

# 3M<sup>SM</sup> Health Care Academy

## Deep bite correction with ceramic brackets.

CLARITY™ | ADVANCED  
advanced ceramic brackets

APC™ Flash-Free  
Adhesive Coated Appliance System



### Dr. Patrice Pellerin

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.

### Introduction

A lot of doctors are hesitant to treat deep overbites with mandibular ceramic braces. The first thing to recognize is that now Clarity™ ADVANCED Ceramic Brackets have the same profile as the metal Victory Series™ Low Profile brackets which is a huge advantage over all other ceramic brackets. One way of dealing with deep bites and ceramic brackets on the mandibular arch is to delay the bonding of the lower arch until the bite is open enough to avoid contact of the maxillary teeth on the lower brackets. As you can see in this case, the delay was five months, but the total treatment time was 19 months, so we're not making the treatment longer but we are optimizing our choices of appliances to please our patient.

Our direct bonding procedures using APC™ Flash-Free Adhesive are so much more efficient that now, if a patient lives far from the office, we will opt for direct bonding over indirect bonding to reduce travel time and visits for patient convenience. Using APC Flash-Free Adhesive with direct bonding, no bond failures or emergency appointments during treatment.

### Patient

Female (F.B.)  
14 years, 10 months

### Patient's Main Concern

Spaces between my two front teeth and they are too long

### X-ray Findings

- Complete permanent dentition
- Pneumatized maxillary sinuses
- Root dilacerations on bicuspid, mainly UR5, UR4
- Evidence of formation of three wisdom teeth (lower left is missing)

**Dental Analysis**

- Class II subdivision relationship on patient’s right side
- Light to moderate crowding in both arches
- Midline discrepancy
- Upper midline discrepancy
- Excessive OB with too much incisor showing
- Narrow upper jaw
- Accentuated lower curves of Spee and Wilson

**Treatment Plan**

- Upper/Lower – Clarity™ ADVANCED Ceramic Brackets 0.018 slot – MBT™ Appliance System prescription – APC™ Flash-Free Adhesive precoating
- Bonding charts: Upper MBT System deep bite 4.0 mm  
Lower MBT System standard 4.5 mm
- Band with occlusal headgear tube on UR6
- Extraction of UR7 and UR8 (wisdom teeth will be kept as replacement for UR7)
- UR8 showing a Nolla stage of development of 7
- Forsus™ Fatigue Resistant Device on patient’s right side to regain the Class I molar relationship
- Light Class II elastics to finalize the midline correction
- Direct Bonding

Treatment	19 months (April 2013 – November 2014)		
Mx	April 2013	Direct Bonding	14 SE (7s), 16x16 SE (7s), 16x22 SE (8s), 17x25 Classic to the end
Md	September 2013	Direct Bonding	16 SE (7s), 16x22 SE (21s), 17x25 Classic to the end
# of visits	15		
Emergencies	0		

**Retention**

- Fixed lingual wires 0.018 TMA
  - Upper canine to canine/Lower first bicuspid to first bicuspid
- \*UR8 was erupted enough and in contact with LR7, so no other specific retention was required to prevent extrusion of LR7



Figure 1: Initial X-ray.



Figure 2: Initial cephalometric analysis.

Cephalometric Analysis				
SNA (°)	87.4	82.0	3.5	1.5 *
SNB (°)	82.9	80.9	3.4	0.6
ANB (°)	4.5	1.6	1.5	1.9 *
Maxillary Depth (FH-NA) (°)	96.5	90.0	3.0	2.2 **
Facial Angle (FH-NPo) (°)	92.8	88.6	3.0	1.4 *
FMA (MP-FH) (°)	16.1	23.9	4.5	-1.7 *
UFH:LFH, Upper (N-ANS/N-Gn) (%)	45.2	45.0	1.0	0.2
U-Incisor Protrusion (U1-APo) (mm)	-0.1	6.0	2.2	-2.8 **
U1 – Palatal Plane (°)	98.9	110.0	5.0	-2.2 **
L1 Protrusion (L1-APo) (mm)	-3.3	2.7	1.7	-3.5 ***
IMPA (L1-MP) (°)	92.0	95.0	7.0	-0.4
Interincisal Angle (U1-L1) (°)	150.6	130.0	5.0	4.1 ****
Upper Lip to E-Plane (mm)	-5.1	-5.9	2.0	0.4
Lower Lip to E-Plane (mm)	-3.4	-2.0	2.0	-0.7
Nasolabial Angle (Col-Sn-UL) (°)	129.3	102.0	8.0	3.4 ***
Maxillary length (ANS-PNS) (mm)	51.0	51.6	4.3	-0.1
Mandibular length (Go-Gn) (mm)	78.7	65.9	5.5	2.3 **
Facial Convexity (G'-Sn-Po') (°)	159.1	154.0	5.6	0.9
Wits Appraisal (mm)	4.1	-1.0	1.0	5.1 *****
<b>SUMMARY ANALYSIS</b>				
Class II Molar Relationship				
Skeletal Class II (A-Po)				
Skeletal Class II (ANB)				
Low Mandibular Plane Angle				
Protrusive Maxilla (A-N)				
Protrusive Mandible (Pg-N)				

