



CLEAR ALIGNER



18



**INSTRUCTIONS FOR THE DOCTOR**  
Clinical management of CA® CLEAR ALIGNER

All cases were carried out by Dr. Pablo Echarri. All the laboratory work was carried out by Ladent laboratory, and the Scheu Dental Technology materials were used.

© 2014 Centro de Ortodoncia y ATM, Ladent, SL  
All rights reserved

This book or any part thereof may not be reproduced, stored in retrieval system or transmitted in any form or by any means electronic, mechanical, photocopying or otherwise, without prior written permission of the publishers.

## How to start a treatment with CA<sup>®</sup> CLEAR ALIGNER

### 1. SEND TO THE LAB

#### Impressions and bite records

The impressions and plaster casts for CA<sup>®</sup> CLEAR ALIGNER must be as precise as possible, because the exactness of appliances depends on it.

Before taking the impressions, you should:

1. Carry out prophylaxis and scaling.
2. Train the patient in teeth brushing.
3. Check for caries.
4. Check for prosthesis or fillings.
5. Check for gingivitis.
6. Carry out the extraction of the third molars in suspicious position.

Send to the lab
Impressions and bite records
Panoramic X-ray
Photographs
Initial questionnaire

The impressions should:

1. Be taken in high-quality alginate or in silicone (if only the impressions are sent to the laboratory, and not the plaster casts).
2. If the impression presents bubbles, "dragging" zones, or "suspicious" zones, it should be repeated. It is better to repeat the impression, than to be forced to repeat the appliances.
3. It is very important that the impression covers all the teeth (distal gingival margin of the last erupted molar is of outmost importance for CA<sup>®</sup> CLEAR ALIGNER Retention).
4. Alveolar margins and palatine vault should be completely covered, too.
5. If a patient presents retentive zones such as palatine torus, retentive areas in alveolar margins or retentive areas due to hygienic bridges, etc., they should be covered with utility wax before taking the impressions.
6. If the impressions are taken in alginate, the plaster casts should be poured as soon as possible, always in stone plaster. Plaster casts shouldn't present pores.
7. The plaster cast should be examined very carefully, to check for pores or bubbles, and to check if all the teeth and alveolar edges are covered.



Figure 1. Alginate impression, finished.

## Panoramic X-ray

If there's no panoramic X-ray, the treatment with the premise that the roots have standard size, and that they follow the longitudinal axis of the crown. If there's an X-ray, the calculation can be more precise.

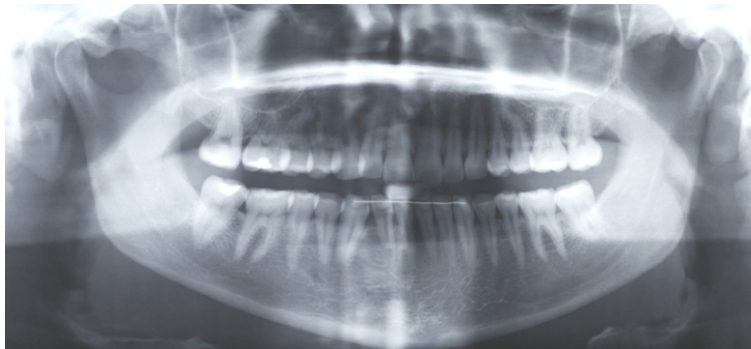


Figure 2. Panoramic X-ray of an adult patient.

## Photographs

Photographs allow us to carry out more precise esthetic study in order to establish the treatment goals.



Figures 3-7. Intraoral photographs of an adult patient.

## Initial questionnaire

The initial questionnaire allows us to know the chief complaint of a patient, and in this way to carry out the treatments which fulfil their expectations.

### INITIAL QUESTIONNAIRE

Chief complaint:

Have you already undergone any orthodontic treatment? (Short description of the treatment and when it was finished):

Have you used the retention?      fixed:              removable:              double:

How long ago did you stop using the retention?

Do you think your teeth present a relapse? (description):

Have you ever undergone any periodontal treatment? (Short description of the treatment and when it was finished):

Do you like the color of your teeth?

Do you like the shape of your teeth?

Do you like the position of your teeth?

Do you feel any pain in any of the teeth? (Short description and in which teeth):

Do you use fixed or removable prosthesis? (Short description and in which teeth):

Do you accept to be treated with stripping of your teeth?

Clear Aligner appliances should be used 17 hours a day and they should be kept in their boxes when they are not used.

The Clear Aligner treatment should be followed by a retention period, and periodical follow-up revisions.

## 2. ACCEPTING THE TREATMENT

If a CA Lab treatment is carried out, which is a conventional CA® CLEAR ALIGNER treatment, a report is received including:

1. The estimated number of steps necessary to carry out the treatment.
2. If it is necessary to carry out stripping.
3. If it is recommended to use expansion screws Vector.
4. If it is recommended to use CA Power Grips, or CA Tip Pliers.
5. Usually, the permanent or double retention is recommended.

