3M℠ Health Care Academy

Successful treatment outcomes using 3M™ Clarity™ ADVANCED Brackets

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Dr. Pellerin received his post graduate Certificate in Orthodontics in 1991 from the University of Montreal. Before orthodontics, he practiced general dentistry for four years after earning his dental degree from the University of Montreal in 1985. Since 1991, he has maintained a solo private practice in Lachine, Quebec. In 1998, Dr. Pellerin converted his practice to a fully aesthetic practice. He is referred to by his peers as the grandfather of the completely aesthetic practice. He has lectured worldwide to share his practice philosophy of highest aesthetics without compromise to accomplish treatment. Dr. Pellerin also currently teaches lingual and aesthetic orthodontics to the residents at the University of Montreal and University of Winnipeg. He has been an active member of the 3M Unitek Advisory Committee for Aesthetic Appliances since 2003, as well as a 3M Advocate for the use of aesthetic appliances since 2004.

Case 1

Class II, deep overbite with retrusive mandible, upper peg left lateral

Patient
Female
12 years, 5 months

Patient's Main Concern
The miniature tooth in the front

X-ray Findings
- Permanent dentition
- No evidence of wisdom teeth
- Asymmetrical condyles

Dental Analysis
- Class II, retrusive mandible
- Deep OB
- Upper midline discrepancy
- Microdontia of UL2

Treatment Plan

- Upper – 3M™ Clarity™ ADVANCED Ceramic Brackets 0.018 slot – 3M™ MBT™ System prescription
- Indirect bonding using deepbite MBT System charts 4 mm (half bracket on UL2)[1]
- Band with occlusal headgear tube on UR6, UL6
- 5 months after lower Clarity ADVANCED Brackets 0.018 slot – MBT System prescription
- Indirect bonding using deepbite MBT System charts 4 mm + posterior bite opener[1]
- 3M™ Forsus™ Class II Correctors to correct the Class II
- Light Class II elastics to finalize the midline correction

Treatment	23 months (June 2013 – May 2015)		
Mx	June 2013	Indirect	14 SE (7s), 16×16 SE (7s), 17×25 Classic (48s), 16×22 SE (22s), 17×25 Classic to the end
Md	October 2013	Indirect	14 SE (6s), 16 SE (6s), 16×22 SE (6s), 16×22 SS (22s), 17×25 Classic to the end
# of visits	22		
Emergencies	1, UR6 band loose		

Retention

- Essix upper retainer until build up of UL2
- Fixed lingual lower wire 0.018 TMA first bicuspid to first bicuspid
- Fixed upper lingual wire 0.018 TMA canine to canine after build-up

*A Class II Hawley retainer[2] was supposed to be used but the patient moved abroad before delivery of her retainer.

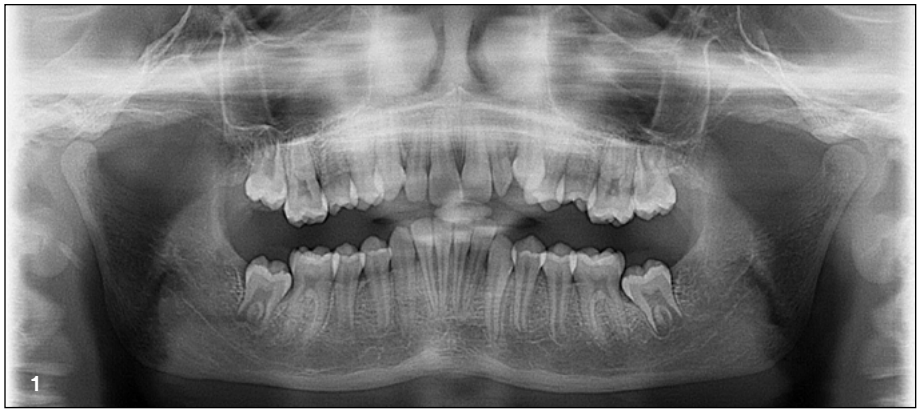


Figure 1: Initial X-ray.

