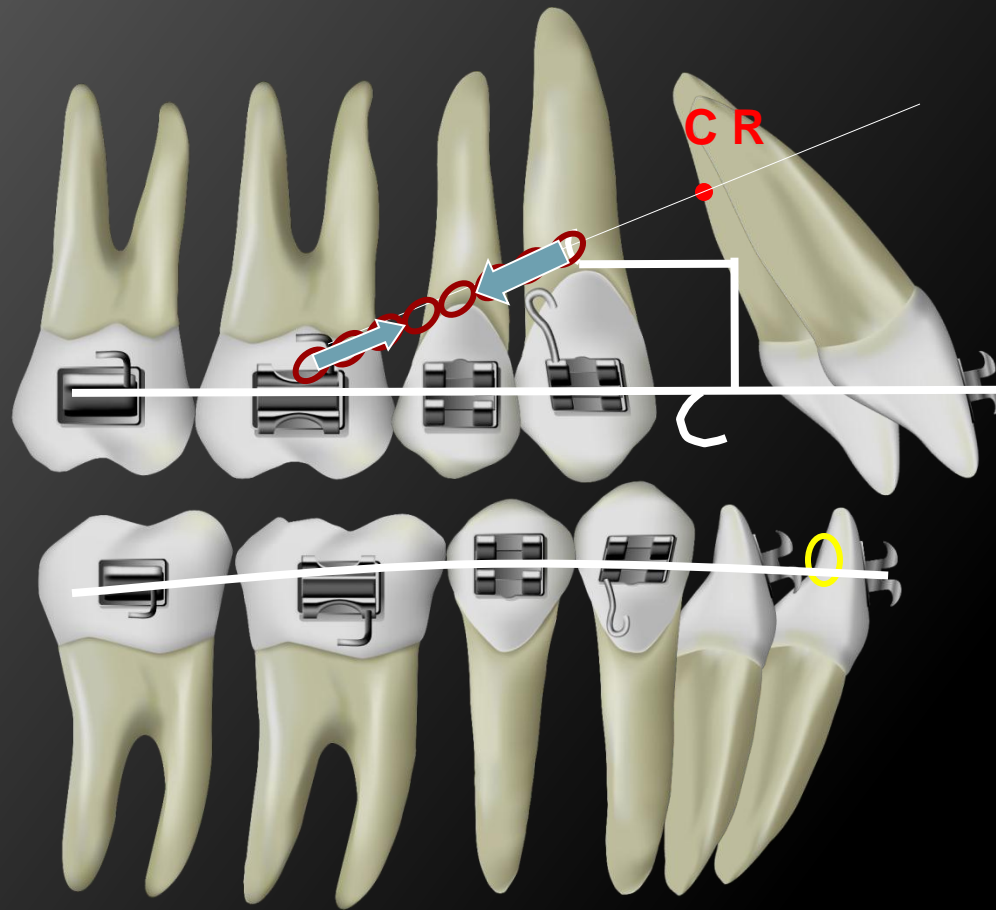




This effect of the reverse curve of Spee depends only on the vertical position of the power arm

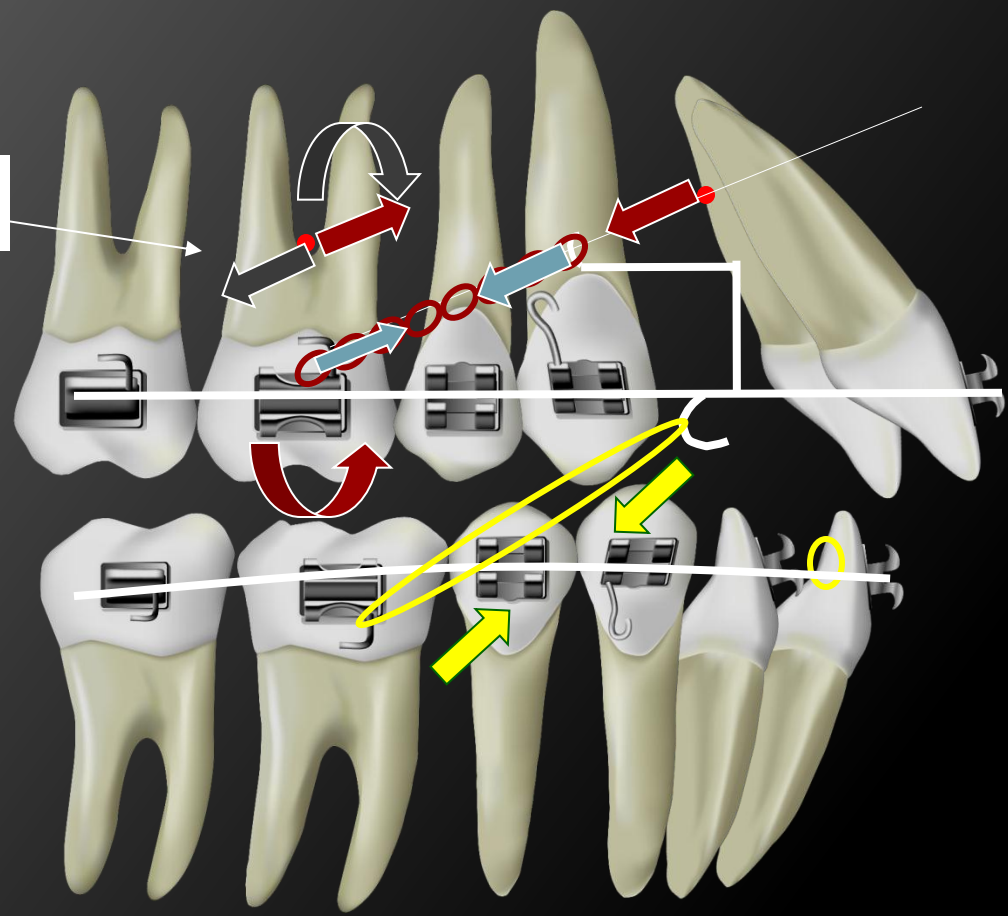


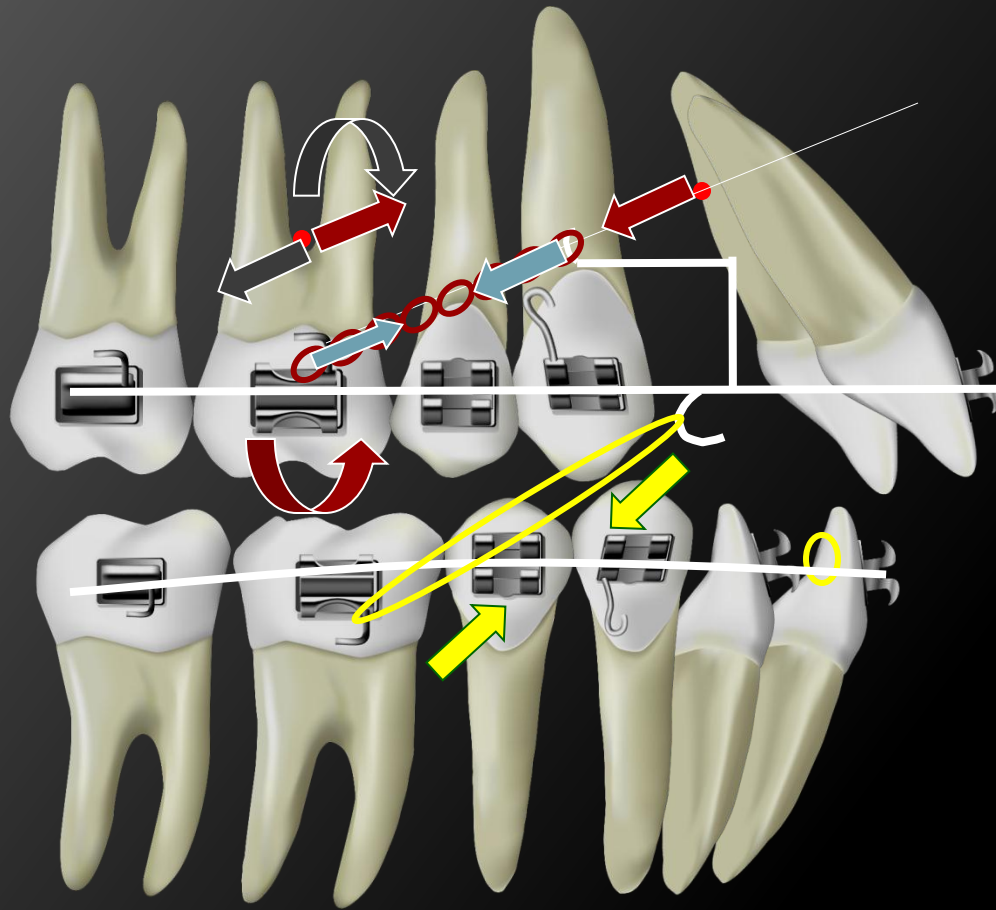
So for the **teeth translation** we must position the power arm in such a way that the forces vector passes through the incisor center of resistance

