



15 years old

There is harmony of the lips, teeth, jaws and face. The smile fits the face. The smile is correct as the edges of the MAX incisors just touch the vermillion border of the lower lip and the gingival margin does not show. The bracketing scheme 2 is responsible for the Smile Look. Profile is CLI with good proportions.



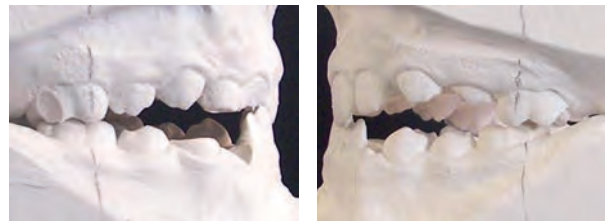
17/3. Case: Jn, boy, age 13 years

Severe CLIII Skeletal/Dental. Bilateral posterior & anterior x-bite due to previous orthodontic treatment that was improperly done. TP: use of NiTi Expander and CLIII elastics to resolve, non-extraction, the CLIII occlusion with X-bite.

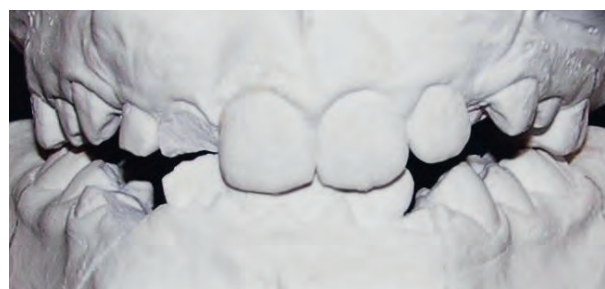


2 years previously, a practitioner tried to "gain space for the canines", but made a poor diagnosis not recognizing that at the beginning of treatment, if the MAND incisors are lingually inclined, and there is a CLIII skeletal base, one must be careful because if the lower incisors are ligatured to the wire, they will rapidly tip forward into a CLIII position with a X-bite. This creates a MAND slide, and this is what happened in this case.

Beginning study models from 2 years previous ■ ■



A safer strategy for cases such as this: always start on the MAX arch in order to correct posterior X-bite and generally widen and develop the arch form so that the MAX can contain the MAND in a final CLI position. This also makes room for 13 & 23 and increases the anterior OJ. After several months (depending on the case), the MAND will be freed up and can re-center in a neutral condylar position. Only now is the lower arch started and leveling should be done using BBs on the leveling wires. By following these steps, a mandibular slide is avoided. After leveling, the case is re-evaluated for further treatment protocol.



Original beginning models:

Space missing for 13, 23 and 33, 43.

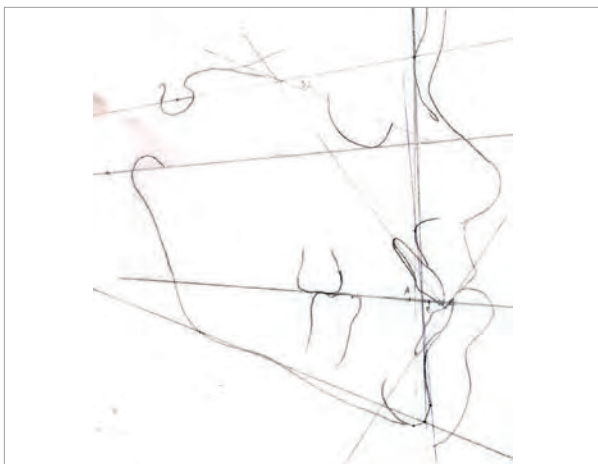


The situation when patient came into the practice. ♥

Space was gained for the canines, but a CLIII occlusion with MAND slide was created by the rapid forward/labial tipping of the MAND anterior teeth: the MAND is forced forward and this traumatic force on the anterior teeth has caused their abnormal forward tipping.



Not only is excessive growth of the mandible stimulated by the MAND slide, but maxillary growth is retarded/slowed down by the anterior X-bite. Creates the CLIII Look.



SNA 78°	MdI – NB 9 & 36°
SNB 82°	MdI to A-pog +9
ANB -4°	MPA 32°
MxI – NA 9 & 36°	Wits -5.5

{If the CLIII can't be corrected non-extraction: possibility of slicing or extraction of 2 MAND teeth to create space in order to retract the MAND anterior segment.}



Global TP for the resolution of these problems: Expand the MAX arch so that it can contain the MAND in a final CLI occlusion. Retract by tipping/torquing the crowns of the MAND anterior segment. CLIII elastics.