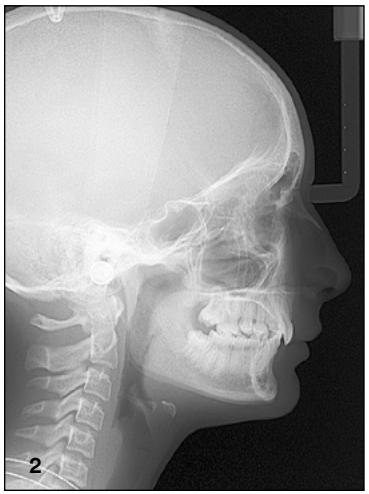


Figure 2: Initial cephalometric analysis.

Cephalometric Analysis					
SNA (°)	74.7	82.0	3.5	-2.1	**
SNB (°)	69.9	80.9	3.4	-3.2	***
ANB (°)	4.8	1.6	1.5	2.1	**
Maxillary Depth (FH-NA) (°)	85.4	90.0	3.0	-1.5	*
Facial Angle (FH-NPo) (°)	82.6	87.8	3.0	-1.7	*
FMA (MP-FH) (°)	16.8	24.7	4.5	-1.8	*
UFH:LFH, Upper (N-ANS/N-Gn) (%)	48.1	45.0	1.0	3.1	***
U-Incisor Protrusion (U1-APo) (mm)	-0.1	6.0	2.2	-2.8	**
U1 – Palatal Plane (°)	95.3	110.0	5.0	-2.9	**
L1 Protrusion (L1-APo) (mm)	-4.2	2.7	1.7	-4.0	******
IMPA (L1-MP) (°)	99.9	95.0	7.0	0.7	
Interincisal Angle (U1-L1) (°)	148.7	130.0	5.0	3.7	***
Upper Lip to E-Plane (mm)	-2.6	-4.3	2.0	0.9	
Lower Lip to E-Plane (mm)	-2.8	-2.0	2.0	-0.4	
Nasolabial Angle (Col-Sn-UL) (°)	129.4	102.0	8.0	3.4	***
Maxillary length (ANS-PNS) (mm)	43.5	51.6	4.3	-1.9	*
Mandibular length (Go-Gn) (mm)	59.8	65.9	5.5	-1.1	*
Facial Convexity (G'–Sn-Po') (°)	160.3	154.0	5.6	1.1	*
Wits Appraisal (mm)	6.4	-1.0	1.0	7.4	******
SUMMARY ANALYSIS					
Class II Molar Relationship					
Skeletal Class II (A-Po)					
Skeletal Class II (ANB)					
Retrusive Maxilla (A-N)					
Retrusive Mandible (Pg-N)					
Deep Overbite					

Table 1: Cephalometric analysis.

Initial

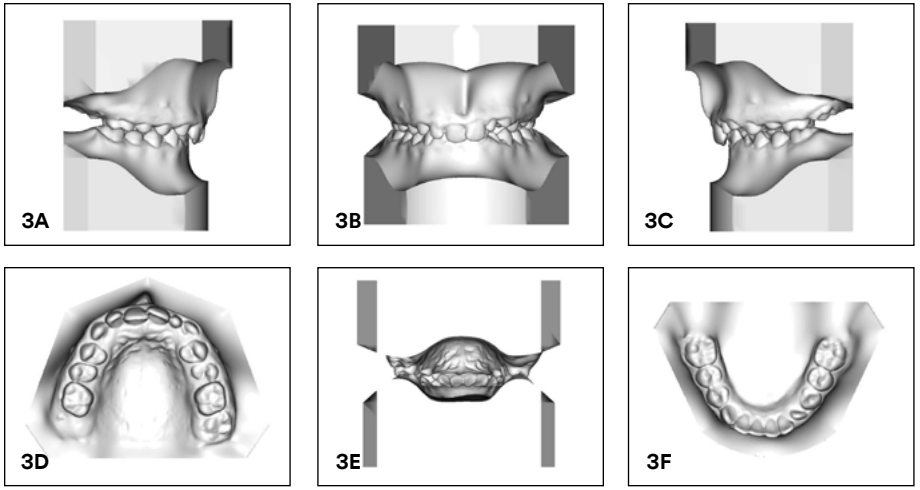


Figure 3A-F: Initial dental analysis.