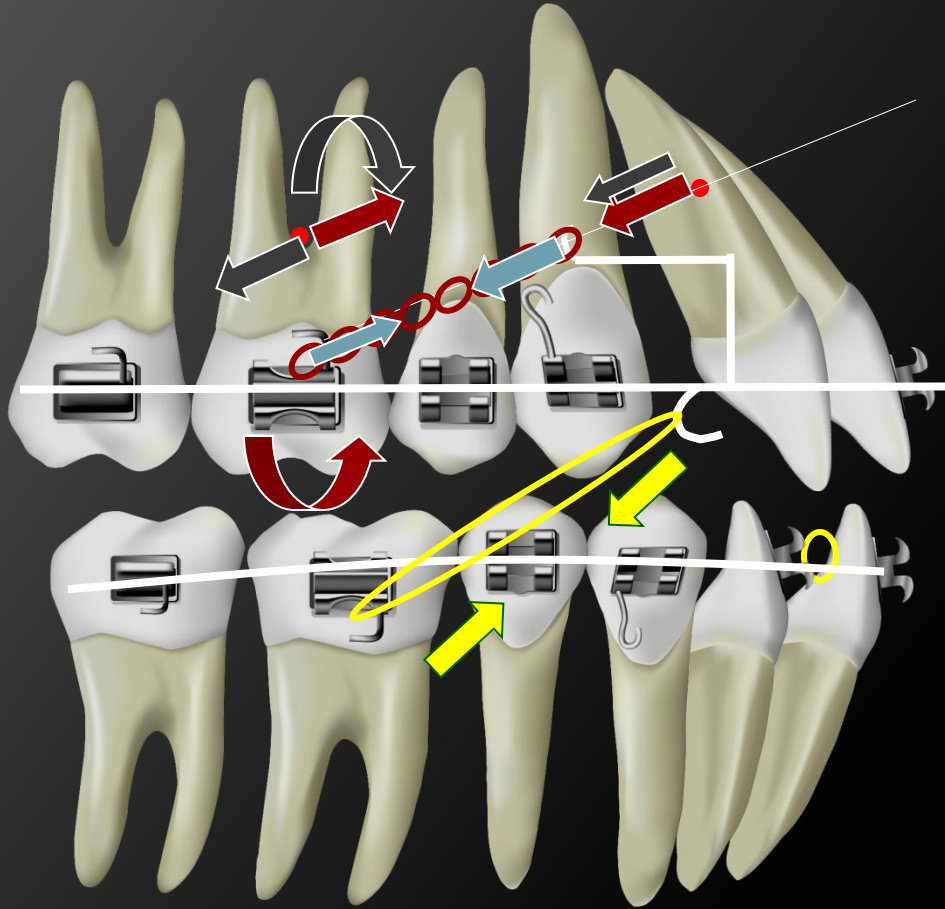




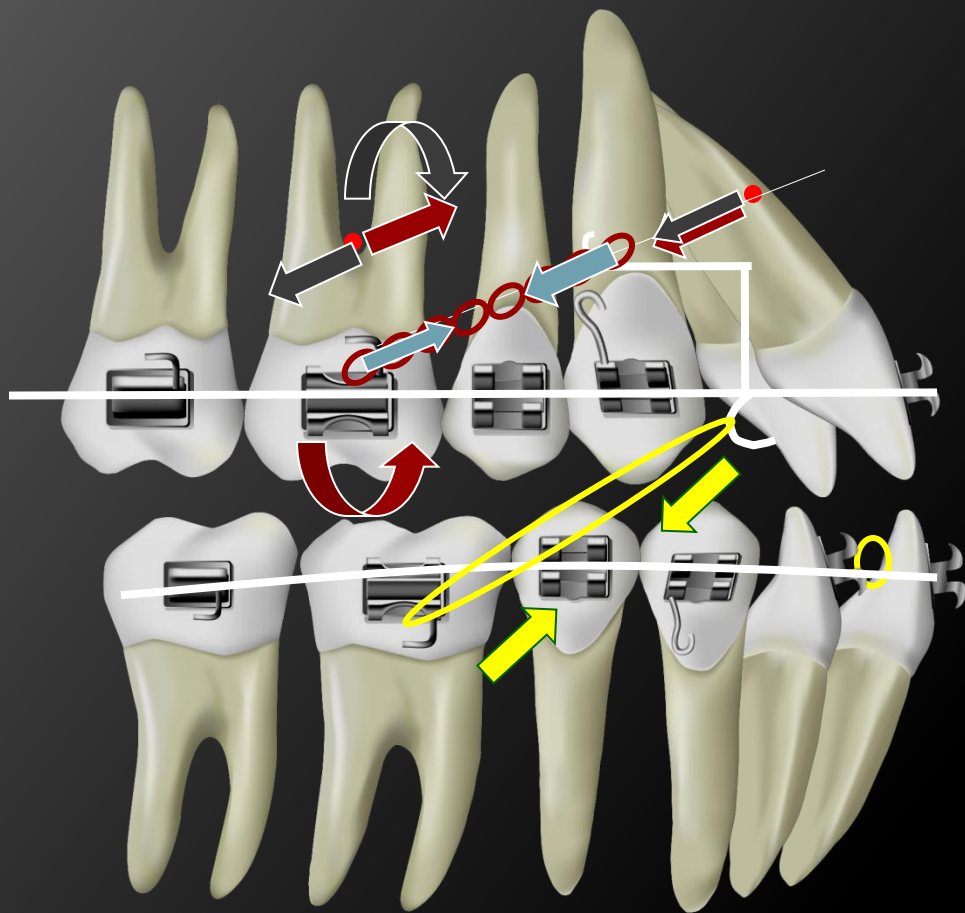
ANCHORAGE



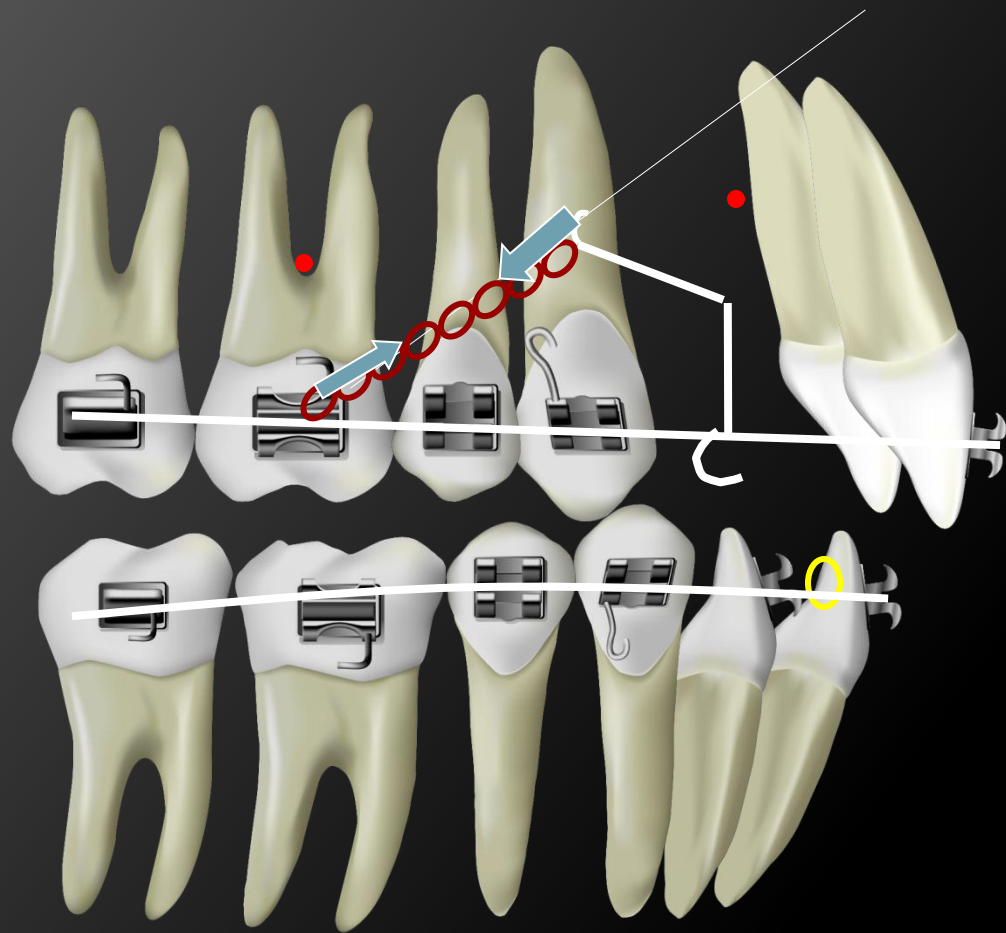




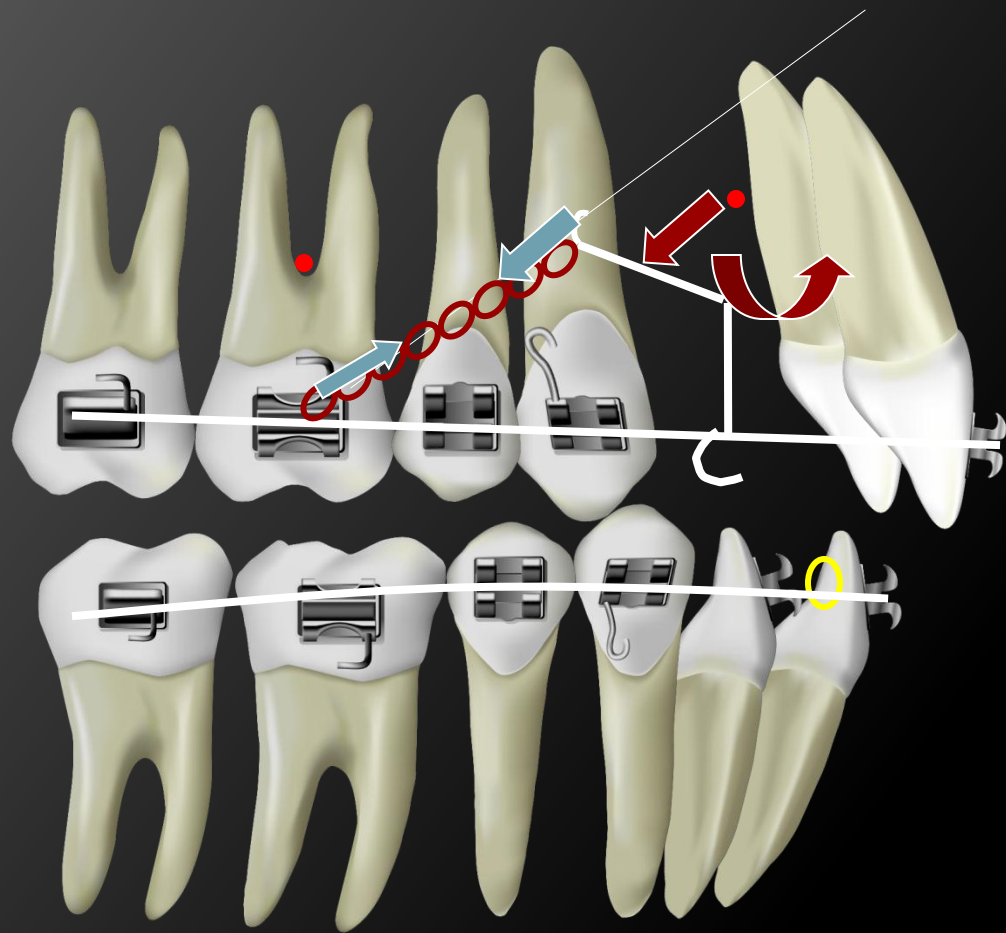


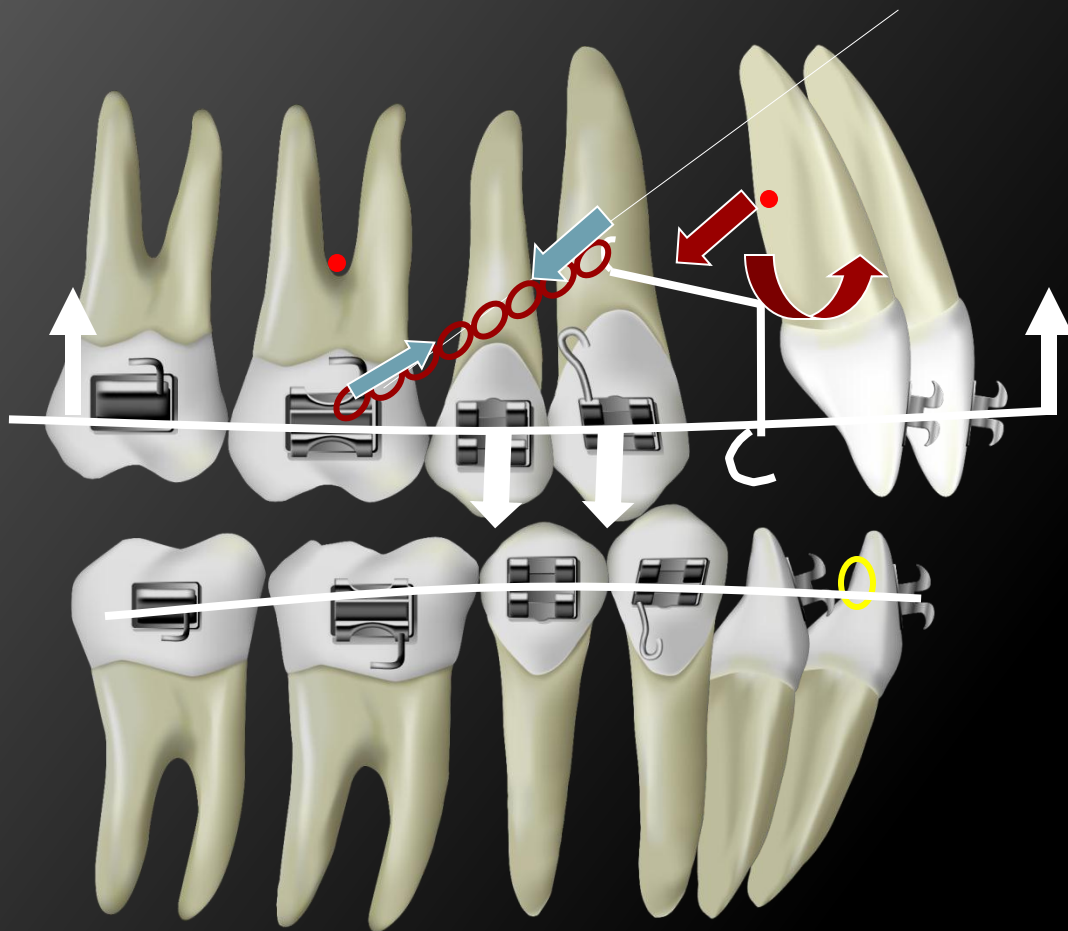


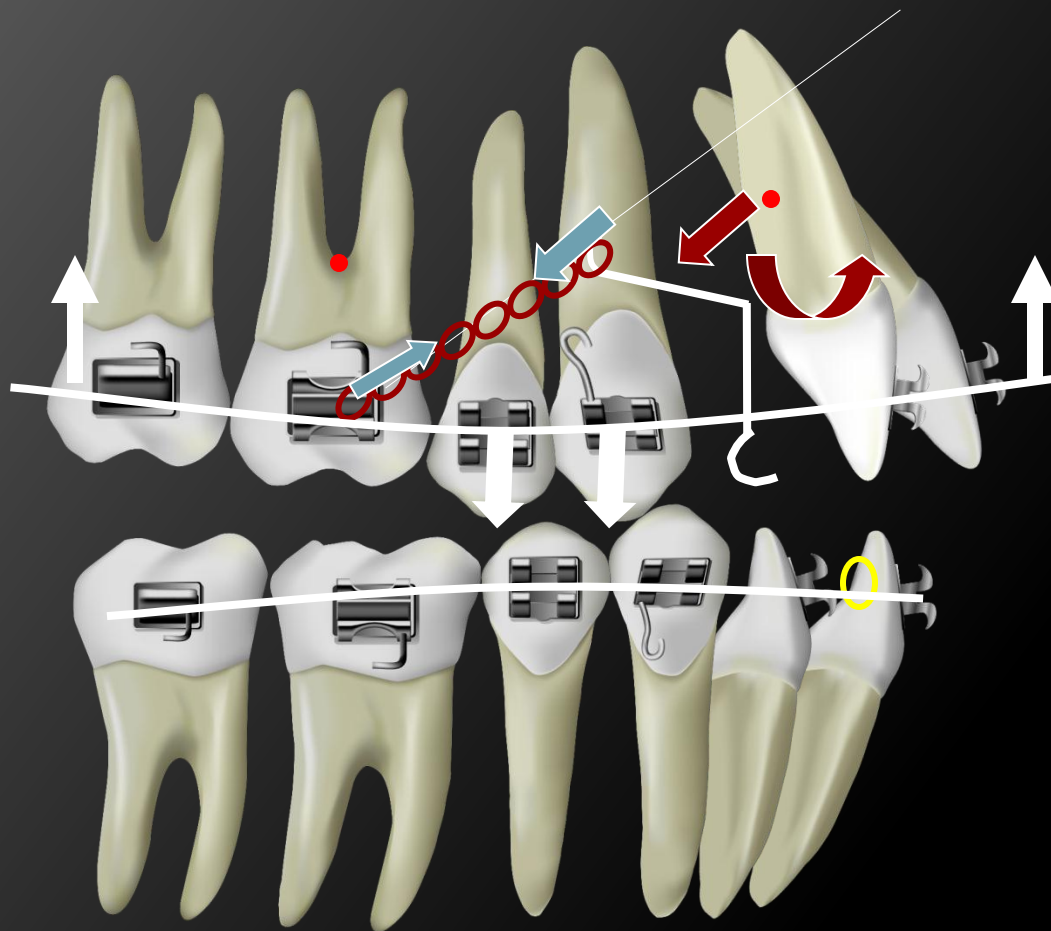
To obtain intrusion, we must position the power arm in such a way that the force vector passes through the top of the centre of resistance of the incisors



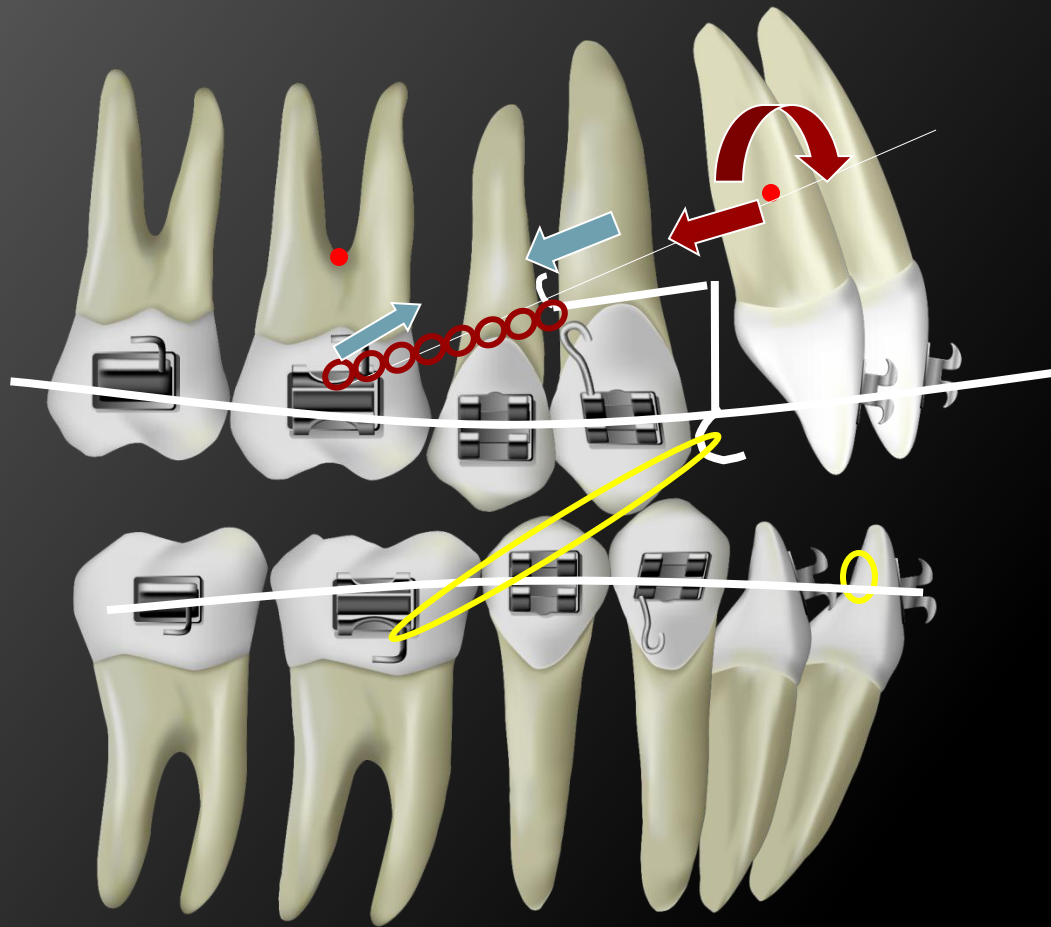


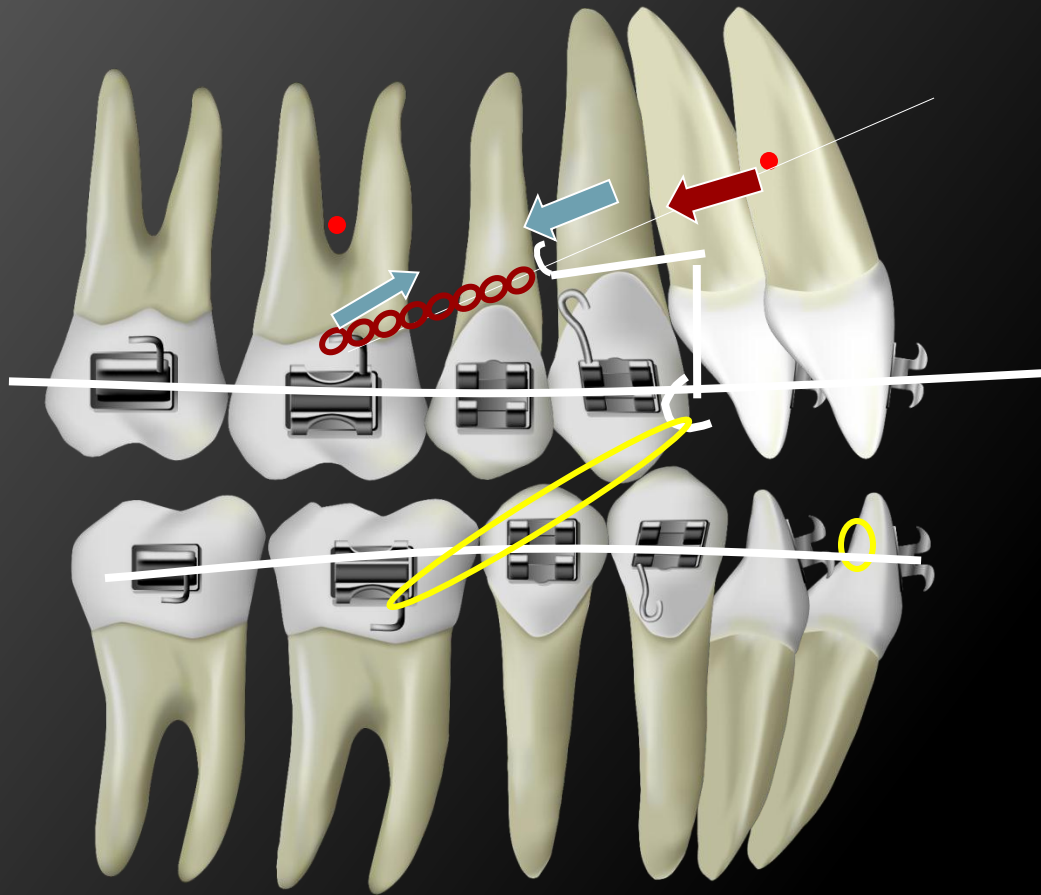












# Case study

- CLII malocclusion with ICKARE SYTEM CONTROL with 2 extractions therapy with **all in one en masse retraction** of the upper frontal arch