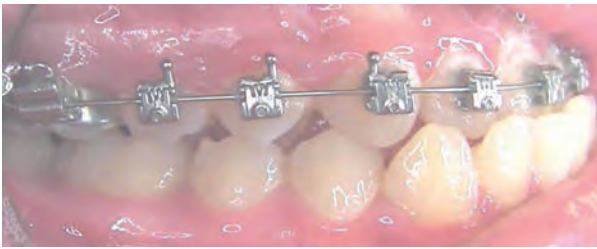
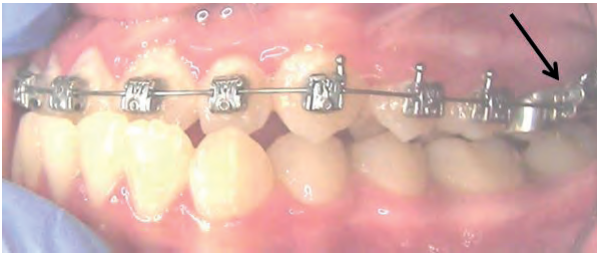


1ST MONTH

MAX: NiTi Rotator 2 mm larger than the inter-molar width.



Anterior cross bite 26 & 37 (arrow) and CLL under-bite.



Severe CLIII under-bite. ♥



6TH MONTH

MAX & MAND: 19x25 HA NiTi. Full CLIII molar and canine w/ mandibular slide to the right.



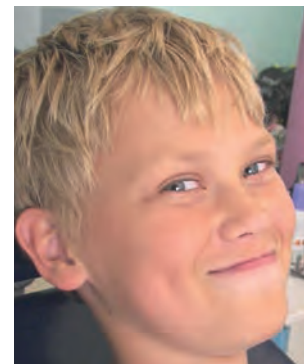
MAND in CR with the M-Ls aligned. ♥

This shows that the MAX can contain the MAND in a CLI position so that the CLIII could be corrected. However, in CR, one could not obtain an end-to-end incisor position.

Prognosis: will be difficult to correct the CLIII with non-extraction therapy.



CLIII look.



8TH MONTH

MAX: 19x25 posted steel wire, flat.

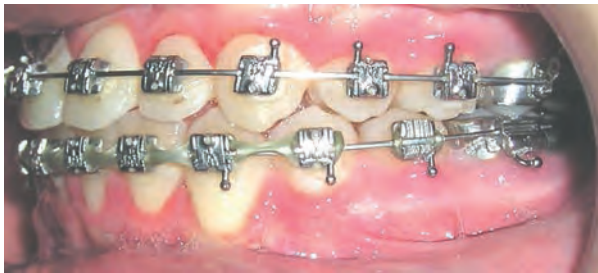
MAND: 19x25 posted steel wire, flat, LL chain 36-46. Striping from 33-43.

Start CLIII elastics, 10 mm, attached from 16 & 26 to MAND posts, 24/24.



MAX: M-Ls are aligned. Bite is settling-in.

MAND: light stripping 33-43 at each visit with N. L-L CH to help "upright" the incisors.



Profile has improved.

The upper lip looks more full with a CLI smile.



15TH MONTH

M-Ls are aligned

MAX: Same. Posterior delta elastics to settle-in bite.

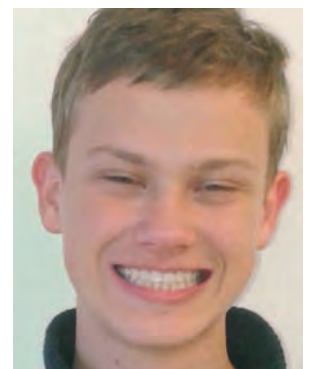
MAND: same 19x25 NiTi with 20° lingual crown torque. Stripping and N. L-L CH. Wires to remain in place 3-6 more months to evaluate the stability of the occlusion.



24TH MONTH

Patient is 15 years old

Remove SWA. MAX & MAND: Fixed lingual retention wires. Removable Wrap-around Hawley retainers.



**20/8. Case: Pa, adult (17.5 years).
Treatment plan: "non-extraction
camouflage CLII"**

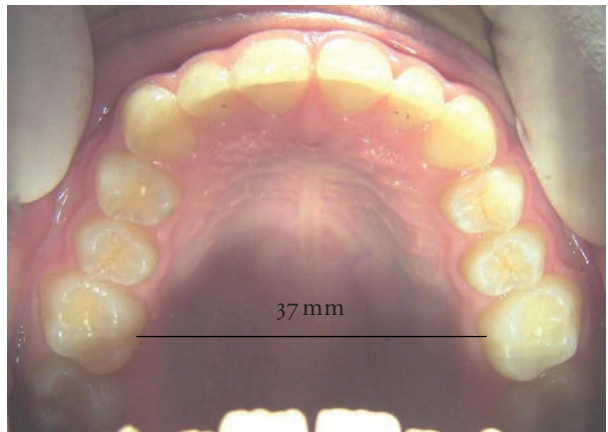
$\frac{3}{4}$ CLII div II. OB = 5 mm. Short face, MPA = 33°. Wits = +3.5. Patient doesn't like her smile.



