

**(CUSTOM-MADE (STRAIGHT WIRE SERIES**



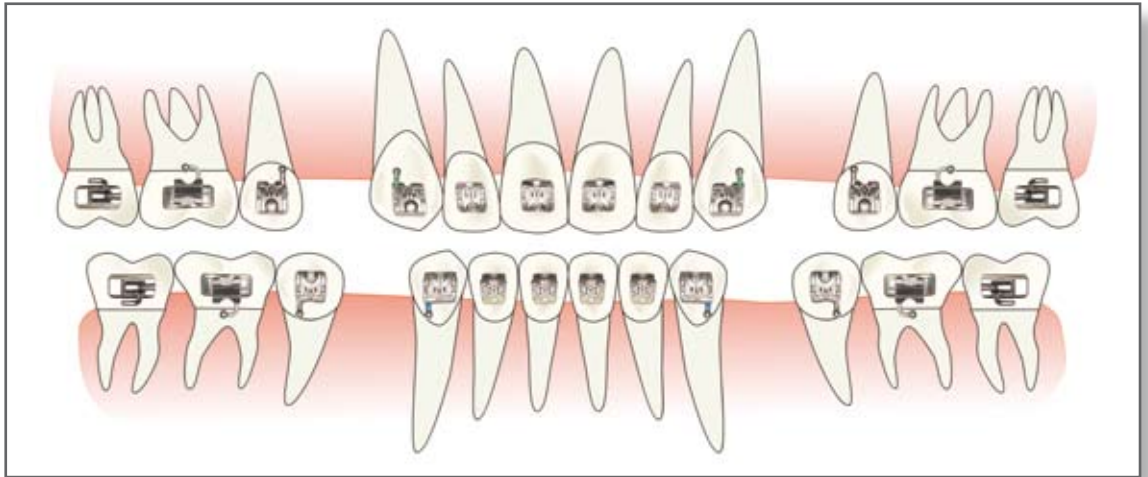
# Self-Ligating Brackets & Smart Mechanics

**(LB & SM**

**Pablo A. Echarri D.D.S.  
Alberto Carrasco D.D.S.**

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**Brackets and Buccal Tubes**



Carriere LX® Self Ligating Bracket:  
Roth prescription in non-extraction cases.  
McLaughlin, Bennett and Trevisi in extraction cases.



Carriere LX® Self Ligating Bracket details.



Solstice Self Ligating 1<sup>st</sup> molar buccal tubes or  
Elite® 1<sup>st</sup> convertible molar tubes - Roth prescription.



Elite® 2<sup>nd</sup> Mini molar buccal tubes.  
Roth prescription.

### .022"

Initial – Aligment and Leveling	
.014 Dimpled Bio-Kinetix™ Thermally Activated Nitanium® Archwire .016 Dimpled Bio-Kinetix™ Thermally Activated Nitanium® Archwire OR .012 Dimpled Super Elastic Nitanium® Black-Ti™ Archwire .014 Dimpled Super Elastic Nitanium® Black-Ti™ Archwire OR .012 Dimpled Bio-Kinetix™ Plus™ Thermally Activated Nitanium® Archwire .014 Dimpled Bio-Kinetix™ Plus™ Thermally Activated Nitanium® Archwire	
Intermediate – Torque Control	
.014 x .025 Dimpled Bio-Kinetix™ Thermally Activated Nitanium® Archwire .016 x .025 Dimpled Bio-Kinetix™ Thermally Activated Nitanium® Archwire .018 x .025 Dimpled Bio-Kinetix™ Thermally Activated Nitanium® Archwire	
Intermediate – Closing spaces in extraction cases	
.016 x .025 Stainless Steel Archwire for sliding mechanics .016 x .025 CNA™ Archwire for loops mechanics	
Intermediate – Open bites – Deep Bites	
.016 x .025 Superelastic Nitanium® Reverse Curve Archwire .016 x .025 CNA™ Reverse Curve Archwire	
Finishing	
.017 x .025 CNA™ ProForm™ Archwire .019 x .025 CNA™ ProForm™ Archwire .019 x .025 Stainless Steel ProForm™ Archwire	
Expansion Sequence	
<b>Phase 1</b> .016 Bio-Kinetix™ Plus™ D-LX Archwire .018 Bio-Kinetix™ Plus™ D-LX Archwire	<b>Phase 2</b> .016 x .025 Bio-Kinetix™ Plus™ D-LX Archwire .018 x .025 Bio-Kinetix™ Plus™ D-LX Archwire
<b>Phase 3</b> .017 x .025 Stainless Steel D-LX Archwire .019 x .025 Stainless Steel D-LX Archwire OR	<b>Phase 4</b> .017 x .025 CNA™ Beta III D-LX Archwire .019 x .025 CNA™ Beta III D-LX Archwire