## CASE

### ○ PRETREATMENT

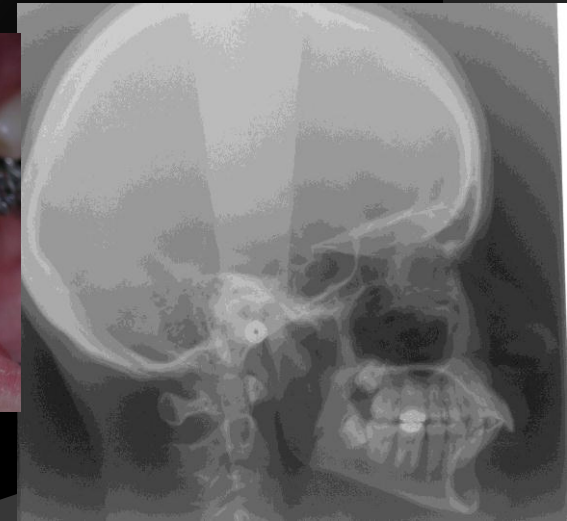
Female , 13 years old exhibited CL II , arrival of another orthodontic private clinic with two extractions of premolars and normal fixed appliance on mandibular arch

### ○ Pretreatment ceph

Upper incisors protrusion , tend to short face with deep bite

### ○ TREATMENT OBJECTIVES

retraction and intrusion of the frontal maxillary arch with ICKARE System in all in ONE CONCEPT



# TREATMENT PLAN

## STAGE ONE

20X20 Bioforce neosentaloy maxillary acu form with bonding self ligating in ovation c appliance with power arm ickare and closed Ni Ti coil springs to retract the frontal arch at the first appointment !

