

AGD 2016 BOSTON
REVOLUTIONARY CHANGES IN DENTISTRY



Management of an Immature Permanent Avulsed Tooth Endodontic and Occlusal Management Case Study

**Academy of General Dentistry
2016 Annual Conference
July 14, 2016
Boston, MA**

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Credentials

- 1986 graduate of the University Of Detroit School of Dentistry- ranked 1st in class
- Omicron Kappa Upsilon Dental honors fraternity- student inductee
- Fellow- Academy of General Dentistry 2001
- Master- Academy of Laser Dentistry 2016
- Member- North American Association of Light Therapy
- Member- American Association of Oral Systemic Health Professionals
- Member- Academy of Breastfeeding Medicine
- Standard Laser Clinical Proficiency ALD Certification 2003: 810nm diode and 2940nm Er:YAG wavelengths
- Advanced Laser Clinical Proficiency ALD Certification 2015: 810nm diode wavelength
- 30 years of **GENERAL** dentistry - private practice



Disclosure/Conflict of Interest

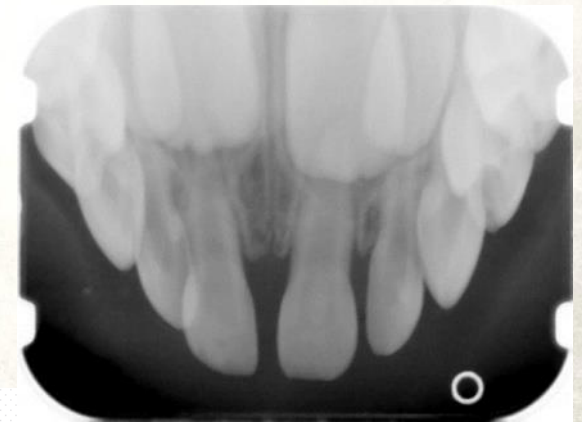
I receive no royalties or endorsements from any manufacturers or individuals

Privacy practices (HIPPA) have been adhered to in the presentation of clinical photos/videos presented of my actual patients.

No diagnostic exam or surgical procedure should be initiated with limited knowledge or insufficient technical skills required to practice within an acceptable standard of care. This lecture is for informational purposes only.

Case History

- JT, 5Y 2M old, was a patient of record since May 7, 2007
- Pt was obligate thumb sucker with a low, thick, restrictive maxillary labial frenum
- Asymmetrically large maxillary central diastema
- 8mm overjet, 0% overbite, Class I molar occlusion with cross bite of 1* 2nd molar
- Health history non-contributory
- Pt had penicillin hypersensitivity
- No previous caries experience and low risk factors
- Normal succedaneous formation of maxillary central incisors



05/7/2007

Initial Pediatric Treatment Plan

- Laser revision of central labial maxillary frenum to remove fibrous restriction and normalize central interproximal spacing.
- Suggest consultation with oromyologist for cessation of thumb sucking habit to improve overjet and lessen the future possibility of traumatic injury to maxillary anterior teeth and the need for orthodontic correction.



08/09/2007



12/01/2007



The Formula for a Dental After Hours Emergency Call:

A Bicycle+ 6 ½ Year Old Happy Girl + Holiday weekend + Sunset= Dental Emergency!



Avulsion accounts for 0.5 to 16% of traumatic injuries in the permanent dentition

Acute Management of Immature Permanent Avulsed #9

- #9 had been avulsed for no longer than 10 minutes when father, a firefighter, had called. He was advised to stop driving his car and re implant the lost tooth as quickly as possible. Re-implantation was accomplished in the correct orientation!
- #8 was intruded and g was avulsed. #8,#9 significantly UNSTABLE.
- Orthodontic stabilization with composite and multi braided twist wire established.
- Absolutely NO occlusal contact on anterior teeth, soft/liquid diet, limited activity
- Rx Clindamycin 75mg elixir 3/4tsp TID until gone. Peridex 1/2oz rinse TID. OTC Ibuprofen for pain q 4-6 hours.