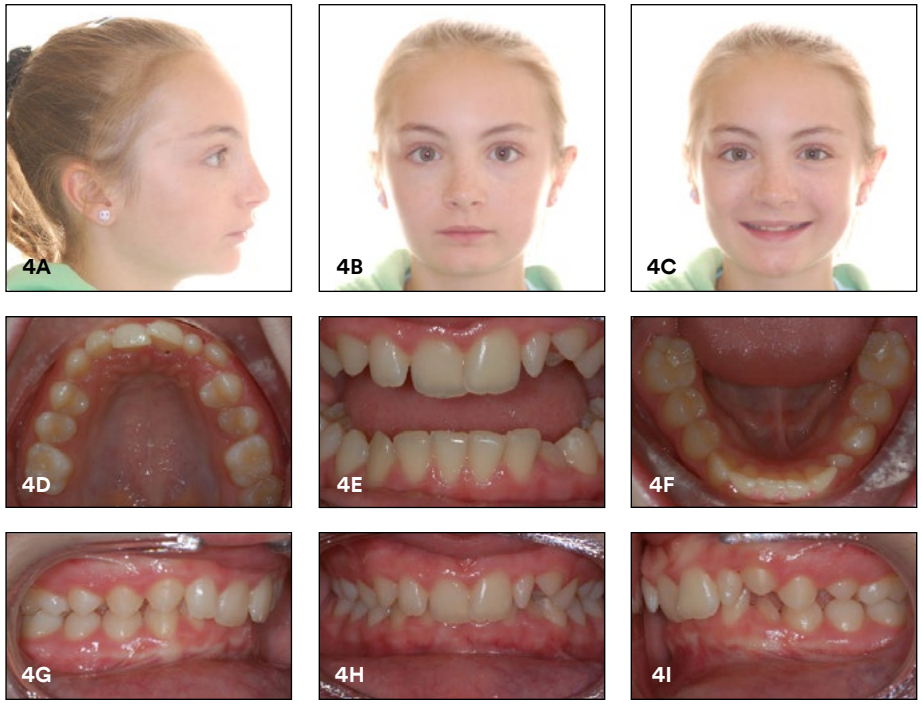


Figure 4A-I: Initial photos.