During **three months** to obtain maxillary expansion and buccal crown torque and intrusion action

## Stage two ;3 months

20X25 stainless steel wire

With **simultaneously** class II elastics (6,5 oz ;4 ,5 mm size 3/16 ") during the night

## Stage Three :6 months

Stop elastics and resolve wire (TMA ) arch to control stability



Spaces closure : **6 months** !



The final Ceph tracing illustrate the simultaneous intrusion and retraction of the upper incisors





# Treatment results

Photographs 1 year after the end of treatment

The braces was removed 10 months form the beginning of my action therapy  
The short treatment time is obtained thanks to the using all in one action to retract the frontal arch in one control movement with a good sliding in posterior segment arch



**Retention protocol :**  
bonding lingual  
maxillary retainer and

# ANOTHER AUXILIARY SYSTEM

- Herbst appliance for CLII correction (PANCHERZ)
- Eureka spring GAC



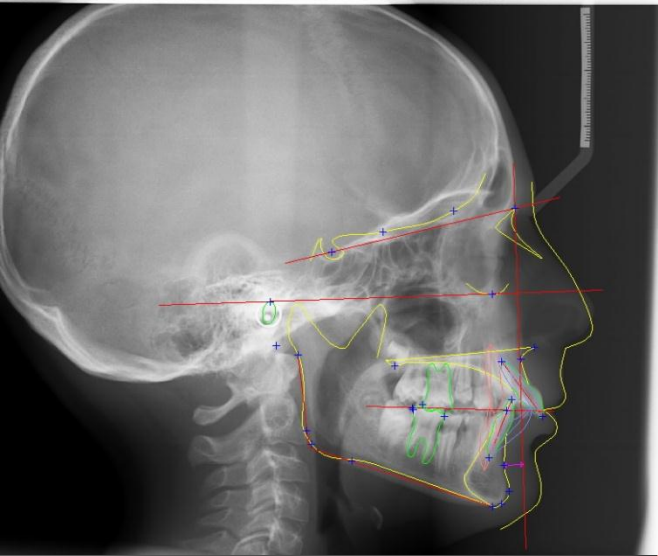
- SLIDING JIG with double cable mechanic retracting



- facebow





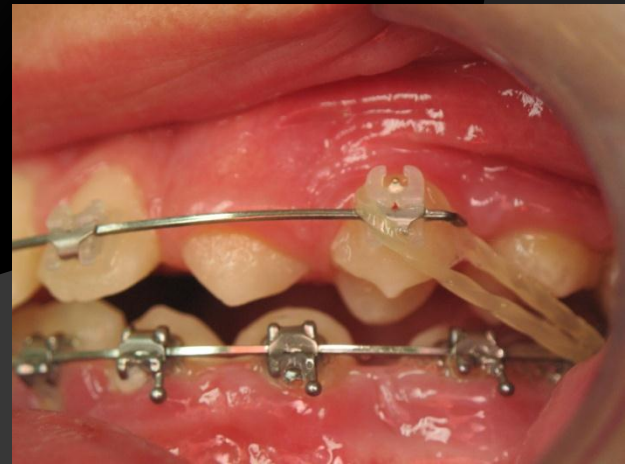


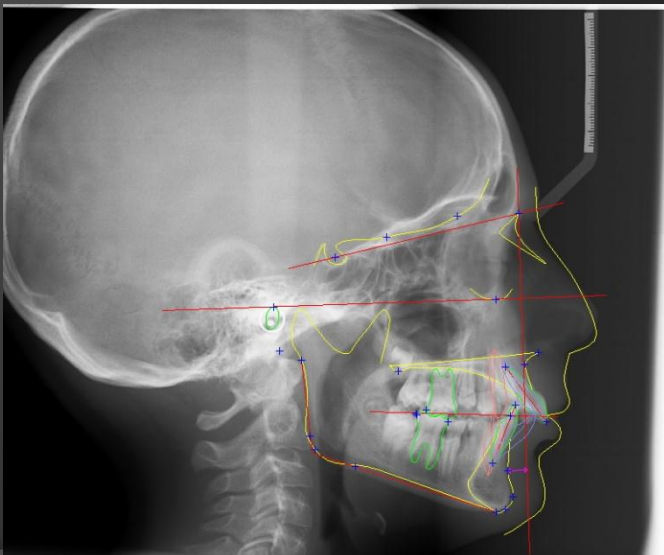
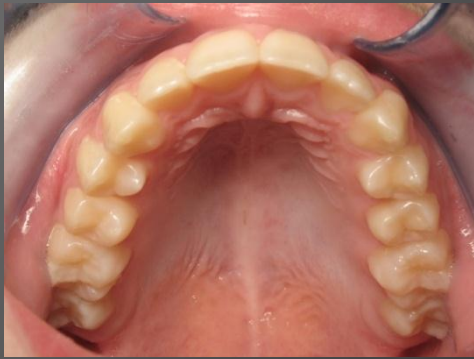
Mesure	Evolution	Norme	11 ans 1
Analyse dentaire		Analyse dentaire	
Surplomb	0.00mm/an +/-0.70	2.60mm	12.87mm (10.27)
Entrec. Incisif vert.	0.00mm/an +/-1.30	2.30mm	7.07mm (4.77)
i / Mandibule	0.00°/an +/-9.00	96.00°	93.32° (-2.68)
I / FH	0.00°/an +/-7.45	112.40°	124.96° (12.56)
I/Palatin	0.33°/an +/-20.18	106.69°	97.24° (-9.46)
Inter-incisif	0.00°/an +/-11.63	135.75°	121.83° (-13.92)
Bord Libre Inc Sup to Stom	-0.08mm/an +/-0.50	2.83mm	2.63mm (-0.19)
Analyse osseuse verticale		Analyse osseuse verticale	
SN-Plan Mandibulaire	-0.33°/an +/-5.60	30.41°	31.20° (0.79)
Angle Mandibulaire	-0.83°/an +/-5.70	125.96°	114.27° (-11.69)
lyse osseuse antéro-postéri		Analyse osseuse antéro-postérieure	
Déc base A'B'	-0.30mm/an +/-4.00	3.38mm	8.42mm (5.04)
Tendance A'B'	0.00mm/an +/-2.00	4.00mm	8.42mm (4.42)
Point A à Na (L,FH)	-0.08mm/an +/-3.15	2.63mm	0.49mm (-2.13)
Point B à Na (L,FH)	0.25mm/an +/-4.70	-0.98mm	-7.93mm (-6.95)
Profil Sous Naso-Mentoniel	0.00°/an +/-1.10	0.00°	2.00° (2.00)
Profondeur de la face	1.50mm/an +/-5.00	64.42mm	75.65mm (11.23)





8736 (12681)



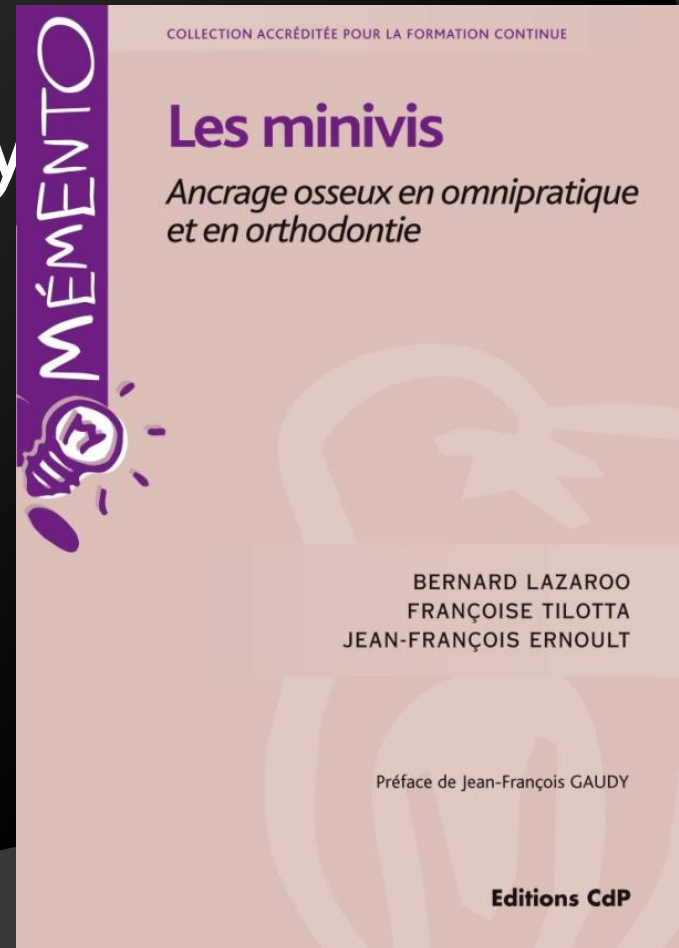
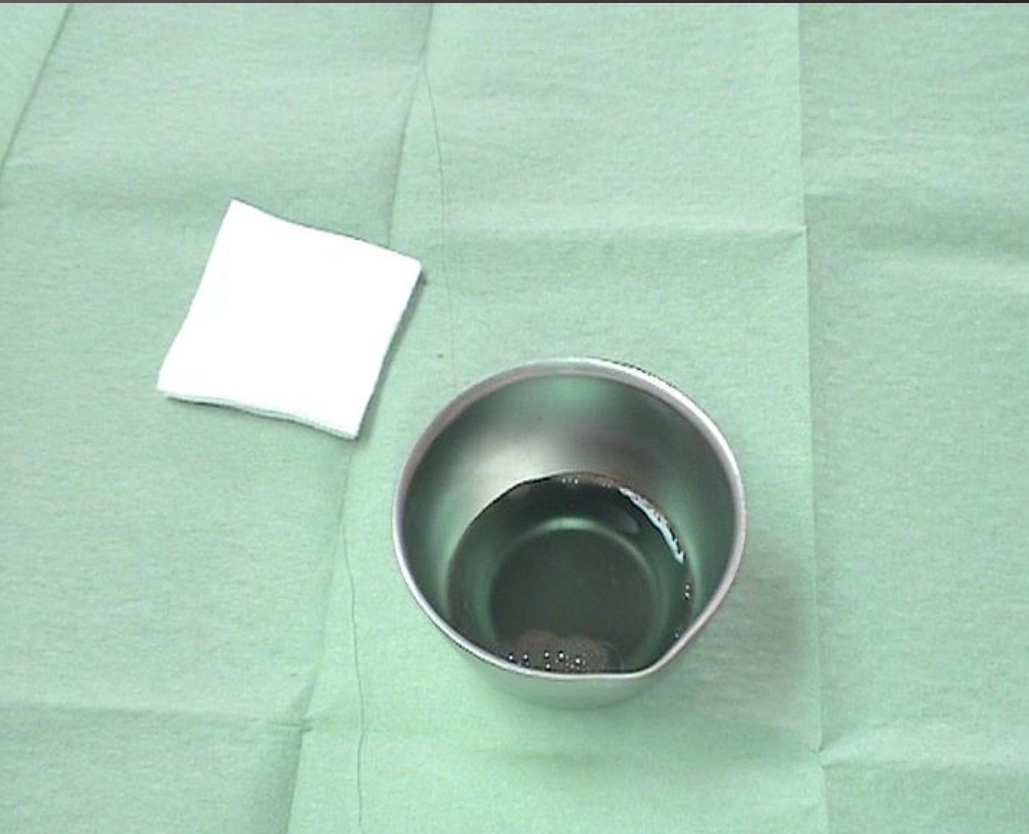




# IN THE ALL IN ONE CONCEPT

?