Esthetic diagnosis: MAX incisors are lingually tipped and the face is concave, thus one can advance the MAX front teeth to provide a nicer smile and improve the fullness of the lips. However, the lower dental arch will then have to be advanced into a CLI position.

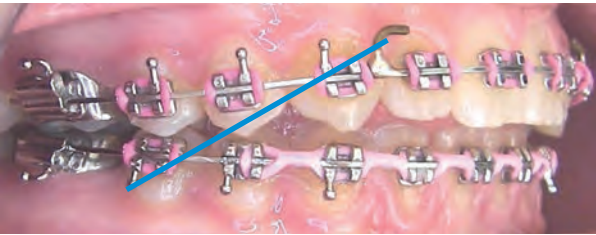


V-shaped MAX with a distal-occlusion. MAX incisors are lingually tipped. During leveling the MAX incisors will tip forward so that after leveling there will be an OJ of -4 mm.



The adding of labial-crown torque to the incisors and the widening during the leveling of the V-shaped MAX in the premolar/molar areas (molars are ML rotated) will improve the SMILE and overall Look.





There is a $\frac{3}{4}$ CLII with OJ of 5 mm. Due to the open-bite tendency: start with “Short CLII elastics”, 6 mm, 1 per side from the MAND P2s to the MAX wire posts. \blacklozenge

8.5TH MONTH

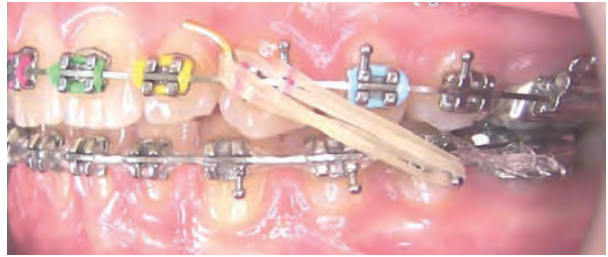
OJ is reduced about 2.5mm.

After 6 weeks of Short, CLII elastics...

MAX: molars are closer to CLI. 19x25 posted steel, flat, with 4 mm expansion.

MAND: 19x25 steel. L-L chain 46 to 36.

Continue Short CLII elastics, 6mm: change to 2 / side from 35 & 45 to posts, 24/24.



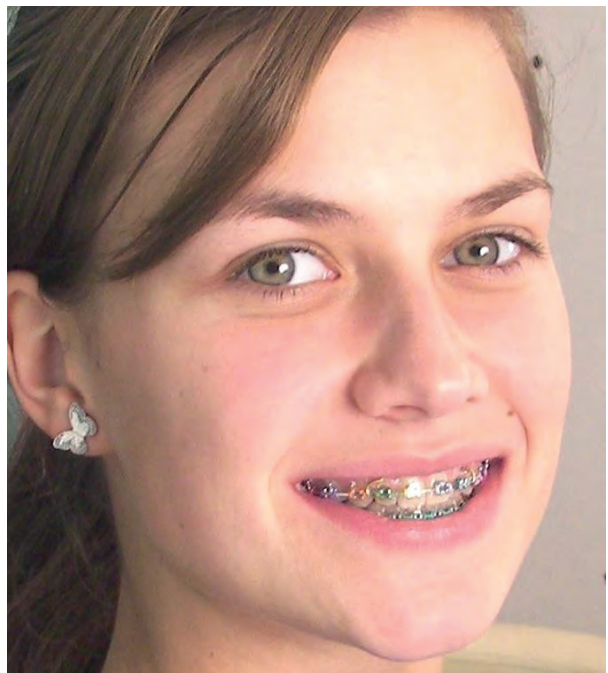
Short CLII elastics, 6mm \blacklozenge



10TH MONTH

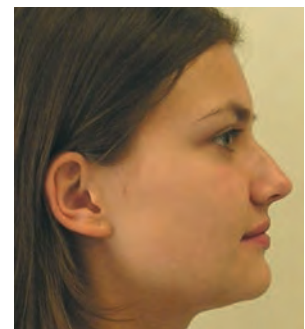
MAX: Smile is nicer with the labial-crown torque and the widening of the MAX arch. IDEM: 19x25 posted steel, 4 mm expansion.