Table 1: Cephalometric analysis.



Initial

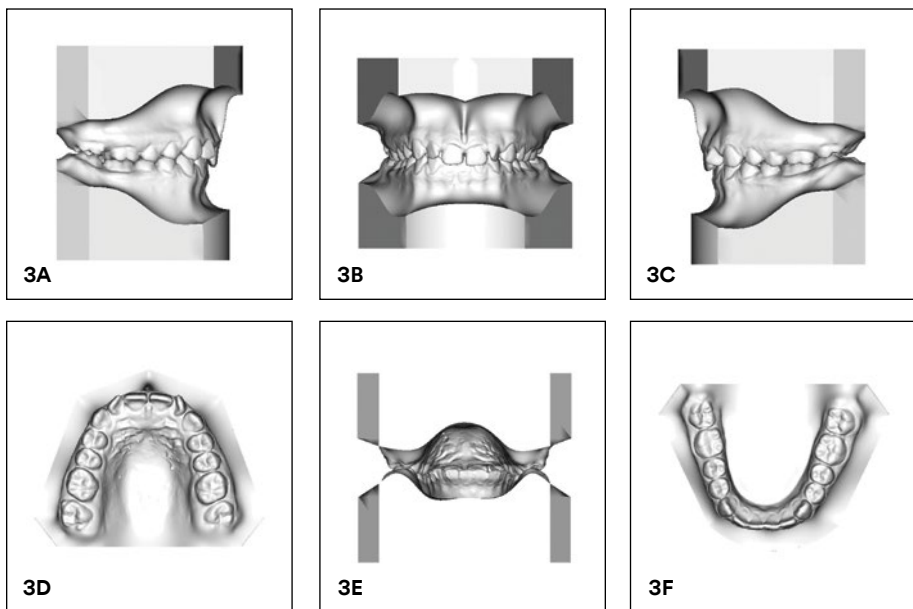


Figure 3A-F: Initial dental analysis.