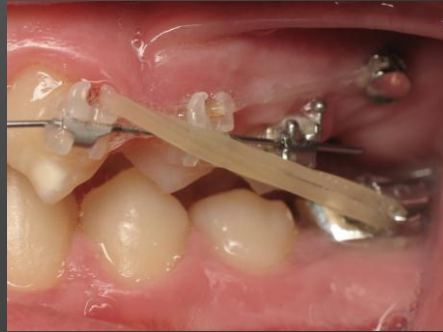
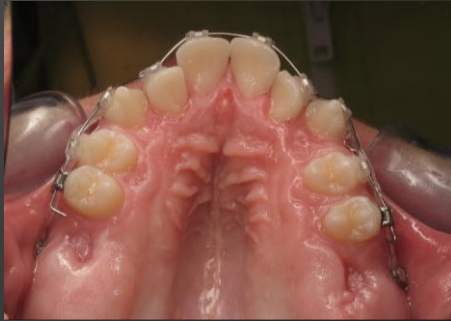
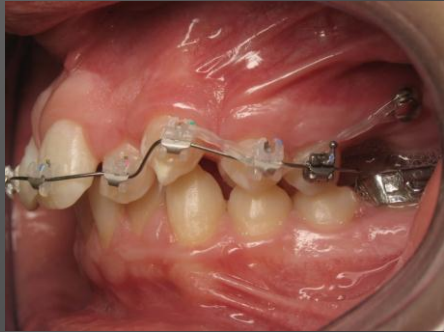
When, How, why.....? **The**  
**book**





# Indication In Special cases (I have no time for more explanation!)

⦿ Posterior edentation



**TEN WEEKS LATER!**  
**2 appointments .018– 20X20**

⦿ Agenesis lateral incisors



**Mezialisation of posterior  
maxillary arch without  
intermaxillary elastics**

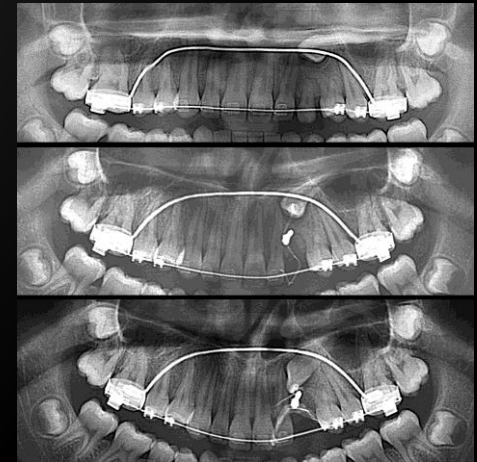
# Indication In Special cases

- Mandible molar mezialisation (agenesis case)



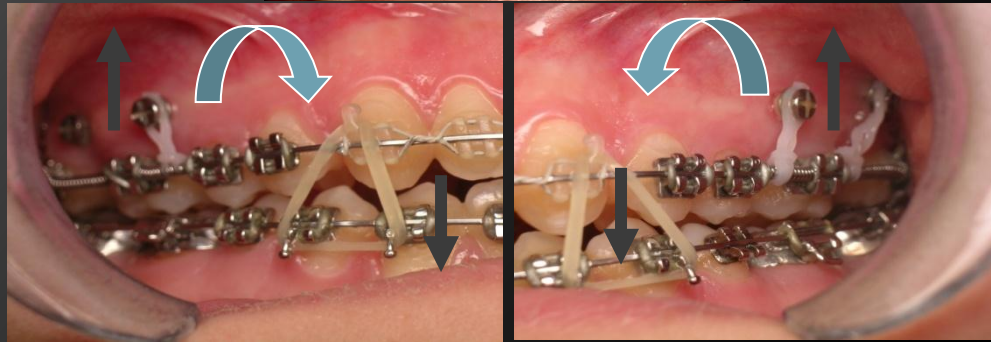
Indirect SAS (Skeletal Anchorage System)

- Difficult Palatally displaced canine



# Indication SAS In Special cases

- Open bite case
- Impaction effect





Indication SAS In classic cases

12931

## CASE

### ○ PRETREATMENT

Female ,12 years old . Her primary complaint was that her front teeth were crowded and her bite was off !.She exhibited CL I occlusal relationship , incisor crossbite (URL -LRC) ,severe crowding in both maxillary and mandibular arches



Crowding : \_12 mm

# Cephalometric DIAGNOSIS



Crowding :- 12 mm

## Pretreatment ceph

Skeletal normal face and CLII (10 mm skeletal discrepancy ) by real mandibular retrognathia ,but CLI occlusal relationship

## TREATMENT OBJECTIVES

With cephalometric insisors mesures we can't resolve crowding without extractions!  
 (pretreatment buccal version of  $94^\circ + (12 \times 2,5^\circ) = 124^\circ$ )

With the mandible retrognathia , miniscrews Maxillary anchorage are placed to prevent mesialization of maxilla molar and PM and we decided of four first PM extractions with actual lower incisor position !

## Treatment plan

Extractions , maxillary anchorage

Mesure	Evolution	Norme		
Analyse dentaire				
Surplomb	0.00mm/an +/-0.70	2.60mm	6.9	3.6
Entrec. Incisif vert.	0.00mm/an +/-1.30	2.30mm	1.7	OK
i / Mandibule	0.00°/an +/-9.00	96.00°	94.8	OK
I / FH	0.00°/an +/-7.45	112.40°	109.4	OK
I/Palatin	0.33°/an +/-20.18	107.67°	94.4	OK
Inter-incisif	0.00°/an +/-11.63	135.75°	127.8	OK
Bord Libre Inc Sup to Stom	-0.08mm/an +/-0.50	2.58mm	2.3	OK
Analyse osseuse verticale				
SN-Plan Mandibulaire	-0.33°/an +/-5.60	29.43°	35.3	0.3
Angle Mandibulaire	-0.83°/an +/-5.70	123.53°	117.3	-0.6
Analyse osseuse antéro-postérieure				
Déc base A/B'	-0.30mm/an +/-4.00	2.50mm	10.7	4.2
Tendance A/B'	0.00mm/an +/-2.00	4.00mm	10.7	4.7
Point A à Na ( _ FH)	-0.08mm/an +/-3.15	2.38mm	1.1	OK
Point B à Na ( _ FH)	0.25mm/an +/-4.70	-0.25mm	-9.6	-4.7
Profil Sous Naso-Mentonie	0.00°/an +/-1.10	0.00°	2.0	0.9



# TREATMENT PLAN

## STAGE 1

miniscrews arrhus insertion  
betwenn upper First maxillary Molar  
en upper second bicuspid with  
agulation  $45^\circ$  on cortical bone  
upper soft tissue (8 mm 1,8 mm)

## Stage 2 1 week maxillary alignment and simultaneously cuspid retraction

Self ligating fixed appliance on maxillary arch

### Wire sequence

- .018 TITANIUM ACU FORM :3 months with powerchain 50g on SAS (skeletal anchorage system)



# TREATMENT PLAN

## STAGE 3

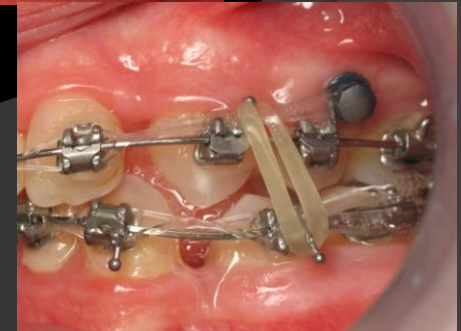
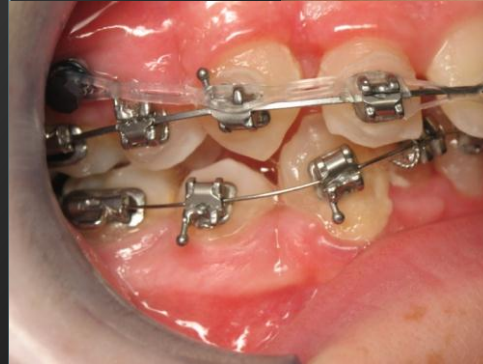
20X20 bioforce acu form acu sup with traction 150 g on canine + lower arch bonding + Niti .018 TITANIUM

20X20 BIO mandibular without any elastics tractions .....

7 months ; three appointments !  
No aid from teenager !

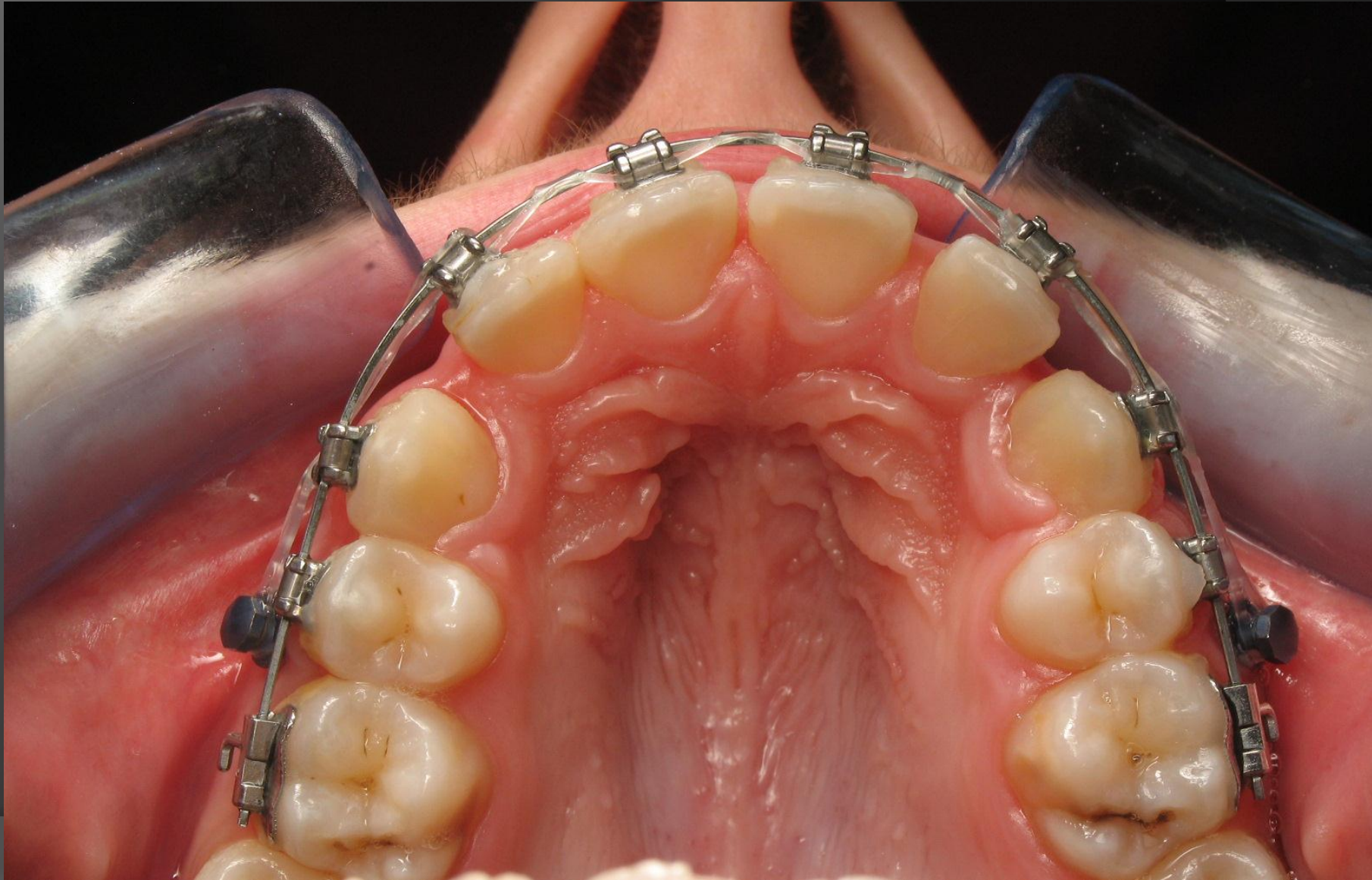
## Stage 4 7 months

- Wire sequence
  - .20X20 BIOFORCE is placed with powerchain to close small spaces
  - Vertical elastics are place for leveling curve offs pee