If a CA Digital treatment is carried out, there is also a possibility for 3D visualization of the final result of the treatment.

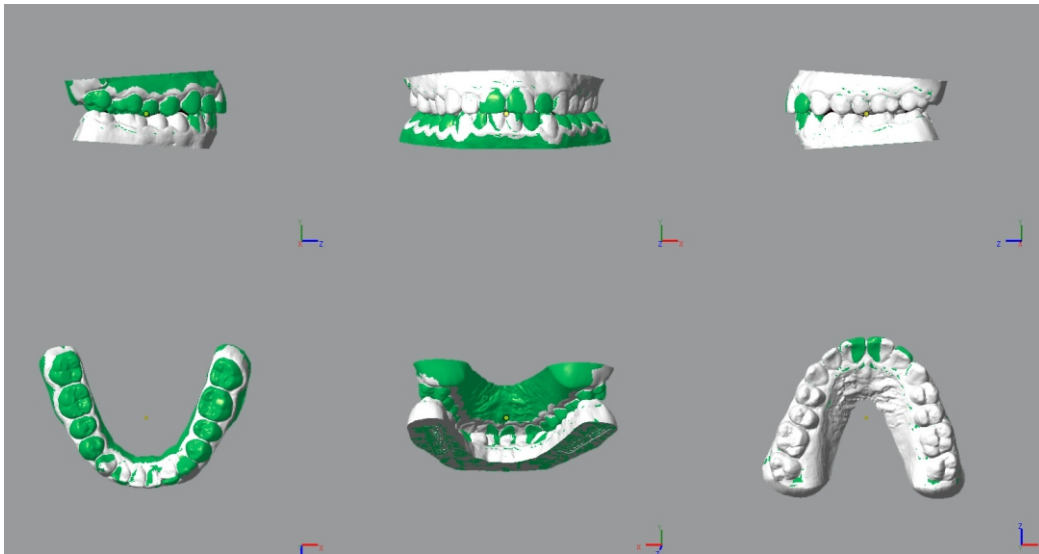


Figure 8.

## 3. THE FIRST STEP OF THE TREATMENT

In each step of the treatment, the doctor receives:

1. A set-up model.
2. A report of movements carried out in the set-up model.
3. The CA<sup>®</sup> CLEAR ALIGNER Soft, Medium and Hard.



Figure 9. Set-up model and three aligners.

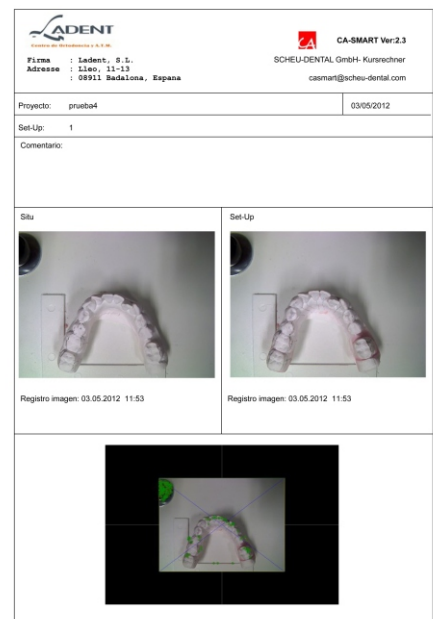


Figure 10. CA<sup>®</sup> SMART Report.

When the doctor receives the aligners, he should check:

- If the insertion and removal of appliance are easy, and if a patient is able to insert and remove the appliance by themselves.
- If ischemia can be observed in gingival zones, which is a sure sign of excessive pressure on the gingival tissue. In this case, the aligner should be trimmed and polished, and CA<sup>®</sup> CLEAR ALIGNER Medium and Hard should be adjusted in the same way, too. Curved tip scissors and burs should be used for trimming, and the rubbers for polishing. The CA<sup>®</sup> CLEAR ALIGNER edge can be adapted using De la Rosa Plier.
- If a patient feels pain in some of the teeth due to excessive pressure. In this case, the pressure can be eliminated by applying the cotton buffer dipped into the hot water on the CA<sup>®</sup> CLEAR ALIGNER in the mouth.
- It is not usual, but if patient presents difficulties in pronunciation in first days, they should be recommended to read aloud with the CA<sup>®</sup> CLEAR ALIGNER in their mouth, practicing good pronunciation.
- If appliance has poor retention, it can be increased with CA Tip 1 Plier, by clamping the gingival embrasures on gingival side of contact point.
- If there are any too shiny zones affecting the esthetics due to the presence of air bubbles. This issue is solved by removing the CA<sup>®</sup> CLEAR ALIGNER and dipping it into the cold water, and taking it back to the mouth.