Change to normal CLII elastics, 6 mm, 2 / side, 24/24.

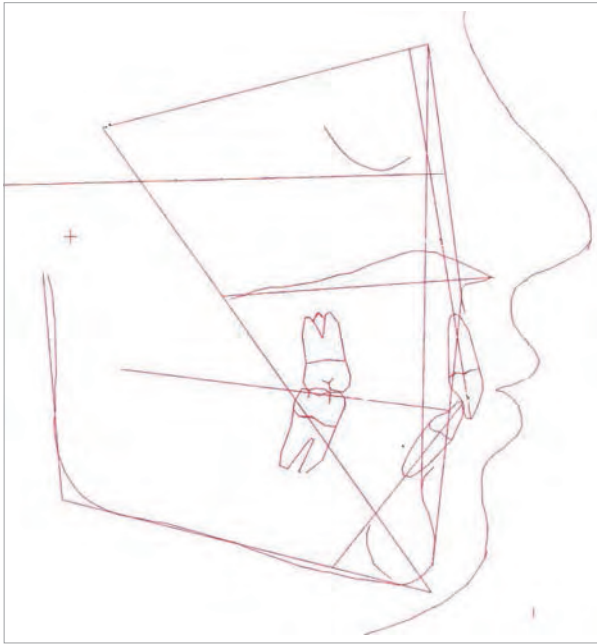




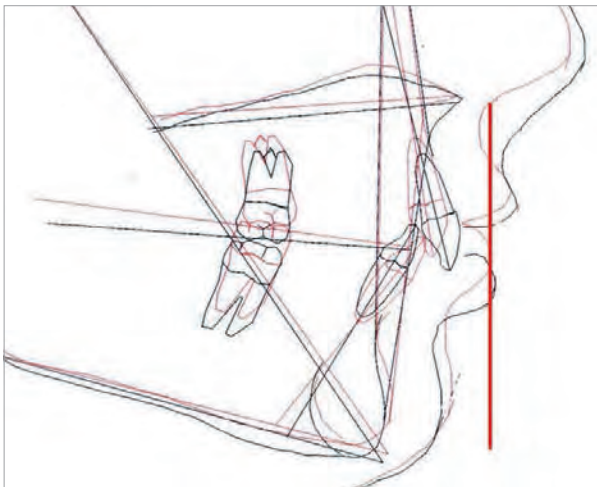
CLII has been corrected to a CLI without extractions.
The occlusion is a solid and stable CLI. ♡



The profile and lip posture are improved. ♡



Final ◆



Superimposition: Cranial Base ◆

Black – beginning ◆

Red – final ◆

■ Superimposition: Cranial Base

MxI : intruded & distalized. OJ was reduced.

MdI: intruded; tipped forward +3mm.

MPA: no change.


There is “Lip closure”.

The upper lip is forward of SNV while lower lip touches it (ideal).

+9 Wits remains the same, but it has been camouflaged.



Recall: 12 months ◆

End of treatment Recall: 12 months 

On severe deep-bite cases with deep CoS, bracketing scheme 1 is used to help open the bite and to allow for an over-corrected CLI position. As seen above, the incisors finished end-to-end while the posterior teeth were fully settled-in. At the end of treatment, the MAX incisors appeared too short compared to the canines & premolars. However, there is always a “rebound” of the incisors towards their original position. As can be seen here after 12 months, the incisors are now in a perfect position as this rebound was anticipated.





REVIEW



Beginning ▲



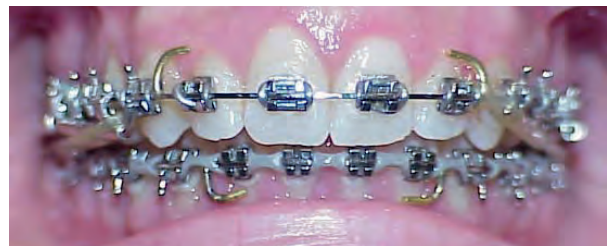
1st month ▲



2nd month ▲



6th month ▲

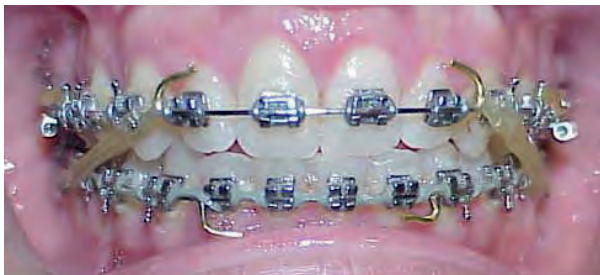
7th month ▲9th month ▲10th month ▲10th month ▲12th month ▲14th month ▲15th month ▲