Mid-Treatment

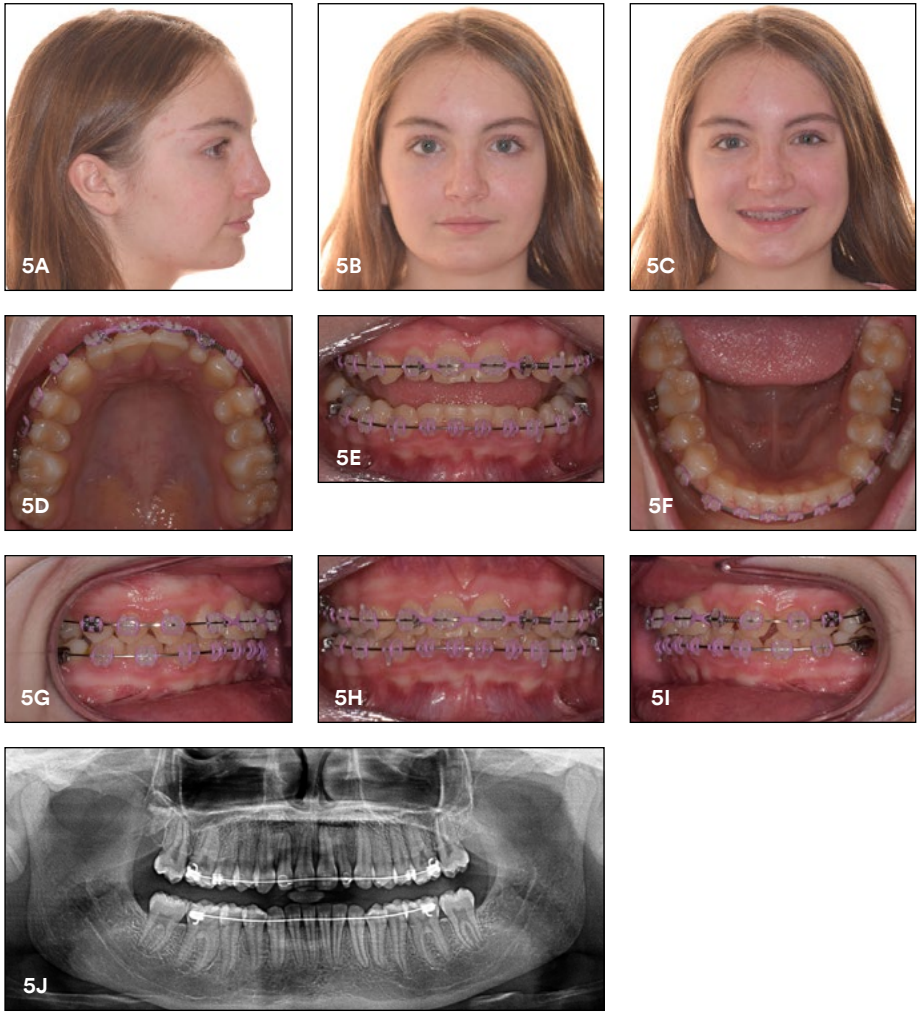


Figure 5A-J: Mid-treatment photos.

Retention

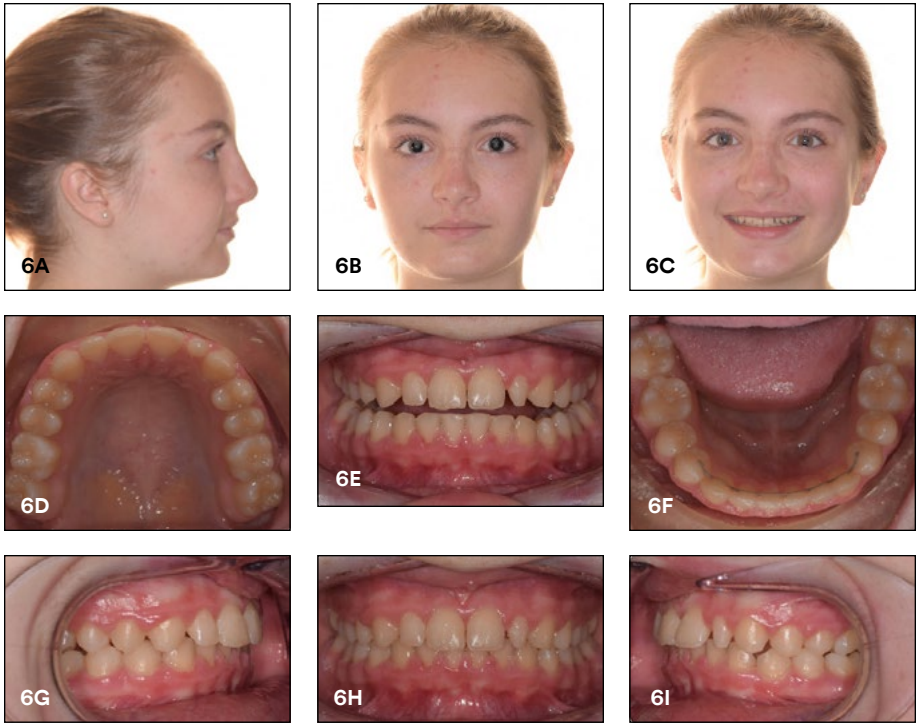


Figure 6A-I: Retention photos.