## 4. TREATMENT PROTOCOL

Usually, the 1x1, 1x2, and 1x3 protocols are used, and they represent the number of steps carried out from each impression.

In 1x1 protocol, the patient should go to take new impression in the third week of his treatment. In 1x2 protocol, the patient should go to take new impression in the sixth week of his treatment, and in 1x3 protocol, the ninth week of his treatment.

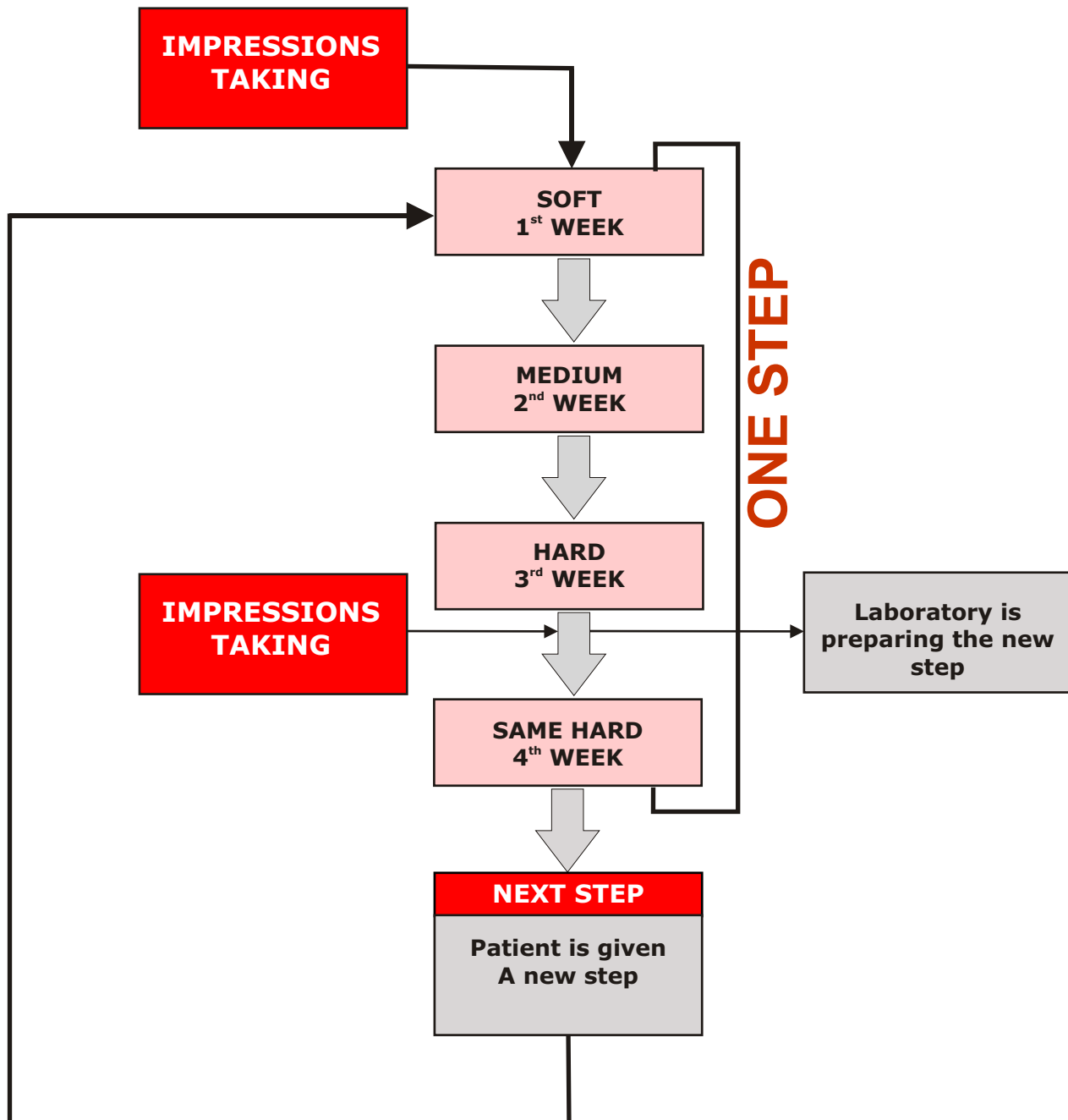






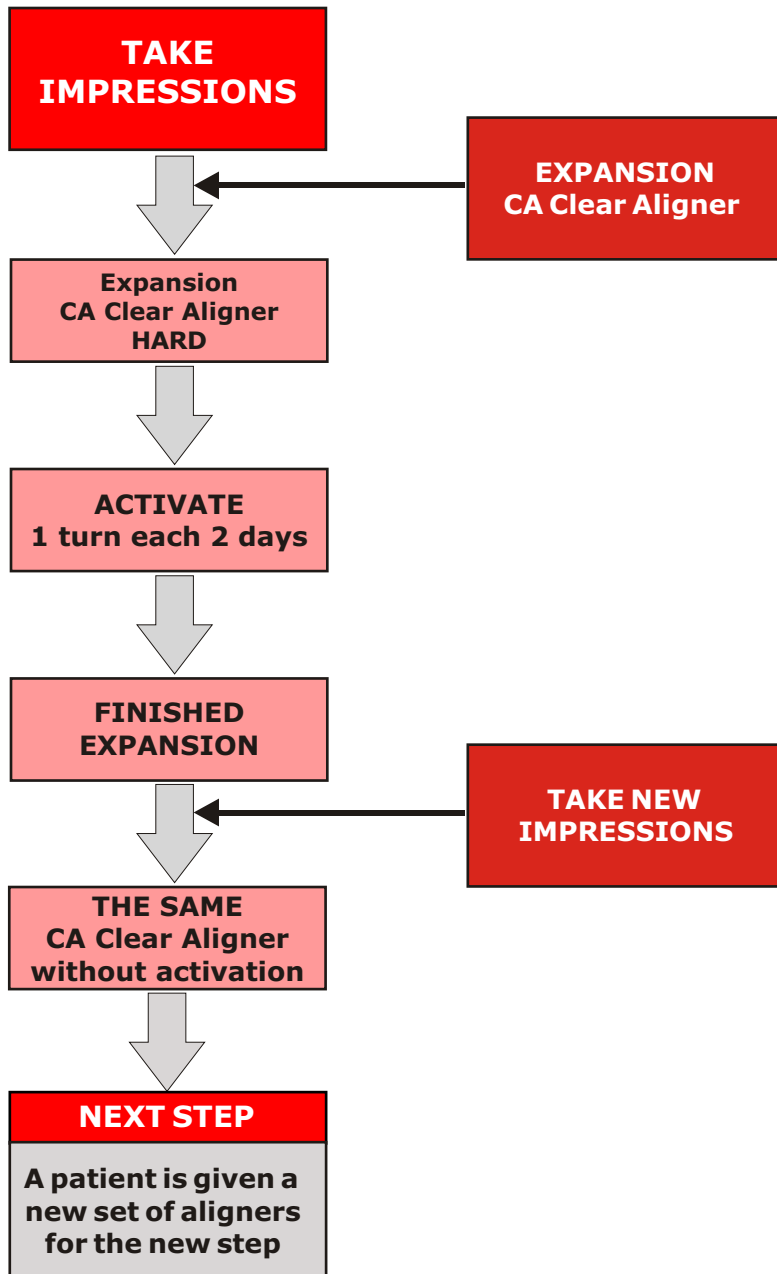
Figure 11. Treatment protocols using CA® CLEAR ALIGNER.

## 5. TREATMENT PROTOCOL WITH EXPANSION SCREW

If a CA<sup>®</sup> CLEAR ALIGNER with a screw is used, only CA<sup>®</sup> CLEAR ALIGNER Hard is received. The screw is activated for 1 turn each 2-3 days, until the expansion is completed. Then a new impression is taken, and the old non-activated aligner is used while the laboratory carries out the new step.



Figure 12. CA<sup>®</sup> CLEAR ALIGNER with Vector 40 Screw.



## 6. TREATMENT PROTOCOL WITH CA TIP PLIERS 2, 3 & 4

You can ask from the laboratory to introduce an extra space into the CA<sup>®</sup> CLEAR ALIGNER Hard, to allow its activation with CA Tip