16th month ▲



17th month ▲



22nd month ▲



22nd month ▲



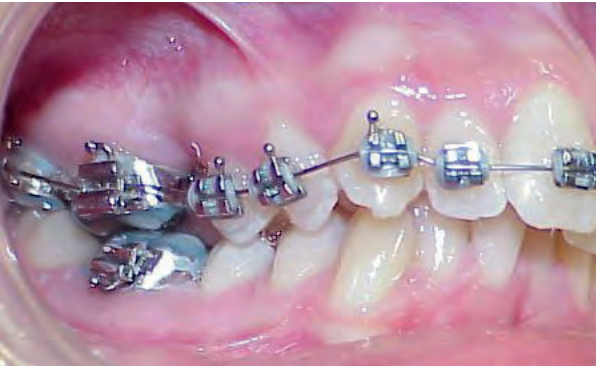
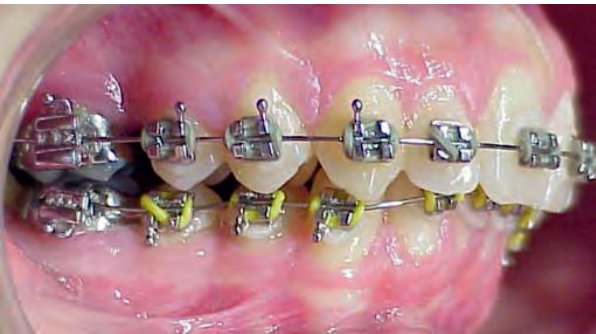
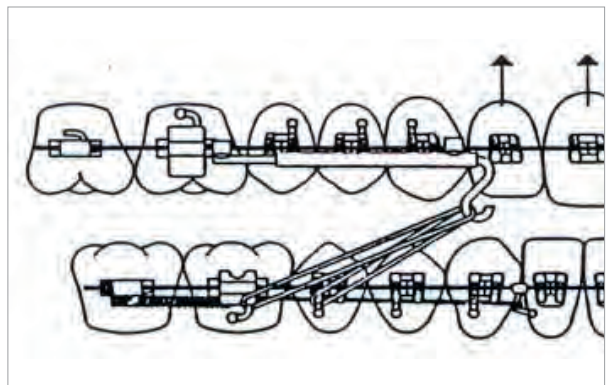
24th month ▲