Final

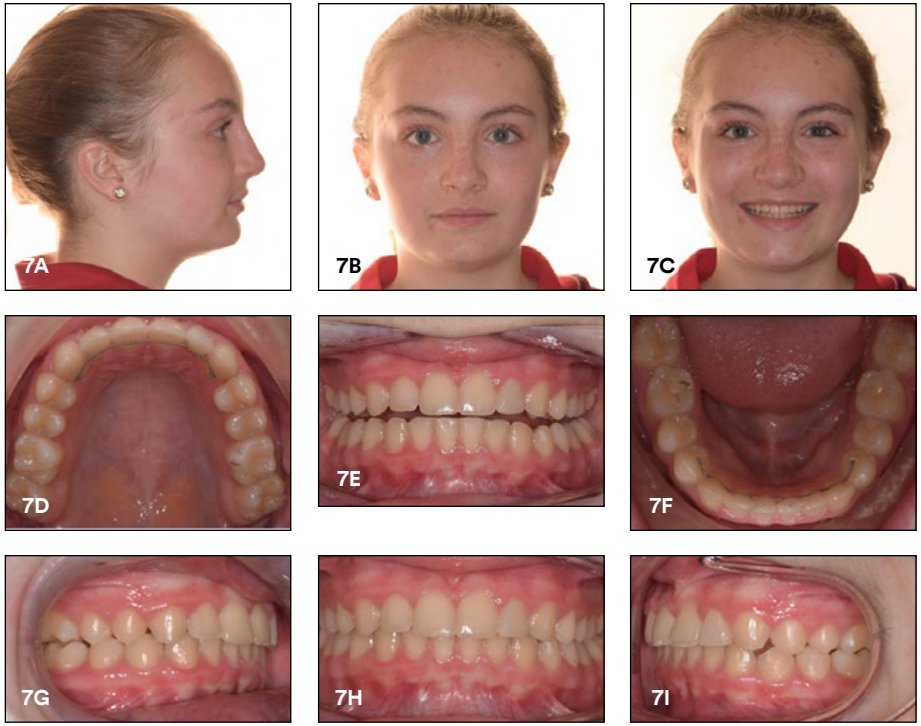
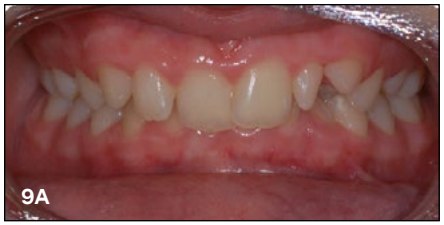


Figure 7A-I: Final photos.

Initial vs. Final

Figure 8A-B: Initial vs. final photos.



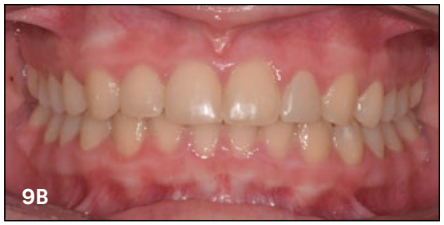
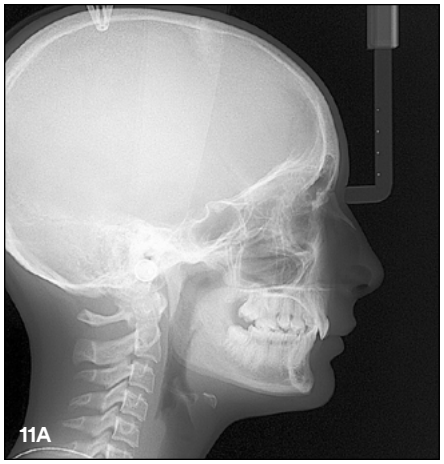


Figure 9A-B: Initial vs. final photos.

Figure 10A-B: Initial vs. final photos.