Pliers. In this case, you'll receive CA<sup>®</sup> CLEAR ALIGNER Soft, Medium and CA<sup>®</sup> CLEAR ALIGNER Hard, prepared to be activated with the pliers. You can also ask from the laboratory CA<sup>®</sup> CLEAR ALIGNER Soft, Medium and the usual CA<sup>®</sup> CLEAR ALIGNER Hard, as well as HAP (Hard Activation Point) appliance which is already activated. In the first case, the patient uses the CA<sup>®</sup> CLEAR ALIGNER Soft during the first week, the CA<sup>®</sup> CLEAR ALIGNER Medium the second week, and the CA<sup>®</sup> CLEAR ALIGNER Hard during the third week, and when the patient goes to the appointment to take a new impression, the doctor activates the CA<sup>®</sup> CLEAR ALIGNER Hard using the pliers, and the patient uses this activated appliance during the fourth week (Fig. 13). In the second case, the patient uses the CA<sup>®</sup> CLEAR ALIGNER Soft during the first week, the CA<sup>®</sup> CLEAR ALIGNER Medium the second week, and the usual CA<sup>®</sup> CLEAR ALIGNER Hard during the third week. Then, the patient goes to the appointment to take a new impression and uses the HAP appliance during the fourth week (Figure 14).