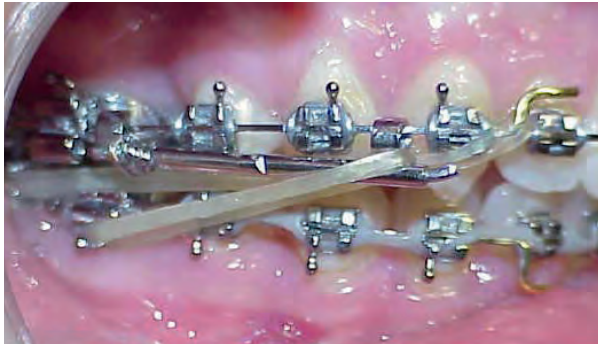


26th month ▲



38th month ▲

1st month ▲7th month ▲2nd month ▲9th month ▲6th month ▲12th month ▲7th month ▲



13th month ▲



20th month ▲



15th month ▲



23rd month ▲



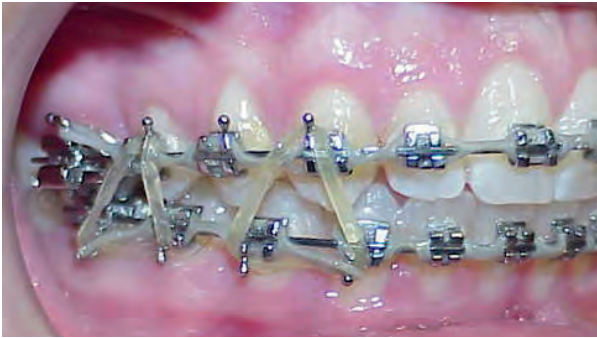
16th month ▲



24th month ▲



19th month ▲



25th month ▲

Beginning ▲



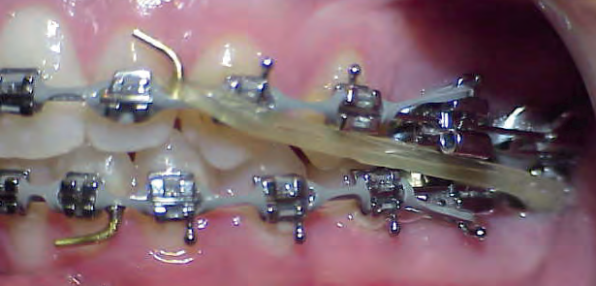
26th month ▲

1st month ▲



38th month ▲

6th month ▲



23rd month ▲



25th month ▲



26th month ▲



38th month ▲



1st month ▲



2nd month ▲

25th month ▲26th month ▲

Beginning ▲

6th month ▲



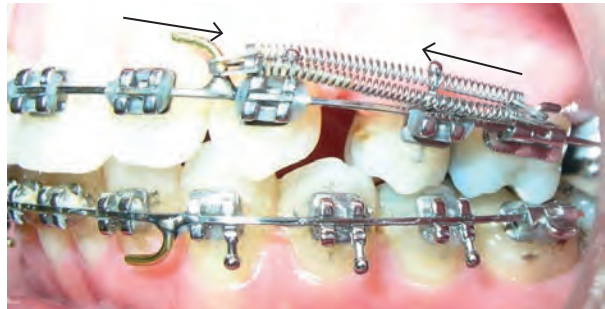
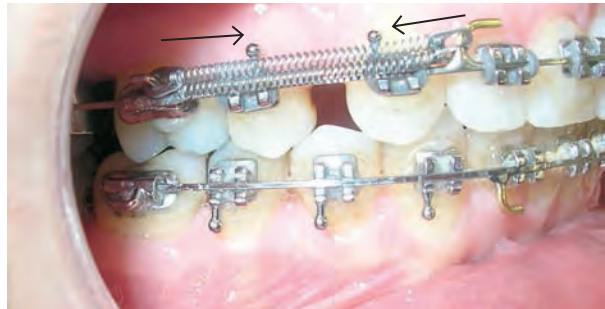
“Stripping” of MAND incisors at each visit.

7TH MONTH



8TH MONTH

MAX: same 19x25 posted steel, flat (no acc C). Stop CLI and CLII elastics. Change to 2 x 150gr NiTi closing springs. CLI forces, reciprocal space closure. MAND: same 19x25 posted steel. Stripping 3 to 3.

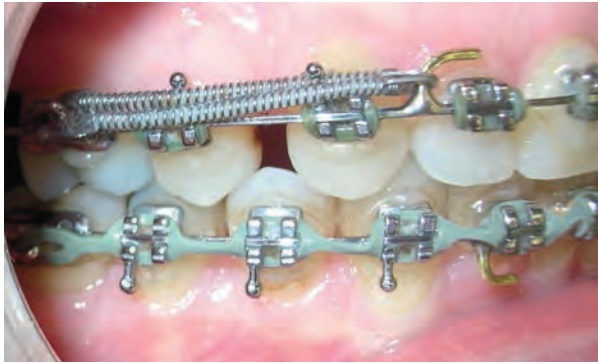


9TH MONTH

MAX: same 19x25 posted steel, no acc C. 2 x 150gr NiTi closing springs, no CLII elastics.

MAND: same 19x25 posted steel, L-L CH from M1-M1. Stripping 3 to 3.





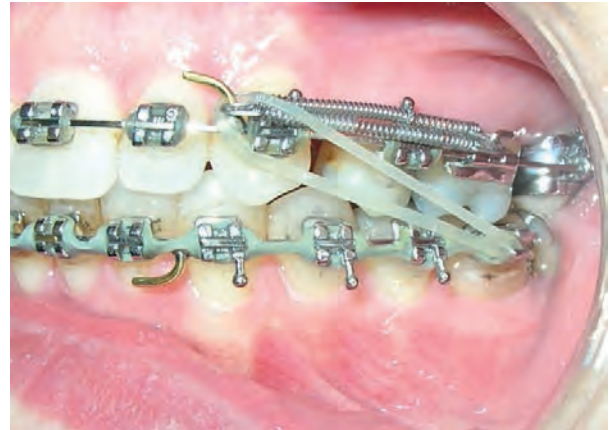
10TH MONTH

MAX: same

MAND: same

MAX midline is deviated to the right.

Left side: There is more space available and the left side is more CLII than the right: start CLII elastic, 6 mm, 24/24, unilateral (left side only).



CLII elastic, 6 mm, 24/24, unilateral (left side only) to shift the MAX M-L and to obtain a CLI canine on the left side.

In a CLII case where the MAX M-L is deviated to one side (in this case: right), the M-L can only be corrected if there is space on the opposite posterior side (in this case the left). By using asymmetric forces (in this case CLII elastics) the anterior segment and midline can be moved into this space correcting the midline, the OJ and the CLII canine position.



General ideas: By contrast, generally in CLII cases, MAND midline deviations can be corrected without space using asymmetric CLII elastics, but this is possible only if there is an OJ anterior.