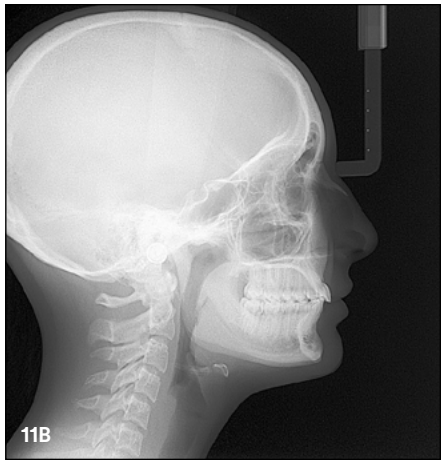


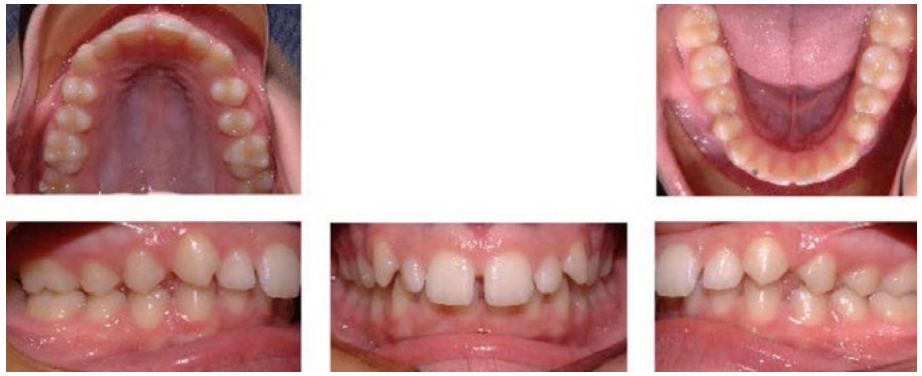
Figure 11A-B: Initial vs. final photos.

Doctor's Notes

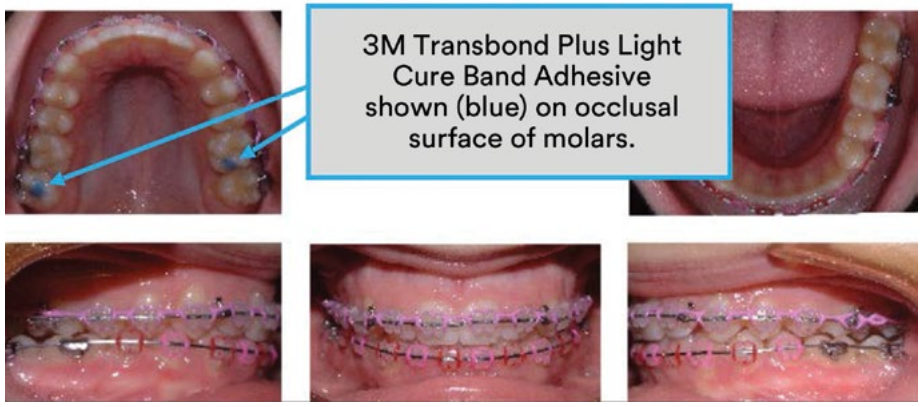
1. As many would point out, a deep bite case might contraindicate lower ceramic braces. This is another way of addressing the deep overbite and avoiding contact of the upper teeth with the lower braces: build bite opener in the molar region to open the bite just enough to eliminate contacts with the lower brackets.

This is not the same case but let's look at how to proceed:

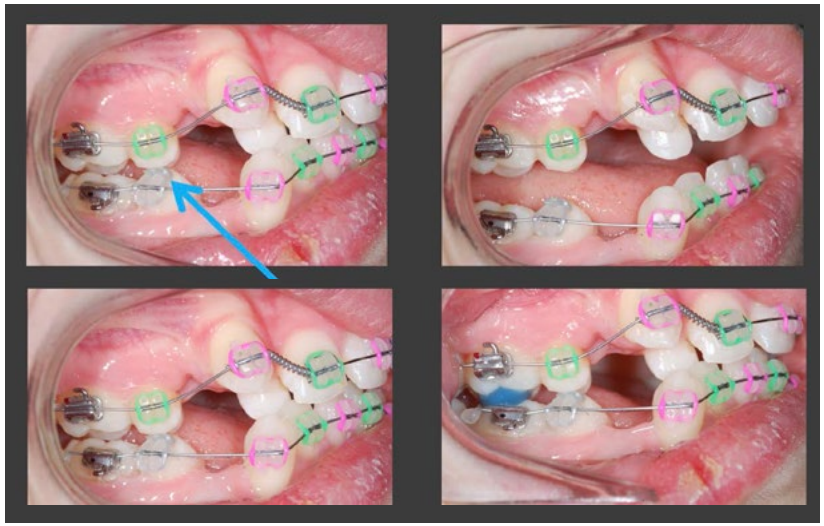
Patient: Male, 16 years 5 months.
Patient's main concern: My canines are way too long and it is difficult to bite with my front teeth.