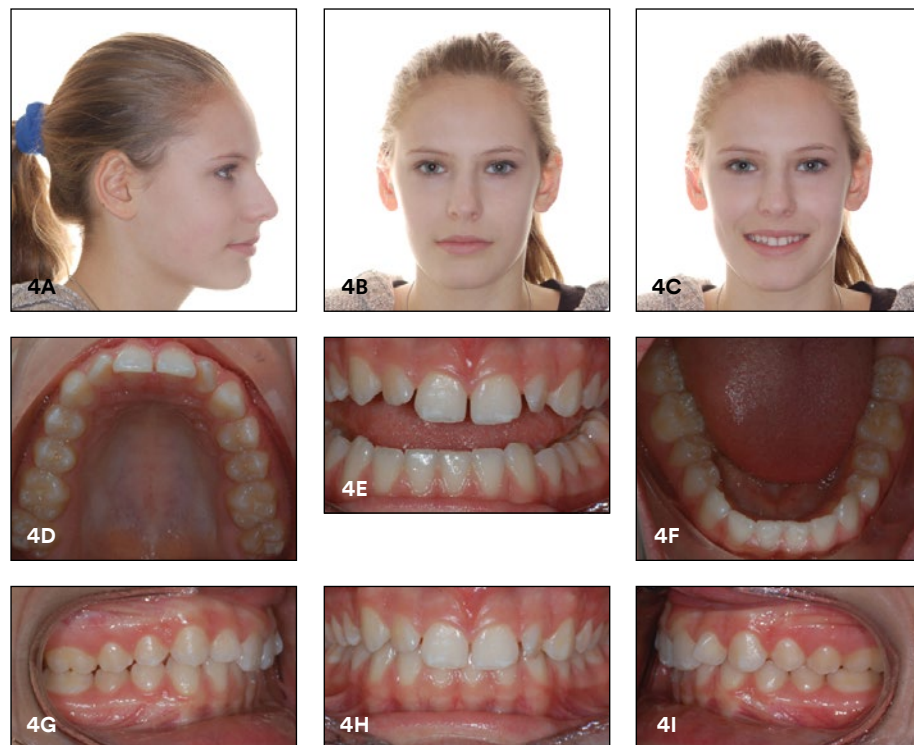


Figure 4A-I: Initial photos.

Mid-Treatment

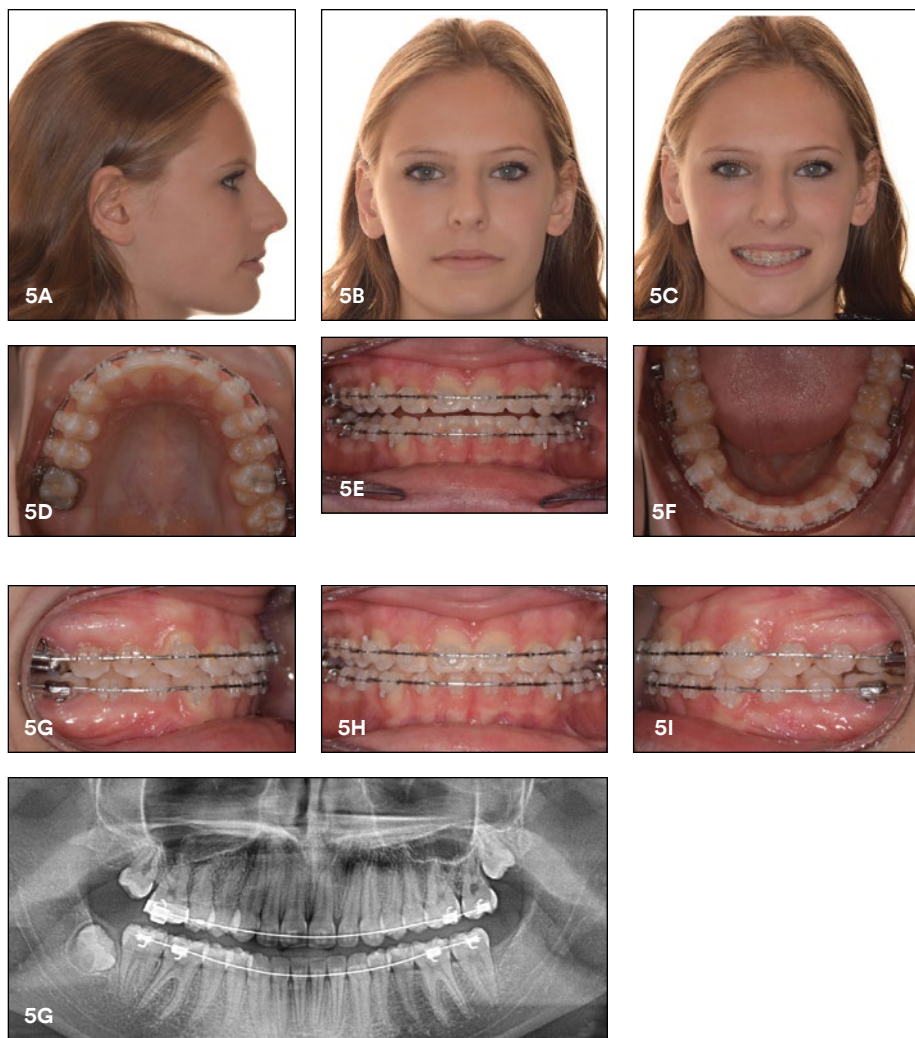


Figure 5A-J: Mid-treatment photos.