Without OJ, space would have to be created on the opposite posterior side.

REVIEW



Beginning ▲



4th month ▲



6th month ▲



7th month ▲



8th month ▲



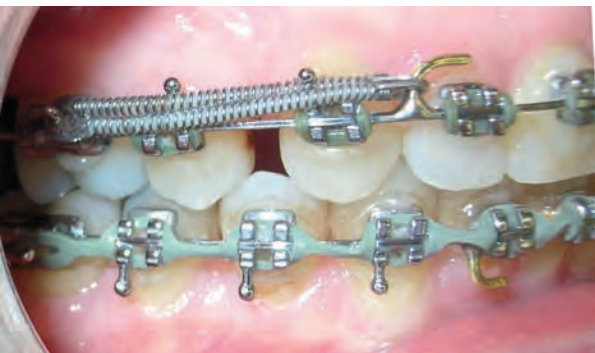
10th month ▲



13th month ▲

16th month ▲10th month ▲

Beginning ▲

13th month ▲6th month ▲15th month ▲9th month ▲16th month ▲

6 mm X-elastic from lingual 26 to buccal 36, 24/24. X-bite is corrected.



The “CLIII Look” is temporarily worsened due to advancement of the MAND anterior teeth. M-Ls are deviated. ◆

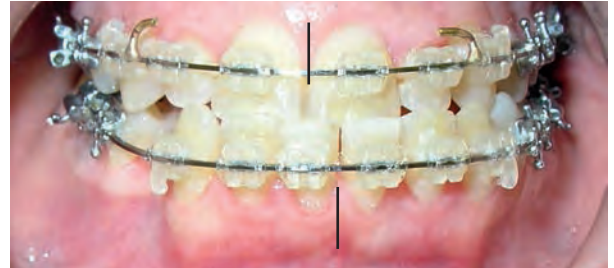


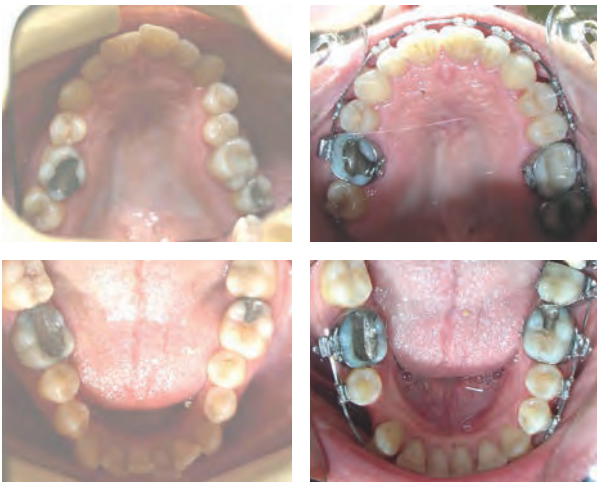
Upper lip is behind the SNV line and lower lip is in front (normally this is the opposite). ◆

8TH MONTH

MAX: same 19x25 posted steel, 6 mm expansion. X-elastic.
MAND: N. 19x25 steel.

Allow both arches to finish leveling 1 more month.





9TH MONTH

MAX: same 19x25 posted steel, 6 mm expansion.

MAND: 19x25 posted steel.

Left side: one, CLIII elastic, 8 mm, from 26 to wire post, 24/24 (this will help correct the CLIII occlusion).

Right side: two, CLIII elastics, 8 mm, 24/24, one from 16 to 43 and one from 16 to the wire-post. (This will help correct the mid-lines, CLIII canine and the CLIII occlusion under-bite).



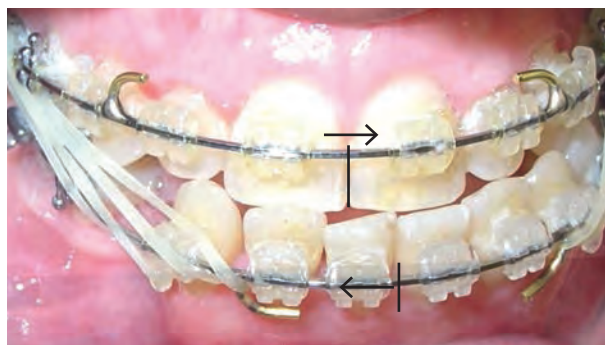
Of note: on the right side, both elastics could as well be attached simultaneously to the wire post.



Strategy: maximum anchorage is used on the right side at the beginning because 43 needs to distalize and “take the place” of the extracted 44; thus it must be moved distally 7mm. There are no forces on the MAND posterior segment.