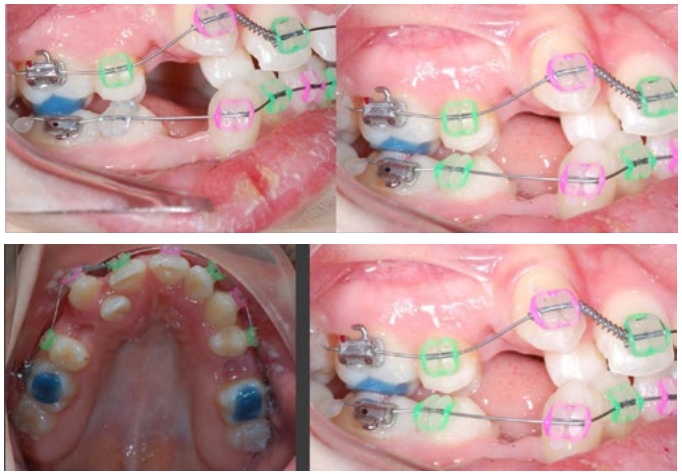
I use 3M™ Transbond™ Plus Light Cure Band Adhesive. I have found that this material is softer than enamel so it will wear away instead of damaging the enamel of the adjacent teeth. I recommend that you do not use composite, Transbond™ XT or even Transbond™ LR Adhesives, as these products might be harder than certain enamel.



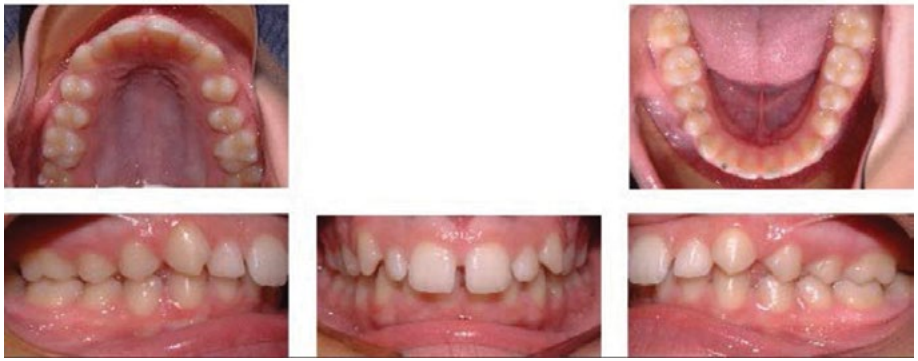
Identify the tooth where you have the first contact and install a 3M™ Alastik™ Guard (see appendix) on that tooth. This will be your height gauge to build your posterior bite opener.



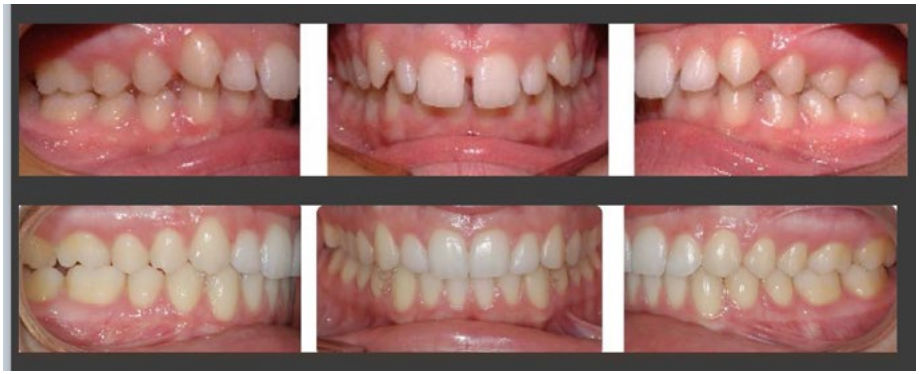
Once the bite opener is placed, you will need to adjust it and make a flat surface to allow lateral excursion and prevent joint (TMJ) problems.