Distalization and closed spaces are proceeding with powerchain with anchorage miniscrews





# TREATMENT PLAN

## STAGE 5 10 months

20X25 stainless steel on mandibular and maxillary arches are inserted with closed powerchain and CLII inter-maxillary elastics

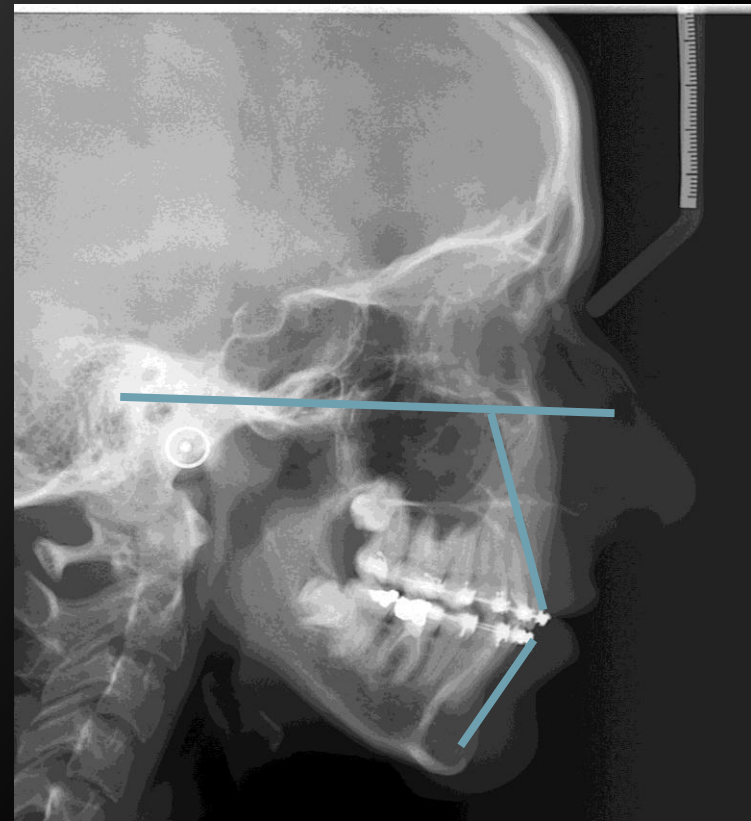
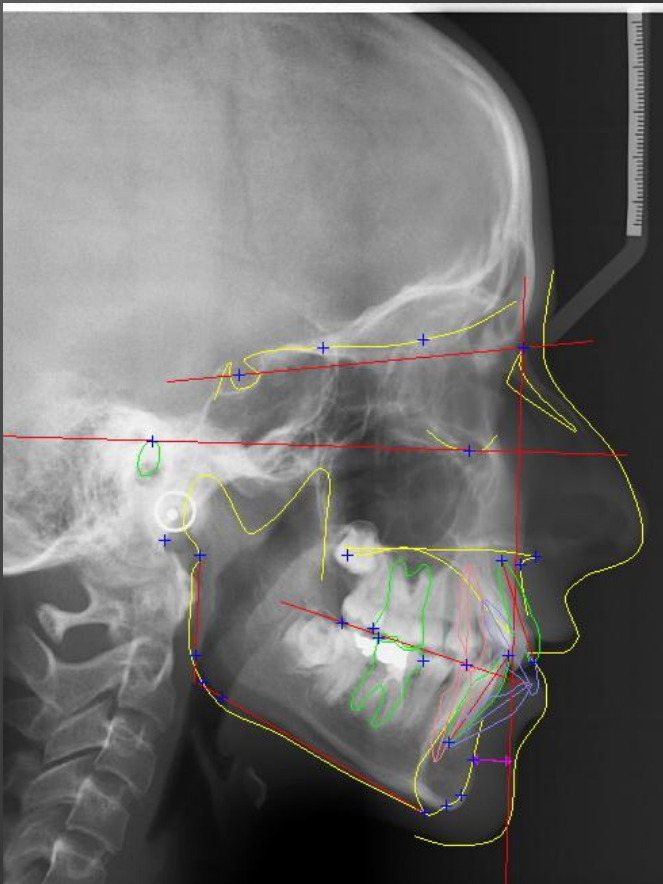
with a small accentuate curve of spee to upper arch and small reverse on lower arch to correct the deep bite !

## Stage 4 12 months

Stabilization and final space closure , the miniscrews are removing !



The final ceph tracing illustrate the stability of the lower incisor and a good control of buccal torque upper incisors thanks to the full size between the slot (20X28) and the wire (20X25 )





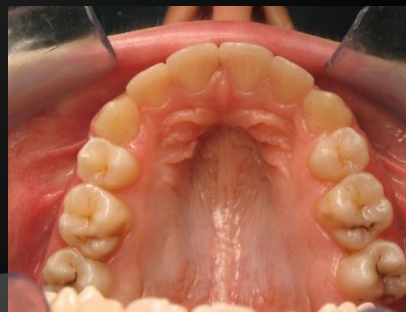
# Treatment results

Photographs 1 year after the end of treatment

16 months of treatment !

The short treatment time is obtained thanks to the using miniscrew anchorage and the self ligating conception in the concept all in one

**Retention protocol** : Finition with tooth positioner and retention with thermo splint to prevent open space relapse





# Cases studies

- CLIII malocclusion with miniscrews anchorage without extraction therapy

## CASE

### ● PRETREATMENT

Female , 20 years old exhibited CL III , incisor cross bite

### ● Pretreatment ceph

incisors biprotrusion , tend to long face

### ● TREATMENT OBJECTIVES

protraction of the maxillary arch with minis crews  
mandibular anchorage to avoid mandibular appliance with the open bite danger



# TAD (temporary anchorage devices ) INSERTION

Once an appropriate position has been selected for the placement between canine and first premolar





# TREATMENT PLAN

## STAGE ONE

20X20 Bioforce neosentaloy maxillary acu form

During **three months** to obtain maxillary expansion and buccal crown torque action

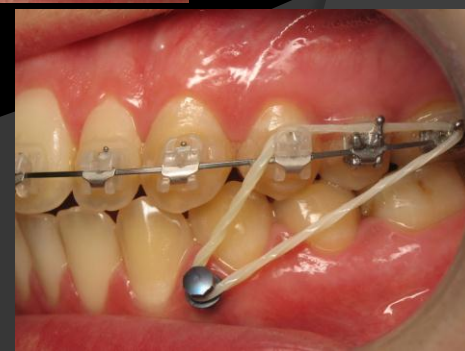
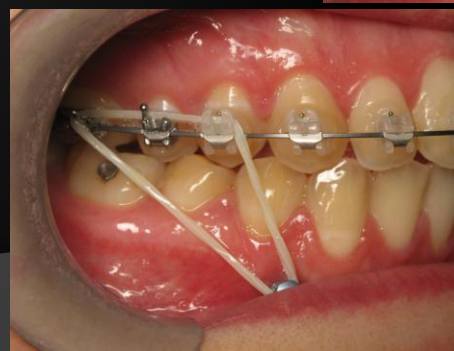
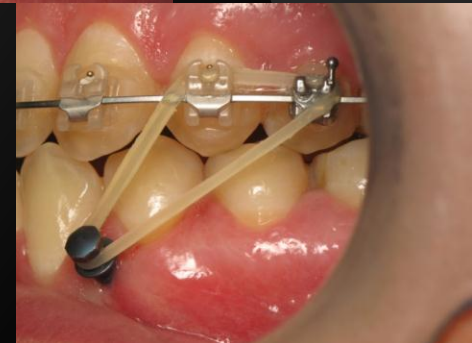
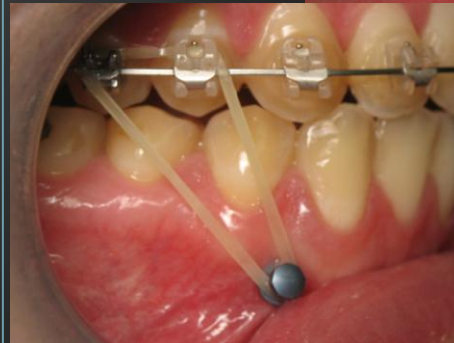
With **simultaneously** class III elastics on miniscrew mandibular anchorage (6,5 oz ;4 ,5 mm size 3/16 ")

## Stage two ;3 months

Simple Control of elastics traction

## Stage 3 :6 months

Stop elastics to control stability and reeducation tongue exercises



## Treatment results

Photographs 1 year after the  
end of treatment

The incisors cross bite were  
resolved only during Nine  
months !

The short treatment time is  
obtained thanks to the using  
miniscrew anchorage in the  
concept all in one

**Retention protocol** : bonding  
lingual maxillary retainer





## CASE

### PRETREATMENT

Female ,13 years old . Her primary complaint was that her front teeth were crowded and her bite was off ! The father request a non extraction treatment approach .She exhibited CL III , incisor crossbite ,premaxilla contraction ,severe crowding in both maxillary and mandibular arches





# Cephalometric DIAGNOSIS



Crowding :- 7 mm

## Pretreatment ceph

tend to Mandibular incisors retrusion , skeletal long face and CLIII (11 mm skeletal discrepancy )

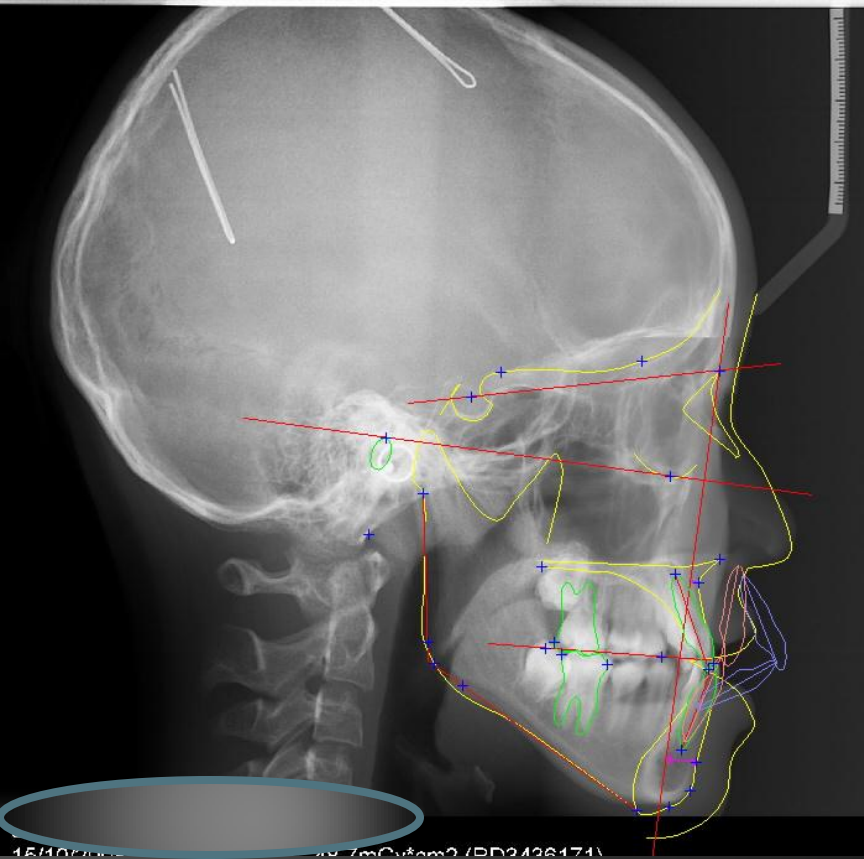
## TREATMENT OBJECTIVES

Maxillary expansion , Small protraction of the maxillary arch retraction of mandibular arch to cure crowding with miniscrews mandibular anchorage to avoid buccal version of the lower incisors

## Treatment plan

Extractions ? ; surgical solution ? Rapid maxillary Expansion?