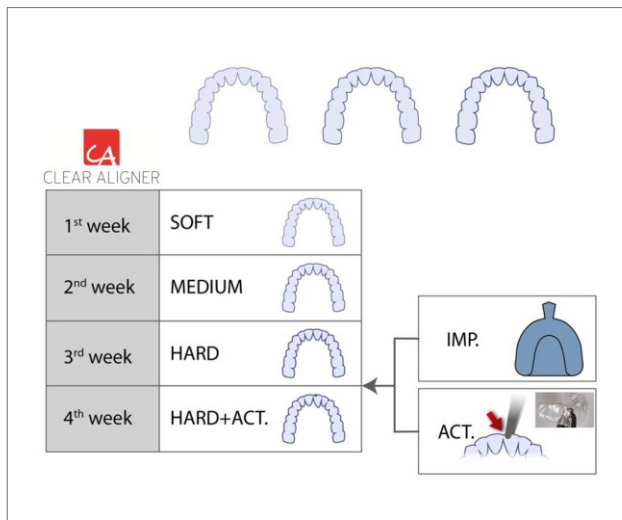


Figure 13. Protocol using the CA Tip 2 Plier.

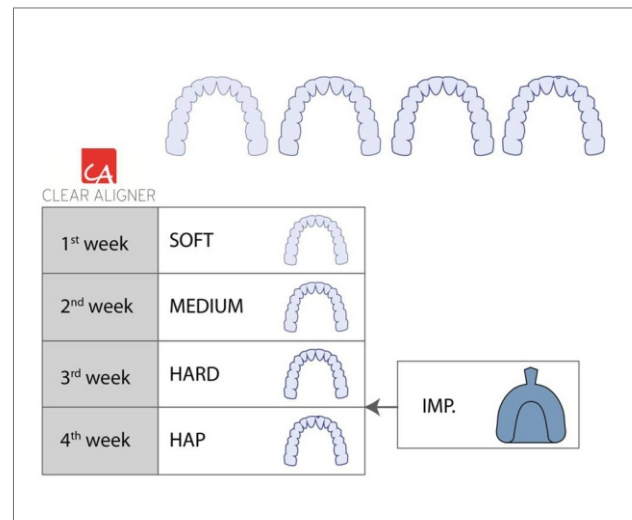
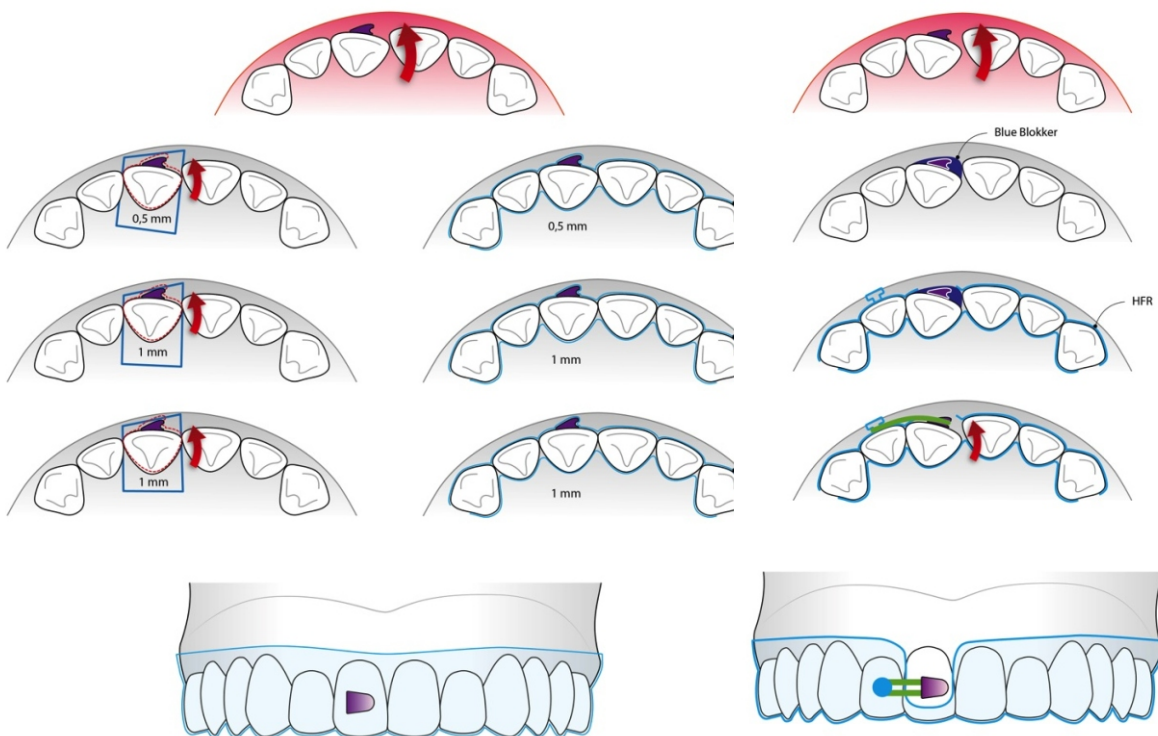





Figure 14. Protocol with CA<sup>®</sup> CLEAR ALIGNER HAP.