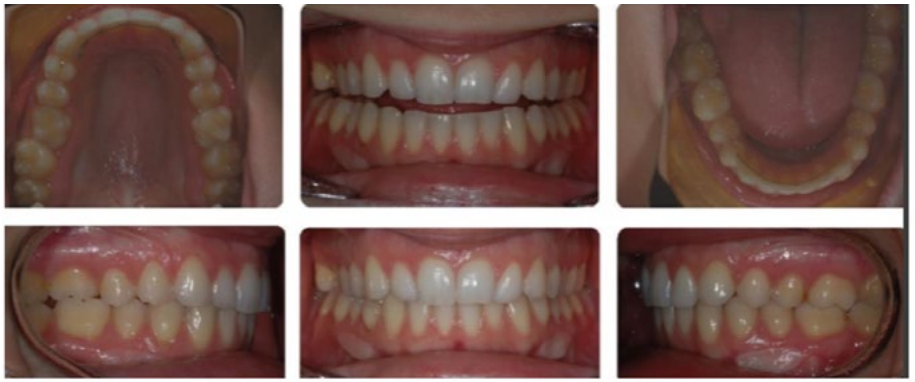
Initial



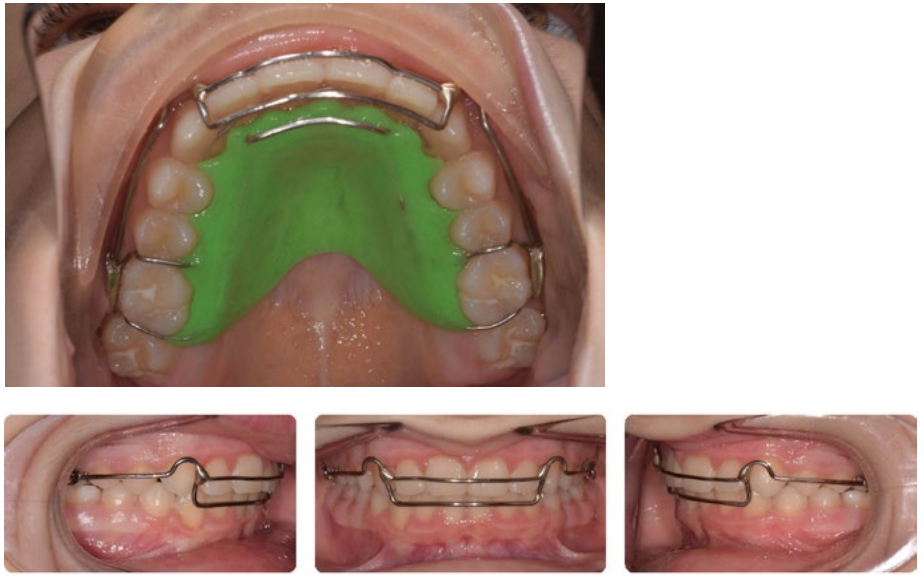
Initial – Final



Ten years in retention, upper lingual fixed retainer 0.018 TMA cuspid-to-cuspid and lower lingual fixed retainer 0.018 TMA first bicuspid-to-first bicuspid. Notice that there is no long-term intrusion of the molars by the posterior bite opener.



2. Example of a Class II Hawley Retainer (not the same patient).



Case photos provided by Dr. Patrice Pellerin.

Note: Transbond Plus Light Cure Band Cement is not cleared for use as a bite opener and the performance claims are those of the clinician. Use of this product for this application is chosen at the discretion of the professional.

References
1. McLaughlin, Bennett, Trevisi, "Orthodontic Management of the Dentition with the Preadjusted Appliance" pp 27-40; Systemized Orthodontic Treatment Mechanics, pp 55-65.

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