The asymmetric CLIII forces allow the MAND anterior right segment to be distalized en masse which will move the midline to the right and at the same time correct the CLIII under-bite.

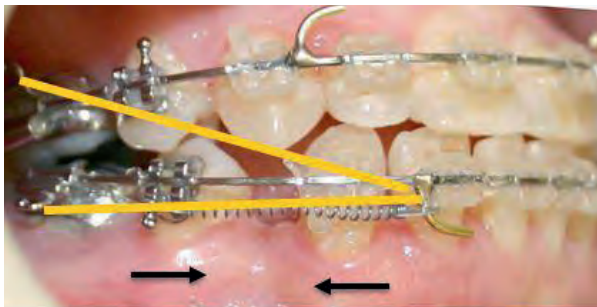
Left side has one CLIII elastic to help in correcting the dental CLIII. The CLIII is corrected by distalizing the MAND anterior segment and by advancing the MAX arch 1 to 2 mm in the alveolar bone. And because this CLIII mesializing force on the MAX arch is asymmetric, the MAX midline can be corrected towards the left by about 1 mm.



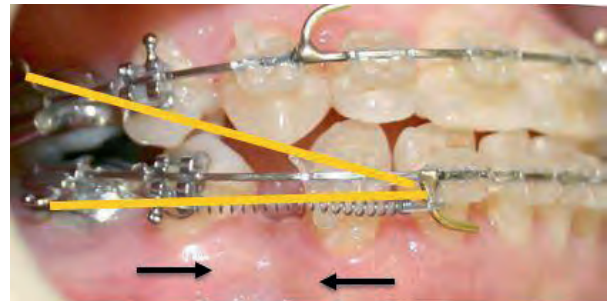
The CLIII “under-bite” must be corrected. At the same time the MAND M-L will be moved to the right about 3 to 4 mm, the MAX M-L will move to the left about 1 mm and the entire MAX arch will advance 1 to 2mm. ◆

11TH MONTH

Improved M-L relationship and the “under-bite” is being corrected.



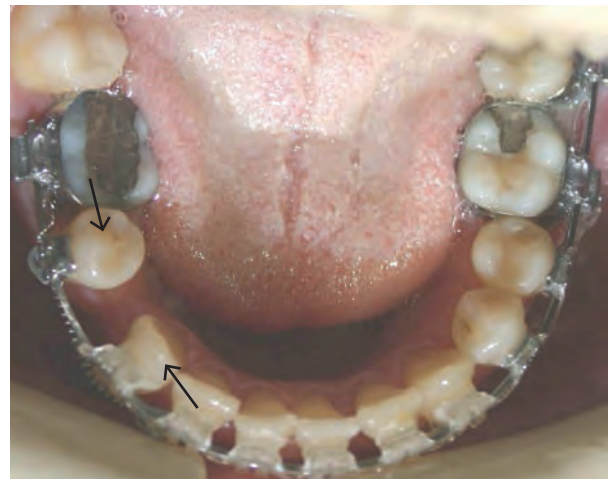
Right side: 43 is now only 2.5 mm from a CLI canine relation, but there remains 5 mm of space. This indicates that the original maximum anchorage can now become moderate and because of this, the posterior segment now can now be reciprocally advanced 2.5 mm. This will be accomplished with CLI reciprocal, en masse space closure: 1, elastic, 6 mm, and 1, 200 gr NiTi closing spring from 46 to MAND post. Continue with 1, CLIII elastic, 6 mm, from 16 to the MAND post (for the overall CLIII correction). The overall “anchorage change” here can be attributed to the MAX arch moving forward 1-2mm due to the CLIII elastics.



MAND: 1, elastic, 6 mm and 1, 200gr NiTi closing spring from 46 to MAND post. 1, CLIII elastic, 6mm, from 16 to MAND post.



MAND: Continue: CLIII elastic, 6 mm, from 26 to post.



The upper lip is more full and the lower lip is retracted. This improves the profile by creating a better harmony between the lips and the face.

**12TH MONTH**

As the occlusion is settling into a CLI position, the teeth are inter-digitated more correctly so that the anterior segment has closed down and there is a 2.5 mm OB (no box elastics were needed). M-Ls are aligned.



200 gr NiTi closing spring ◆



MAND: Continue bilateral CLIII elastics, 6 mm, 1 per side from the MAX MIs to the wire posts, 24/24.

Continue CLI 200 gr NiTi spring and 6 mm CLI elastic from 46 to wire post, 24/24.



1.5 mm of space remains. ◆



Smile is larger and more ideal than before. CLIII Look is diminished. MAX and MAND M-Ls are "skeletally aligned" due to the asymmetric CLIII forces.