Retention

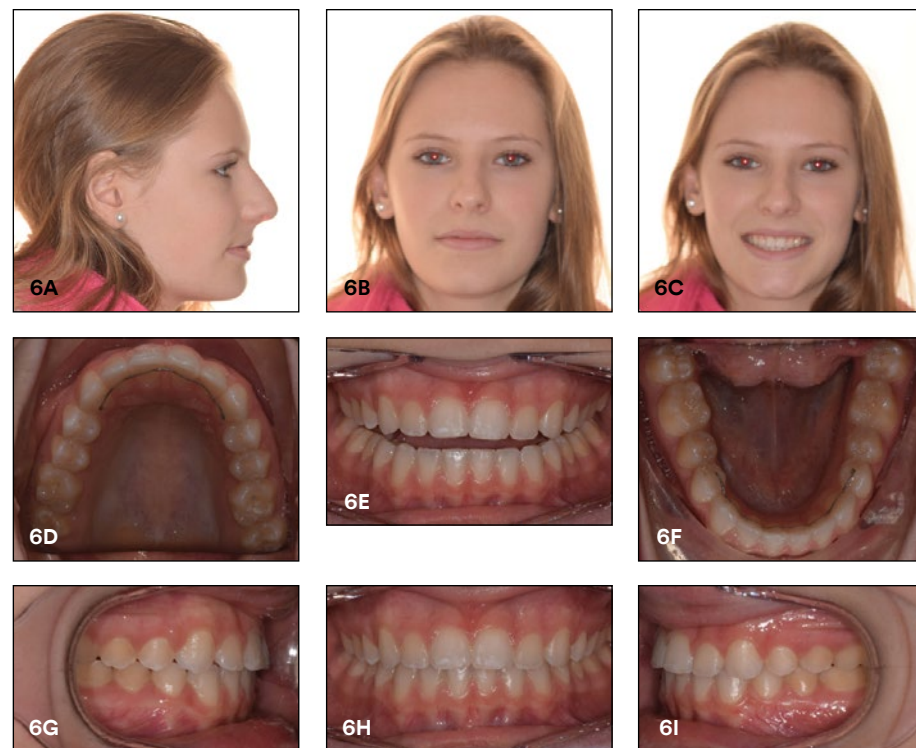


Figure 6A-I: Retention photos.

Initial vs. Final



Figure 7A-B: Initial vs. final photos.



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

**Doctor's Note:** Nolla stage of development is used to assess the formation of the wisdom teeth in a molar extraction case.

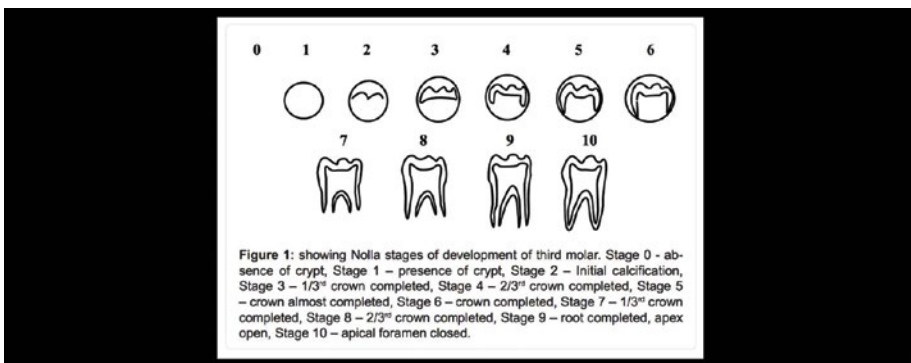


Figure 9A-B: Initial vs. final X-rays.

Case photos provided by Dr. Patrice Pellerin.

▶▶ [Click here to visit the 3M website.](#)

From: Panchbhai AS. Radiographic evaluation of development stages of Third Molar in relation to Chronological Age as applicability in forensic Age estimation. Forensic Odontology. 2012;

1. Trevisi H, Trevisi Zanelato R. State-Of-The-Art Orthodontics, Self-Ligating Appliances, Miniscrews and Second Molar Extractions, Mosby, 2011. p164
2. Basdra EK, Stellzig A, Komposch G. Extraction of maxillary second molars in the treatment of Class II malocclusion. Angle Orthod. 1996;66(4):287-91.
3. Chipman MR. Second and third molars: their role in orthodontic therapy. Am J Orthod. 1961 Jul;47(7):498-520.

3M, APC, Clarity, Forsus, MBT, and Victory Series are trademarks of 3M. Used under license in Canada. © 3M 2016. All rights reserved.