Extractions was not option du to achieve aesthetic smile



Mesure	Evolution	Norme	11 ans 2	
Analyse dentaire		Analyse dentaire		
Surplomb	0.00mm/an +/-0.70	2.60mm	-1.20mm	(-3.80)
Entrec. Incisif vert.	0.00mm/an +/-1.30	2.30mm	1.75mm	(-0.55)
i / Mandibule	0.00°/an +/-9.00	96.00°	74.54°	(-21.46)
I / FH	0.00°/an +/-7.45	112.40°	117.26°	(4.86)
I/Palatin	0.33°/an +/-20.18	106.72°	111.26°	(4.54)
Inter-incisif	0.00°/an +/-11.63	135.75°	140.19°	(4.44)
Bord Libre Inc Sup to Stom	-0.08mm/an +/-0.50	2.82mm	1.66mm	(-1.16)
Analyse osseuse verticale		- Analyse osseuse verticale -		
SN-Plan Mandibulaire	-0.33°/an +/-5.60	30.38°	41.56°	(11.18)
Angle Mandibulaire	-0.83°/an +/-5.70	125.89°	127.49°	(1.60)
Analyse osseuse antéro-postérieure		- Analyse osseuse antéro-postérieure -		
Déc base A'B'	-0.30mm/an +/-4.00	3.35mm	-5.88mm	(-9.23)
Tendance A'B'	0.00mm/an +/-2.00	4.00mm	-5.88mm	(-9.88)
Point A à Na (L FH)	-0.08mm/an +/-3.15	2.62mm	2.31mm	(-0.31)
Point B à Na (L FH)	0.25mm/an +/-4.70	-0.96mm	8.19mm	(9.15)
Profil Sous Naso-Mentonier	0.00°/an +/-1.10	0.00°	1.00°	(1.00)

# TREATMENT PLAN

## STAGE 1

Rapid palatal expansion :1 week

## Stage 2 maxillary alignment

Self ligating fixed appliance on maxillary arch

### Wire sequence

- .018 TITANIUM ACU FORM with open coil spring on canine 23 :6 months
- 20X20 bioforce :3 month

Her maxillary transverse adaptation occurred primarily with the first two wires thanks to the acu form





# TREATMENT PLAN

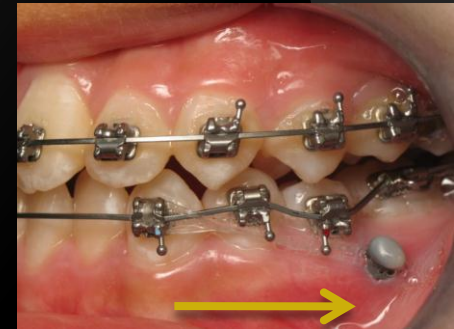
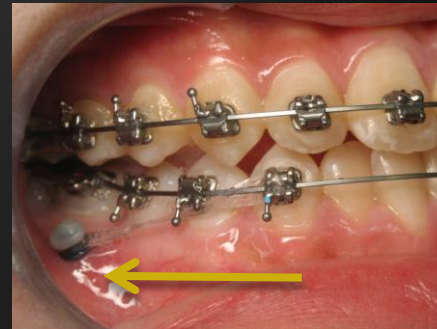
## STAGE 3: Mini screws insertion

Once an appropriate position has been selected for the placement between second premolar and first molar on mandible

## Stage 4 :posterior sequential brackets were bonding on mandibular arch with simultaneous retrusive action

To avoid inferior incisors buccal version with directly 20X20 bioforce wire .A small form wire was selected to contract mandibular arch while a closed chain was used to retract the posterior segment from canine to second molar !

3 months





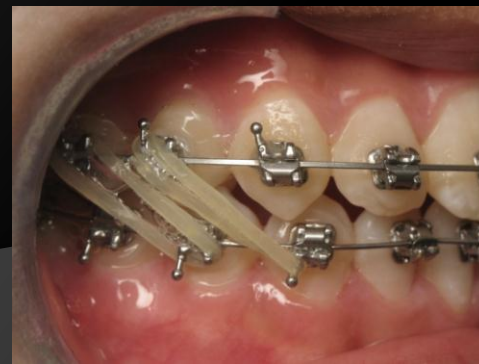
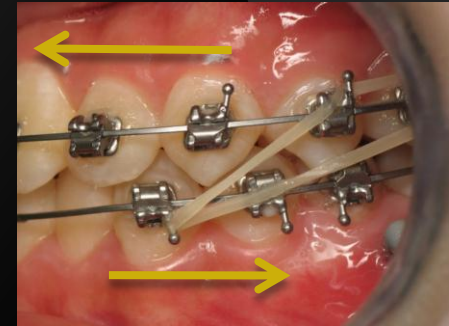
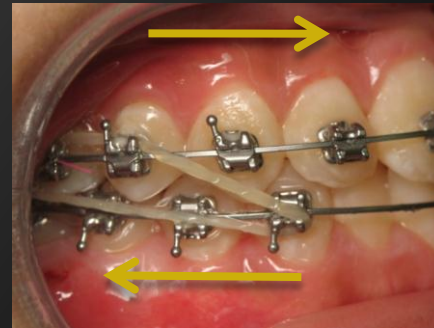
# TREATMENT PLAN

- **Stage 4** : Inter maxillary elastics III to advance the maxillary arch and to retract mandibular arch . A 20X25 stainless steel was placed in the upper arch to adjust to continue bracket expression for expression incisor torque to gain full bracket engagement

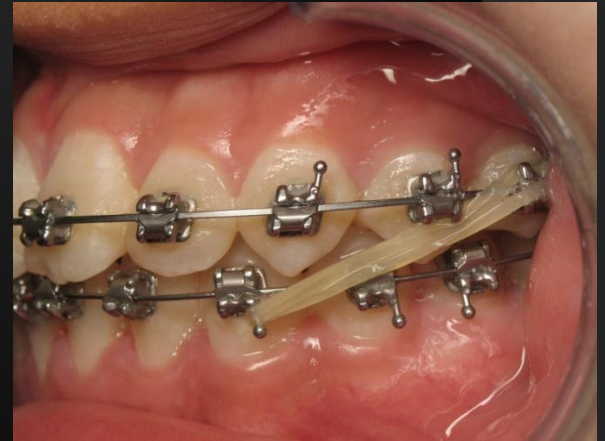
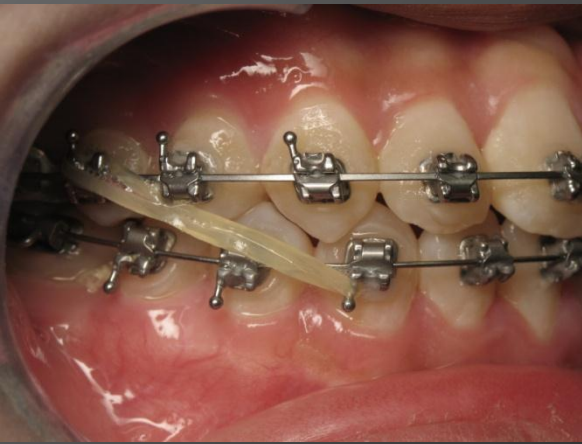
3 months

- **Stage 5** : the lower incisors were bonding

With double short elastics CLIII



Stage 5 : control and over correction

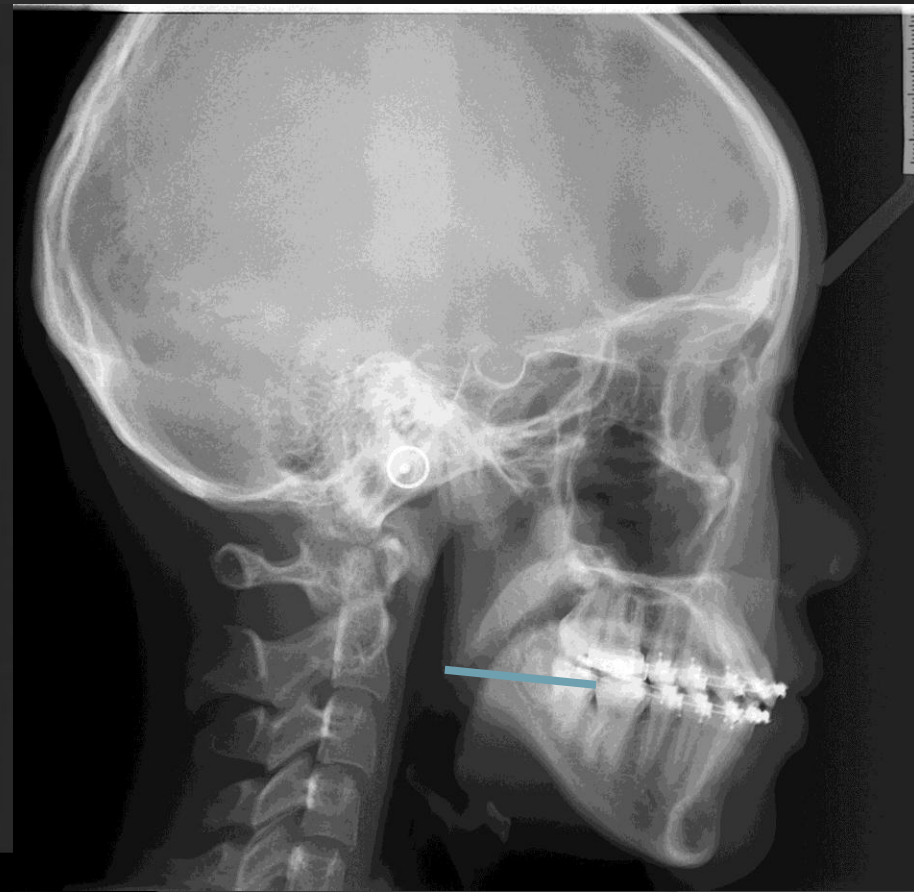
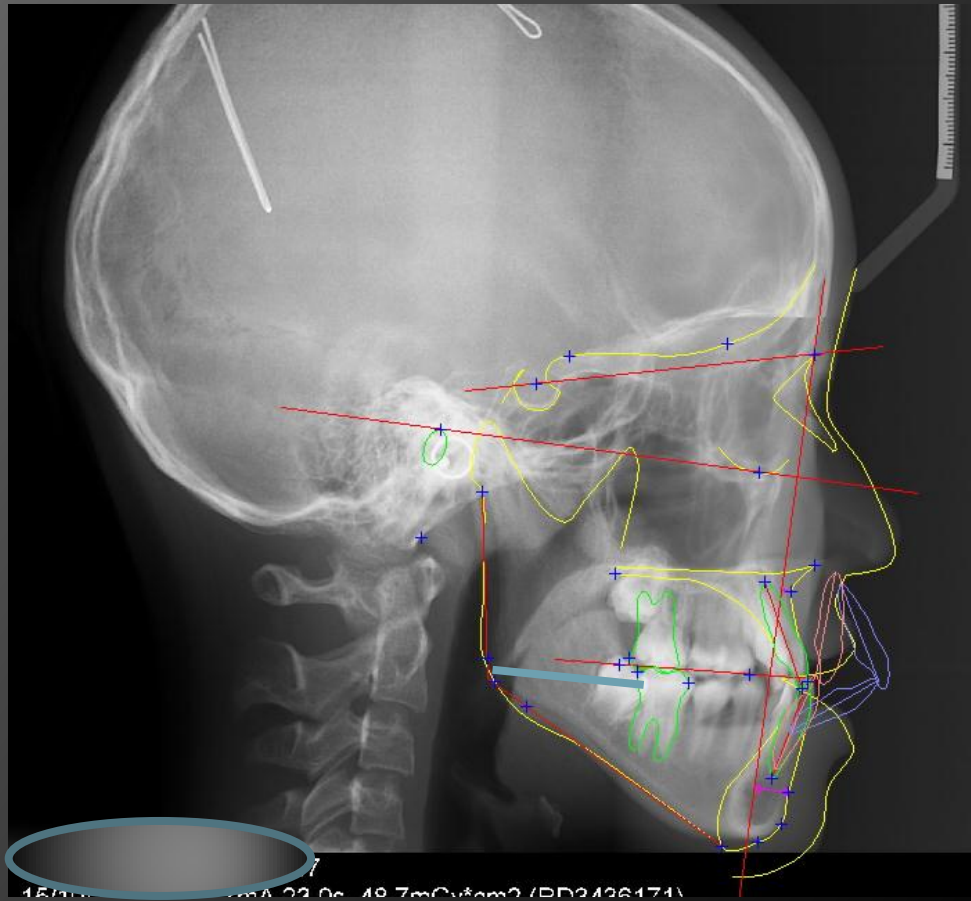