### .018"

Initial – Aligment and Leveling	
.014 Dimpled Bio-Kinetix™ Thermally Activated Nitanium® Archwire OR .012 Dimpled Super Elastic Nitanium® Black-Ti™ Archwire .014 Dimpled Super Elastic Nitanium® Black-Ti™ Archwire OR .012 Dimpled Bio-Kinetix Plus™ Thermally Activated Nitanium® Archwire .014 Dimpled Bio-Kinetix Plus™ Thermally Activated Nitanium® Archwire	
Intermediate – Torque Control	
.014 x .025 Dimpled Bio-Kinetix™ Thermally Activated Nitanium® Archwire .016 x .025 Dimpled Bio-Kinetix™ Thermally Activated Nitanium® Archwire	
Intermediate – Closing spaces in extraction cases	
.016 x .025 Stainless Steel Archwire for sliding mechanics .016 x .025 CNA™ Archwire for loop mechanics	
Intermediate – Open bites – Deep Bites	
.016 x .025 Superelastic Nitanium® Reverse Curve Archwire .016 x .025 CNA™ Reverse Curve Archwire	
Finishing	
.017 x .025 CNA™ ProForm™ Archwire .017 x .025 Stainless Steel ProForm™ Archwire	
Expansion Sequence	
<b>Phase 1</b> .013 Bio-Kinetix™ Plus™ D-LX Archwire .016 Bio-Kinetix™ Plus™ D-LX Archwire	<b>Phase 3</b> .017 x .025 Stainless Steel D-LX Archwire OR .017 x .025 CNA™ Beta III D-LX Archwire
<b>Phase 2</b> .016 x .025 Bio-Kinetix™ Plus™ D-LX Archwire	

# 3 Accessories



1- Action Ligature Rotator



2- MIM Crimp Stops



3- Archwire Stop Lock  
(.018" or .022")



4- Archwire Stop Lock with  
Hook (right and left)



5- Double-Sided Archwire  
Stop Lock Wrench



6- Crimplable Ball Hooks



7- Crimplable Archwire Power  
Hooks (right and left)