PLIERS	ACTION
CA TIP 2 PLIER	ROTATION
CA TIP 3 PLIER	CROWN INCLINATION
CA TIP 4 PLIER	ROOT TORQUE

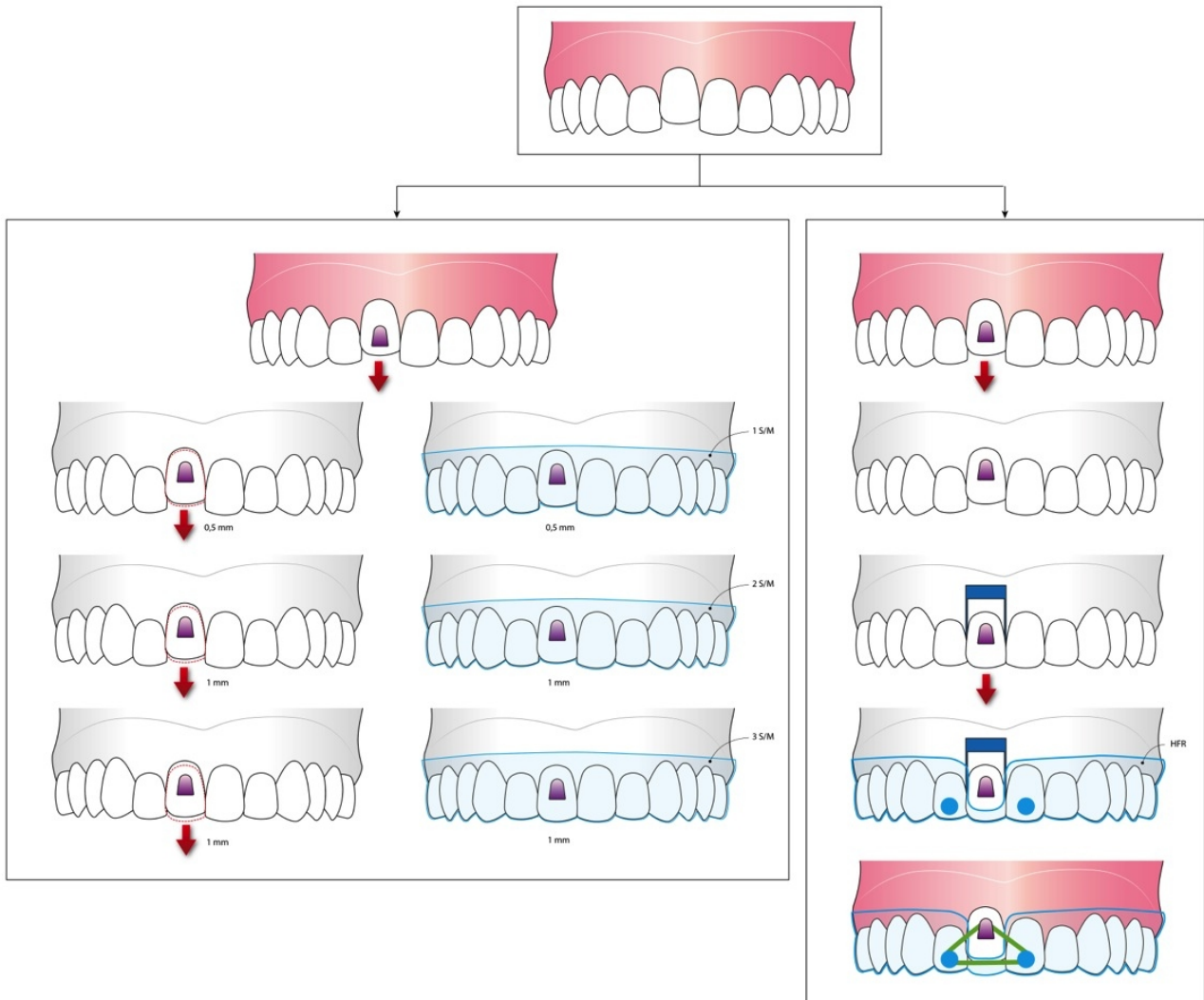
## 7. PROTOCOLS USING CA POWER GRIP

CA® Power Grip 1 MFM (Multifunction Forced Movement), indicated for forced rotations or extrusions, should be bonded after obtaining the space for correction. The patient uses appliances Ca® Soft and Ca® Medium during the day because they're more esthetic, and during the night and at home, he uses Hard Forced Rotation (HFR), or Hard Forced Extrusion (HFE), with 1/8" and 2.5-4.5 oz elastics.