Stage 7: lower sequence wire with 20X20 bioforce





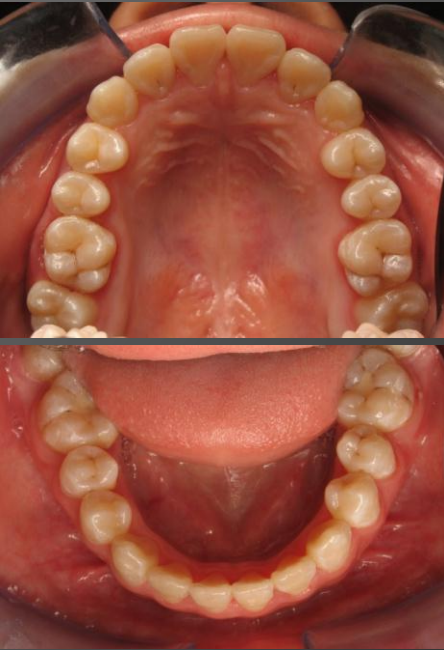
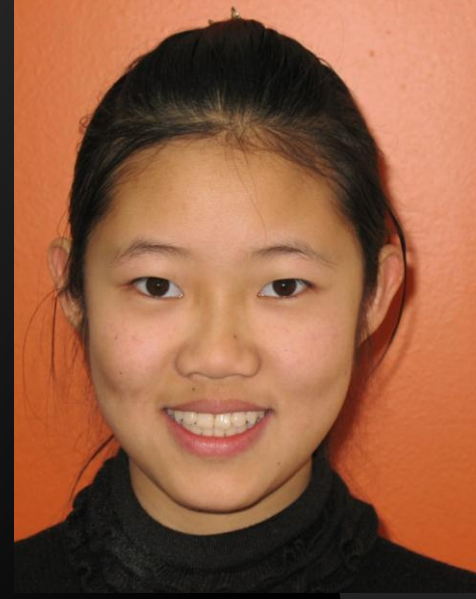
The final ceph tracing illustrate the moving back of the mandibular arch thanks to the using of miniscrews





# Post treatment photographs one year after debonding

Nicely balanced face and smile  
Good dental result  
Good stability



# Cases studies

- To use of bidimensional brackets in lingual orthodontics in all in one concept
- With In ovation L mtm (GAC dentsply)
- Low friction , sliding , low force ....
- Low duration of treatment 4 -6 months
- The aims of bidimensional lingual easy alignment as indication of relapse
- Low cost

## CASE

### ○ PRETREATMENT

Male, 21 years old. His primary complaint was that her front teeth were crowded





- **TREATMENT OBJECTIVES**

- Simple alignment with lingual 2 D low cost

- Indirect bonding tool With easy silicon method with

- regi-trans de bisico

- Memosyl !

Method of indirect easier without dental laboratory without targ or any 3 D information

Obligation to use only round wire



# 1<sup>st</sup> APPOINTMENT



.012 Niti in tension on the inset of form mushroom wire

2<sup>nd</sup> appointment : 4 weeks

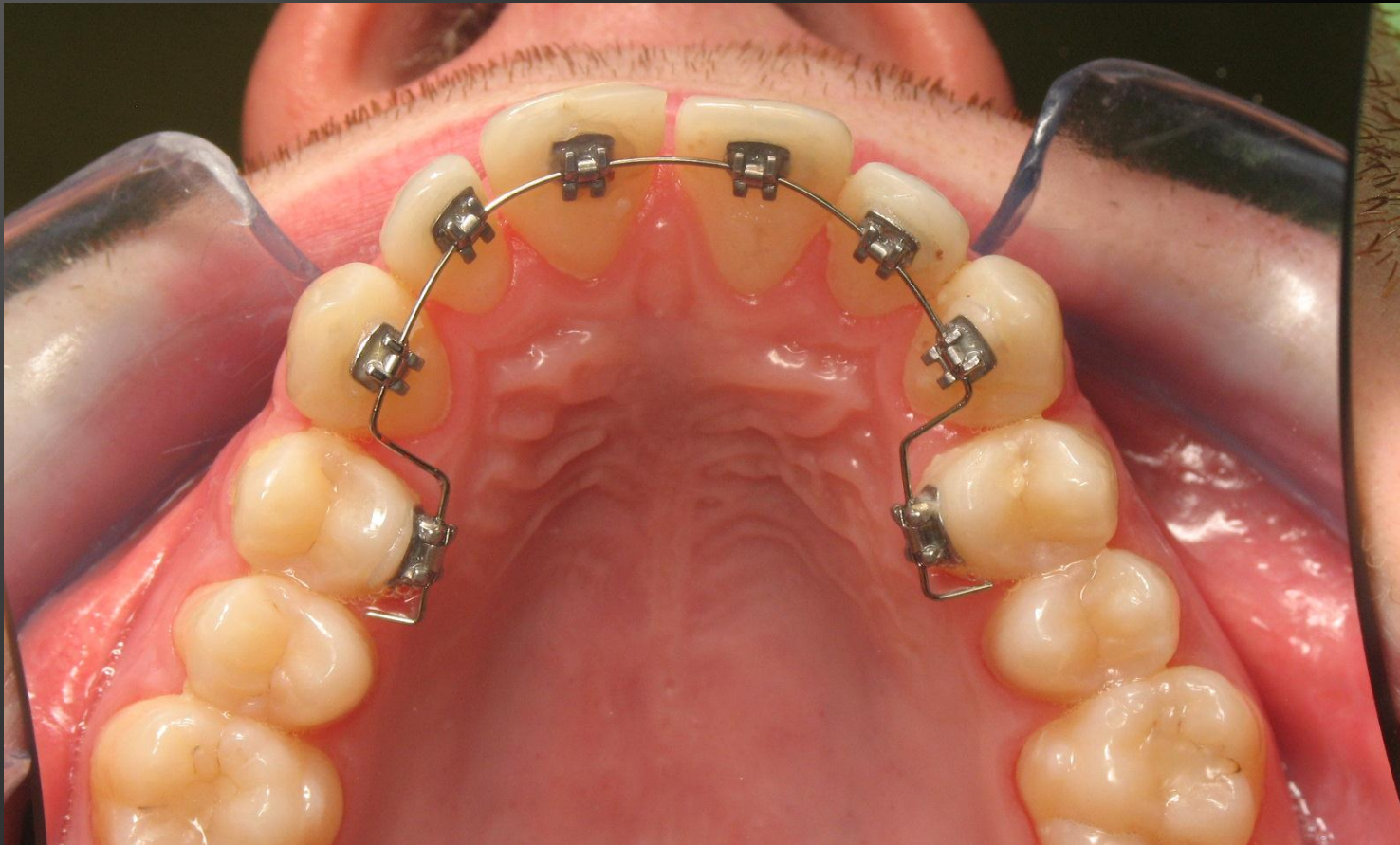
Bonding ULR and UCL

.014 Niti in tension (compressive action)





3rd Appointment **8 weeks**  
we achieve leveling



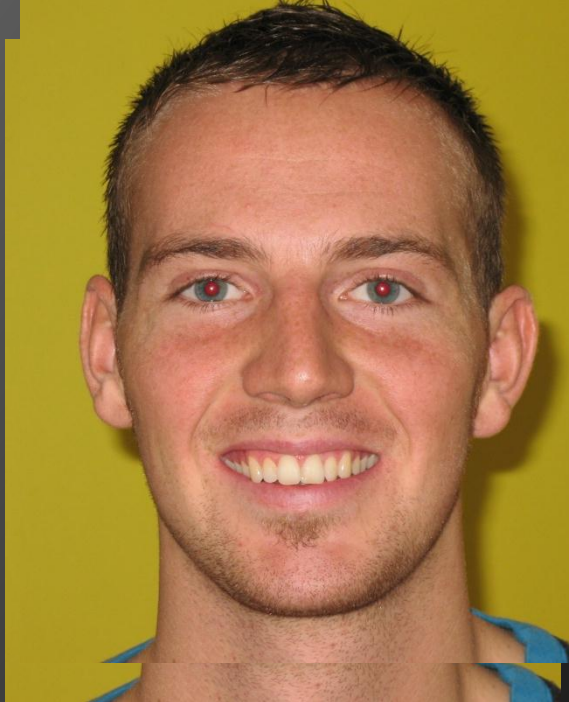
4th Month

016 TMA finition (aesthetic deformation or bonding finition)





Treatment results  
only 5 months !





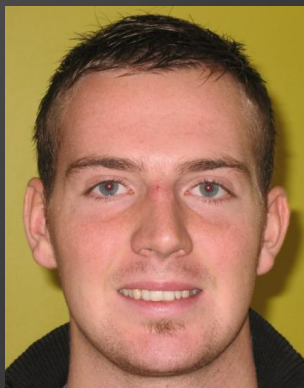
# Conclusion



The principal benefit of « Concept all in one » is benefit in terms of time and comfort and to the patient in terms of reduced trauma !



- The diagnosis and treatment objectives are the priority .....



- Thank you for your attention