8- Hook Crimping Plier



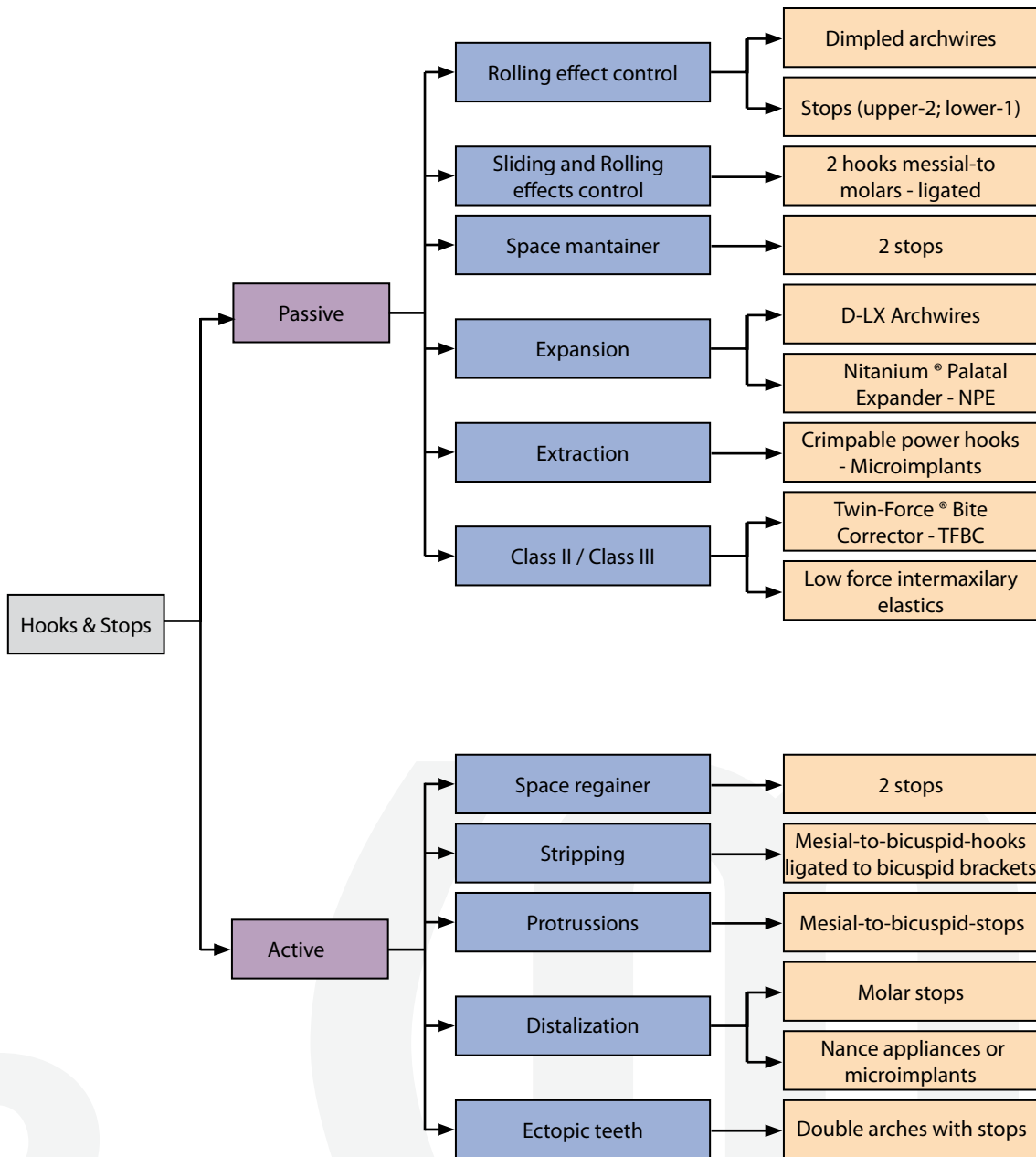
9- Twin Force® Bite Corrector



10- Nitinium® Palatal  
Expander 2™

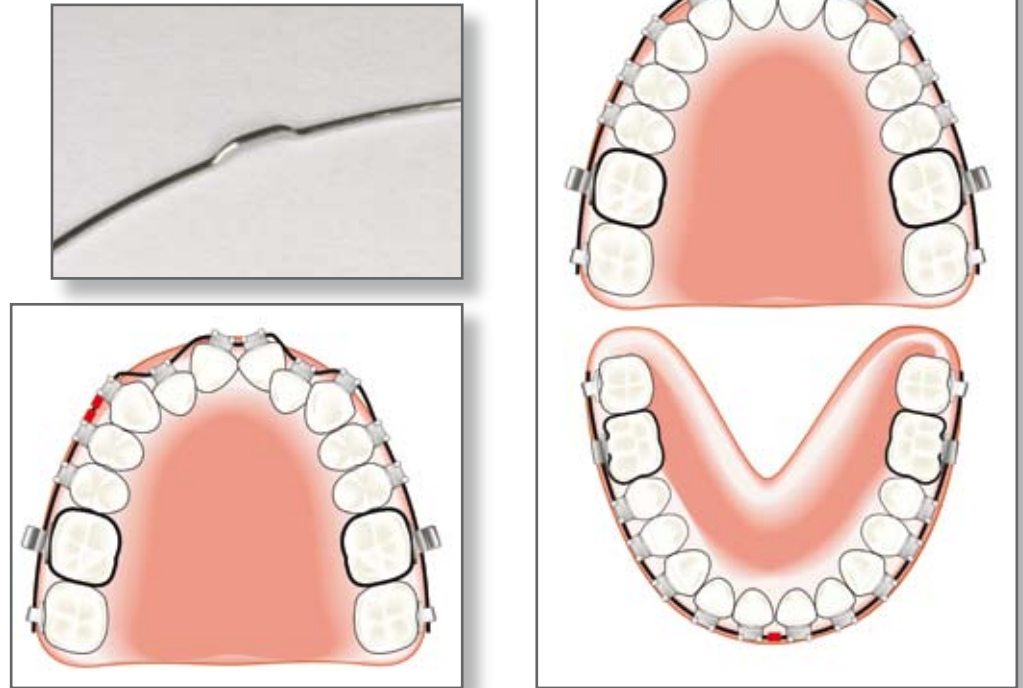


11- Ancor Pro® Microimplants



# 5

## Rolling Effect Control

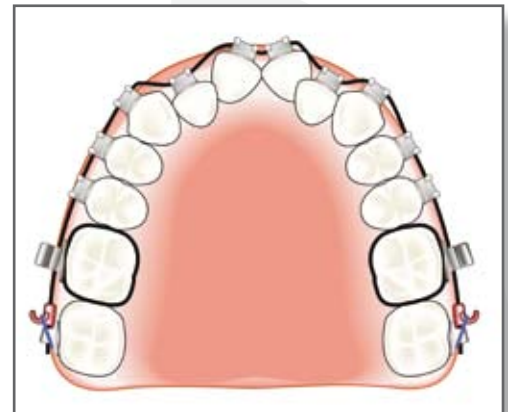


The Rolling Effect is the tendency of the archwires to a lateral sliding, especially in low friction systems. To prevent this undesirable effect we can use dimpled archwires or crimpable stops between the brackets of the central incisors (2 stops in the upper arch and 1 stop in the lower arch). Depending on the crowding and rotations of the central incisors we cannot use dimpled archwires, but we could use crimpable stops in between the brackets of other teeth. This mechanics do not prevent the Sliding Effect.

# 6

## Sliding Effect Control

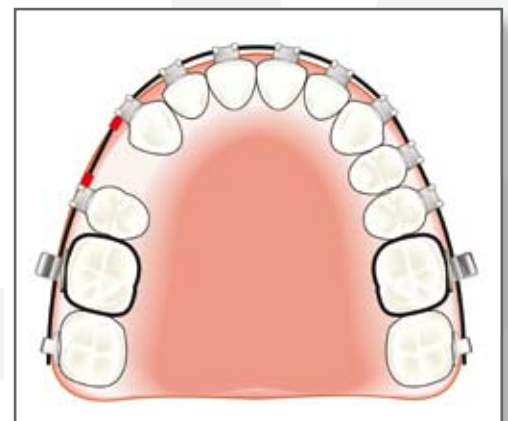
The Sliding Effect is the tendency of the archwires to a forward sliding, especially in low friction systems. This effect provokes both protrusion and torque increasing of the incisors. To prevent this effect, when it is not indicated, we can use mesial to molar crimpable hooks ligated to the molar tubes. This mechanics also prevents the Rolling Effect.



# 7

## Space Maintainer

To maintain the space of a non erupted or a missing tooth we can use 2 crimpable stops. This mechanics also prevents the Rolling Effect.