ROTATION		
 CLEAR ALIGNER		
1 <sup>st</sup> week	1 S	HFR
2 <sup>nd</sup> week	1 M	HFR
3 <sup>rd</sup> week	2 S	HFR
4 <sup>th</sup> week	2 M	HFR
5 <sup>th</sup> week	3 S	HFR
6 <sup>th</sup> week	3 M	HFR

Figures 15-17. CA® Power Grip 1 MFM in Forced Rotation.



**EXTRUSION**

 CLEAR ALIGNER		
1 <sup>st</sup> week	1 S	HFE
2 <sup>nd</sup> week	1 M	HFE
3 <sup>rd</sup> week	2 S	HFE
4 <sup>th</sup> week	2 M	HFE
5 <sup>th</sup> week	3 S	HFE
6 <sup>th</sup> week	3 M	HFE

Figures 18-19. CA® Power Grip 1 MFM in Forced Extrusion.

CA® Power Grips from 2 to 9 should be bonded before taking the impression.

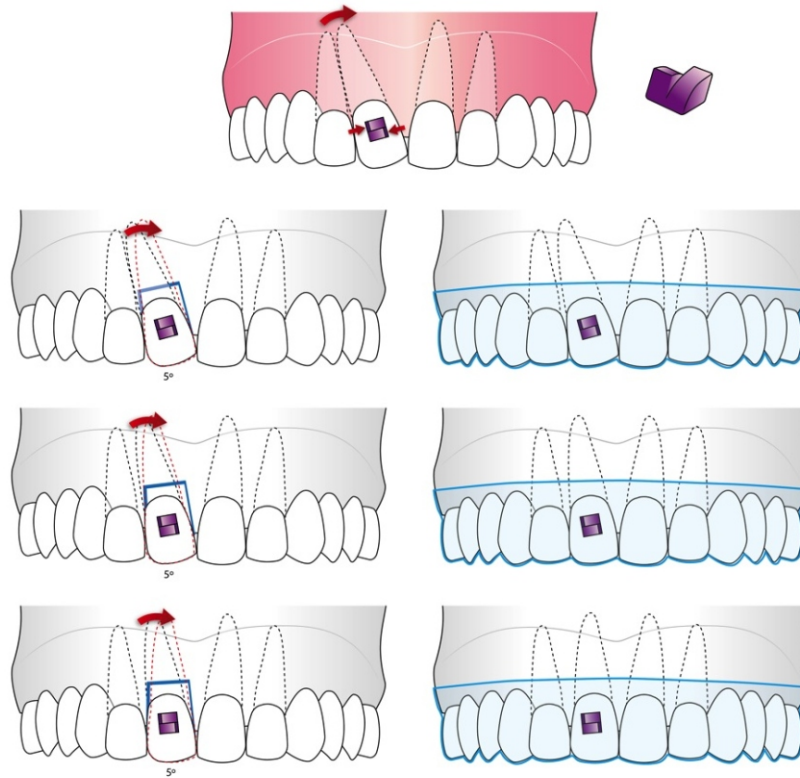


Figure 20. CA Power Grip 2 MDI. Correction of initial dental movement. The same is achieved with CA Power Grip 3 DMI in the opposite direction.