## 8

### Expansion Cases

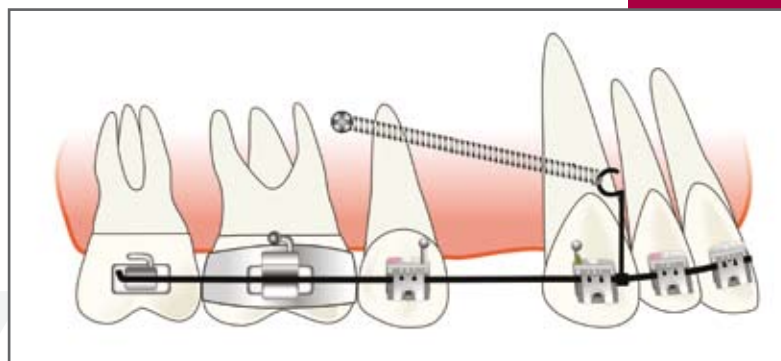


To achieve the transverse expansion of the arches we can use the D-LX expansion archwires (see the archwires sequence on page 3). To get more expansion, we can use also the Nitanium® Palatal Expander 2™ and to get a Rapid Palatal Expansion, we can use a Bonded Hyrax Appliance.

## 9

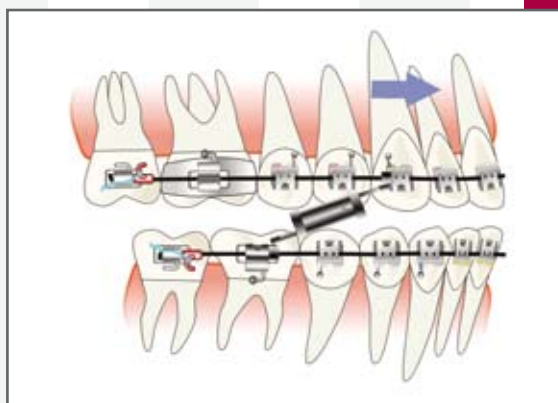
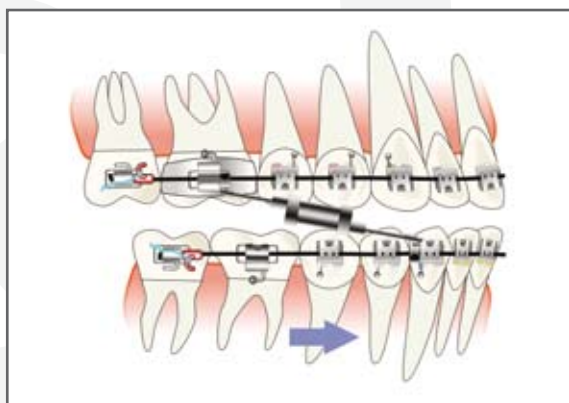
### Extraction Cases

In the extraction cases, we can use Stainless Steel rectangular wires with crimpable power hooks and Ancor Pro® TADs for sliding mechanics or CNA™ archwires for loops mechanics (see the archwire sequence on page 3).



## 10

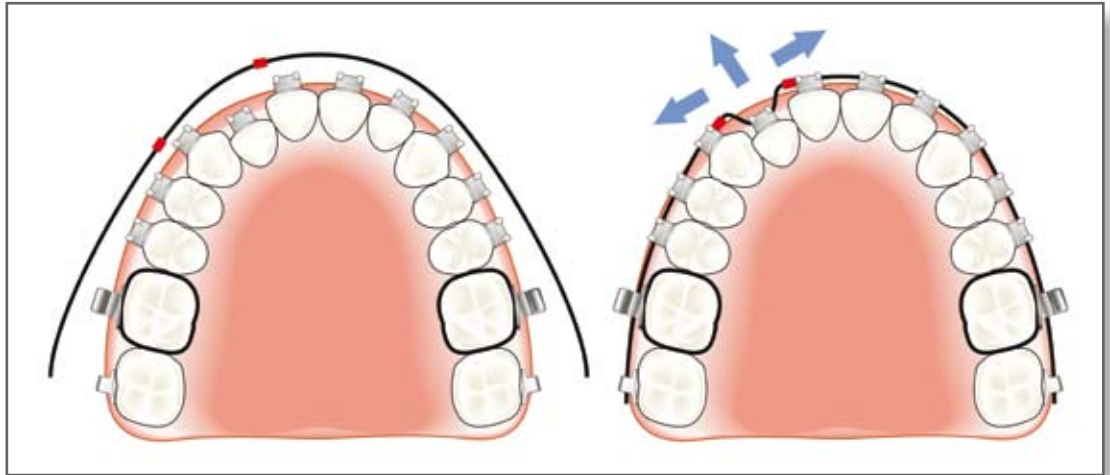
### Class II / Class III Cases



After alignment, levelling and torque control, we can use the Twin Force® Bite Corrector to correct Class II and Class III cases with better results than Class II and Class III elastics (see the Twin Force Therapy by Dr. Echarri).

# 11

## Space Regainer



To regain a space we can use a Superelastic Nitanium®, or Bio-Kinetix™ or Bio-Kinetix™ Plus™ or Black-Ti Round Archwires with 2 crimpable stops instead of a coil spring. The distance between the 2 stops should be 2 mm larger than the distance between the brackets.

# 12

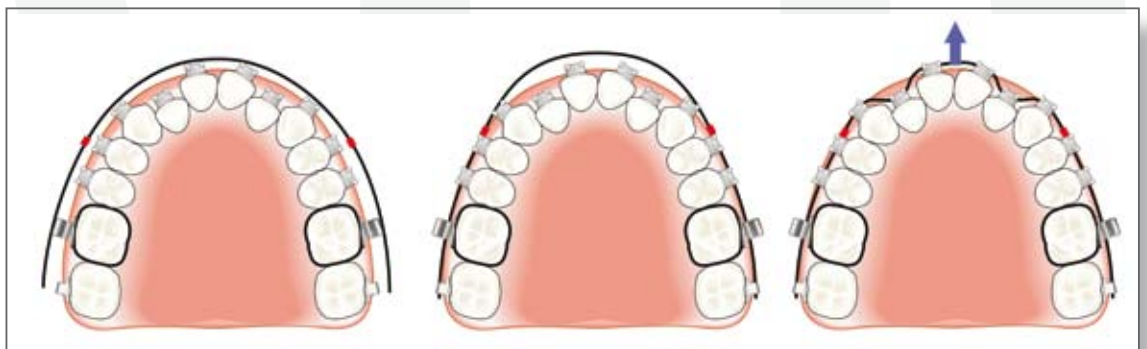
## Stripping Cases

In Stripping Cases, we can use a Superelastic Nitanium®, or Bio-Kinetix™ or Bio-Kinetix™ Plus™ or Black-Ti Round Archwires with 2 mesial to first bicuspid brackets crimpable hooks ligated to the bicuspid brackets. This mechanics will prevent both the protrusion and the torque increasing of the incisors during the stripping and alignment procedure.