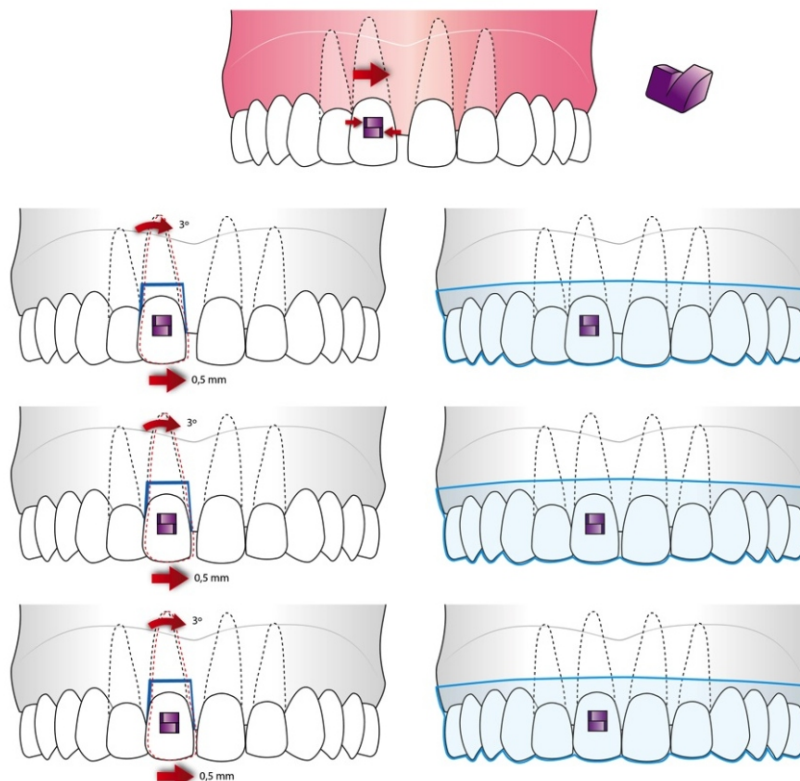


Figure 21. CA Power Grip 2 MDI. Mesio-distal dental movement. The same is achieved with CA Power Grip 3 DMI in the opposite direction.

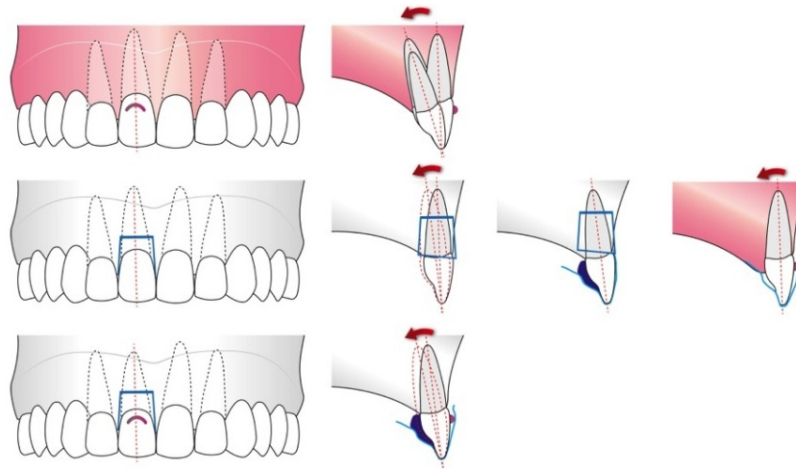


Figure 22. CA Power Grip 4 FALA, and CA Power Grip 5 FALI, for torque control.

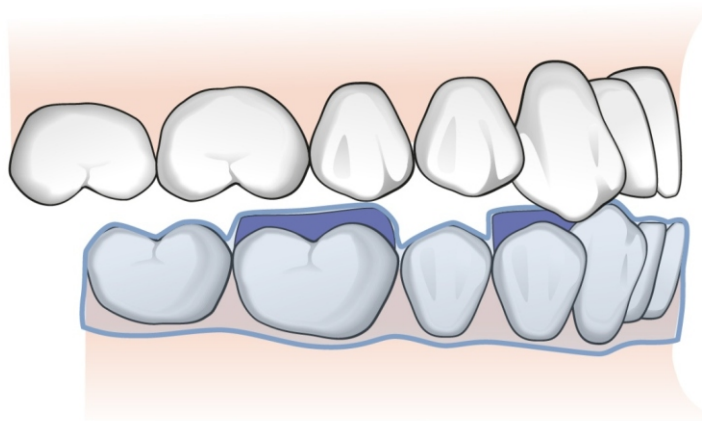


Figure 23. CA Power Grip 6 BUB and CA Power Grip 7 BUM, to increase vertical dimension.

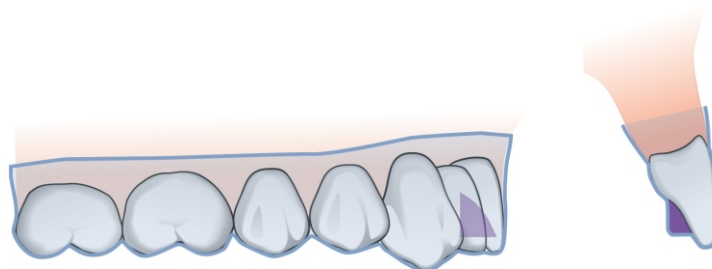


Figure 24. CA Power Grip 8 BUAS and CA Power Grip 9 BUAL, to correct deep bites.

## 8. AFTER FINISHING THE TREATMENT

When the treatment goals are achieved, it is recommended:

1. Occlusal adjustment by selective trimming.
2. Esthetic retouch, if necessary.
3. Permanent retention bonding.
4. Impression taking for CA<sup>®</sup> Retention (double retention).



Figure 25. CA<sup>®</sup> CLEAR ALIGNER Retention.



# NEWSLETTER



CLEAR ALIGNER

# NEWSLETTER



CLEAR ALIGNER



Dr. Pablo Echarri