# 13

## Protrusion Cases

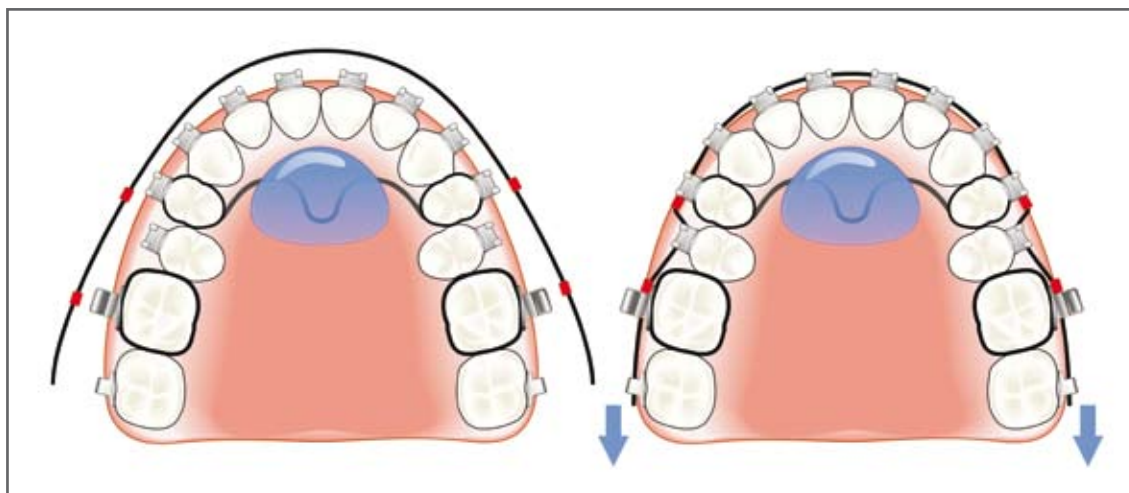


In Protrusion Cases, we can use a Superelastic Nitanium®, or Bio-Kinetix™ or Bio-Kinetix™ Plus™ or Black-Ti Round Archwires with 2 mesial to first bicuspid brackets crimpable stops with a larger distance than the distance between the first bicuspid brackets. This mechanics will protrude and increase the torque of the incisors.



# 14

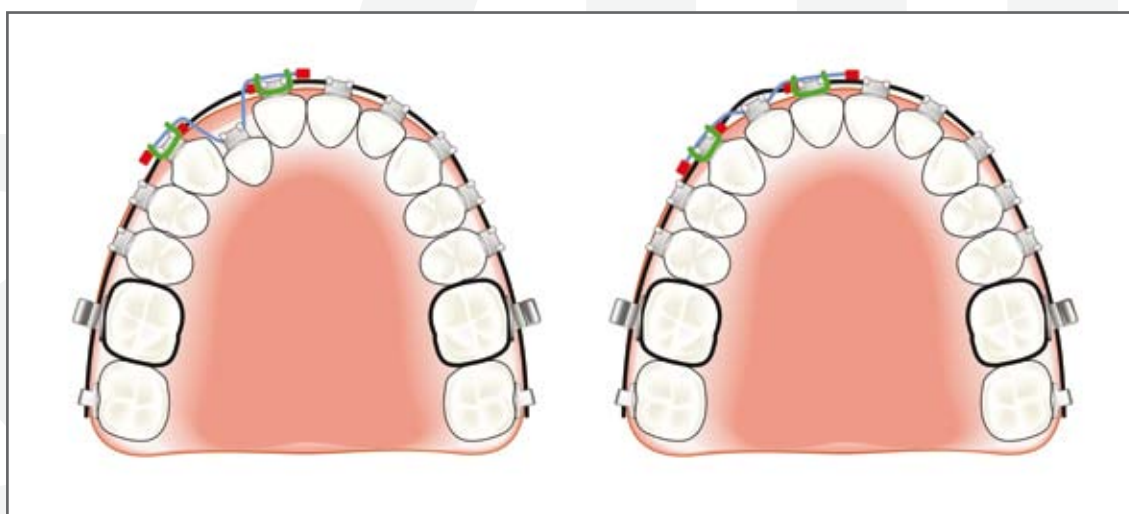
## Distalization Cases



In cases indicating a minor distalization of the molars we can use 2 crimpable stops: one crimpable stop distal to the first bicuspid and the other crimpable stop mesial to the first molar tube. The distance between the two crimpable stops should be larger than the distance between the bracket and the tube. To prevent the mesial movement of the anterior teeth a Nance Palatal Arch bonded or welded (bands) to the first bicuspid is a must. We can use other mechanics to obtain a major distalization of the molars.

# 15

## Cases with Ectopic Teeth



We can use a double arch system with the .022 brackets. The anchorage archwire is a .012 Superelastic Nitium® Archwire with 2 crimpable stops to maintain the space. The ectopic tooth archwire is a section of .012 Bio-Kinetix™ archwire ligated with wire ligature to the brackets of the mesial and distal teeth to the ectopic one. This archwire should have 2 crimpable stops to avoid the lateral sliding.

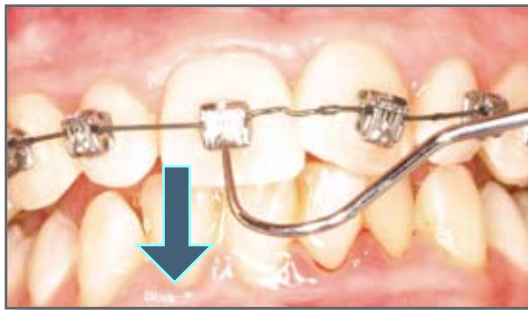
# 16 Tips



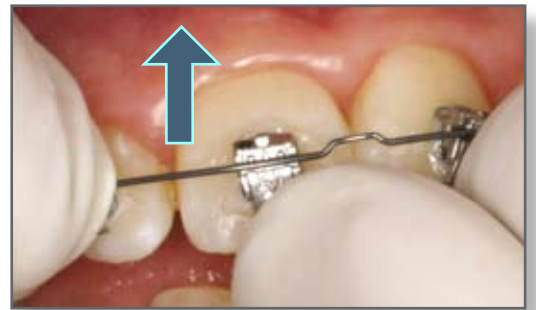
1- Open the cap for bonding using the Bracket Height Gauge



Remove all the bonding material excess, especially from the area under the cap.



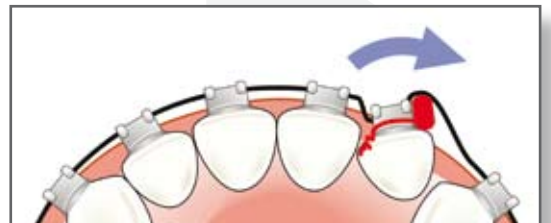
2- Open easily with a scaler, a wire director or an opening instrument and apply a light occlusal/incisal pressure.



Close easily with the finger.



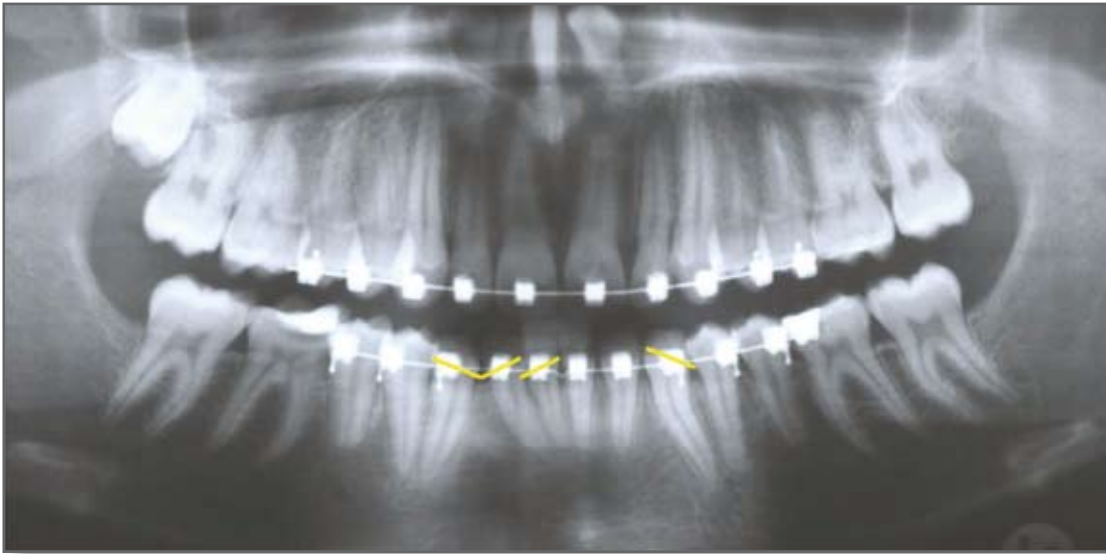
3- The Carriere LX® brackets also have wings for a traditional wire ligature in cases with teeth in extreme positions.



4- Use the ligature rotator to help for the correction of rotated teeth.



5- To prevent the friction increasing the "8-figure-ligatures" or the elastic chain must be used under the archwires.



6- After the action of the rectangular wires, it is necessary to take a panoramic X-ray to check the roots parallelism, and if necessary re-bond some brackets.



7- The intermaxillary elastics to improve the intercuspitation can be fixed to the hooks of the brackets or to crimpable ball hooks in the archwire.

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