08/30/2008



Challenges in Managing an Avulsion in Mixed Dentition Period:

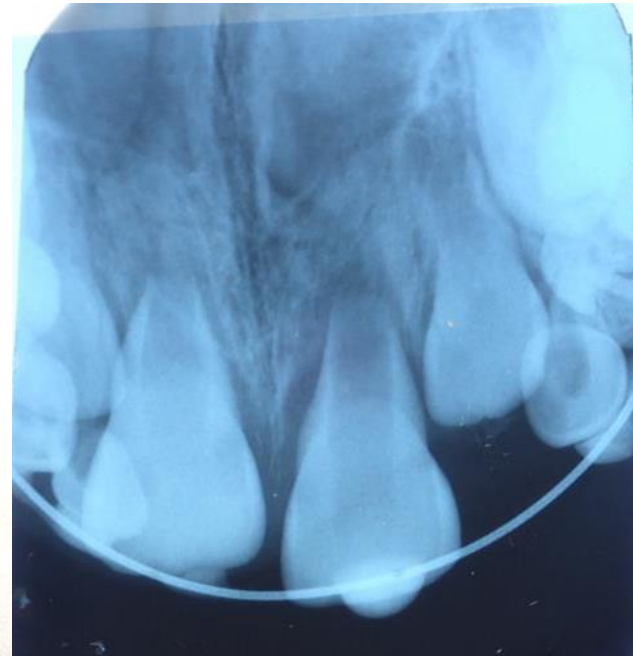
- continued alveolar growth of maxilla and mandible
- incomplete root development
- difficult child behavior management
- delayed reporting to the dental offices –time out of the mouth
- nonphysiological storage of avulsed tooth (best in Hank's Balanced Salt Solution)
- Replantation is the recommended procedure and refers to the insertion and temporary fixation of completely or partially avulsed teeth that have resulted from traumatic injury.
- On an average these teeth are functional for 5 years and most are ultimately lost because of progressive replacement root resorption or external inflammatory root resorption



09/01/2008- 48 hours
Post injury

Referral for Endodontic Evaluation

- Initial endodontic evaluation 09/02/2008: #8,#9 negative to endo ice, very mobile
- Open, blunder bust pulp chamber and open apex
- Soft tissue healing well
- Observation only
- Re-evaluation 09/15/2008: #8,9 negative to endo ice, very mobile



10 Days Post Injury-09/09/2008



5+ Weeks Post Avulsion #9

- 10/04/2008: Fistula apical to #9
- 10/06/2008: Frank's Procedure Performed on #9
 - a. Access opening, file, cavitron, NaOH, Peridex irrigation
 - b. Dry, fill with Metapaste
 - c. Close with CP, and cavit
 - d. Rx Cleocin 75mg 1.75ml TID til gone
- Parent aware of possible loss of tooth #9
- 10/09/2008: Parulis persists apical to #9
 - a. Orthodontic stabilization is removed
 - b. Occlusal composites placed on 1st mandibular permanent molars
 - c. Patient is told to avoid playground activities
 - d. Soft diet recommended



Continued Endodontic Treatment #9

12/05/2008 -1/30/2009



Endodontic Procedures

- 01/30/2009: #9 accessed, cavitron, peridex irrigation, fill with metapaste, Close with CP, cavit. **Mottling/resorption noted at apex**
- 03/20/2009: #9 fistula resolved, mobility <1, #140 file, peridex irrigation, dry, metapaste, close CP, IRM. 3 Month Recall
- 06/26/2009: #9 doing well. Open access, cavitron, #140 file, NaOH and peridex irrigation, dry, CaOH, metapaste, CP, IRM. 3 Month Recall.
- 10/19/2009: #9 doing well. Open access, #120 file binding at 17mm, peridex irrigation, dry fill with metapaste, CP, IRM
- 12/21/2009: #9 doing well. Open access, #100 file binds at 16mm, root tips appear to be separated, peridex irrigation, fill with metapaste, CP, IRM. 3 month Recall
- 03/12/2010: #9 doing well, no drainage, no mobility, open access, cavitron, NaOH, Peridex, dry, fill with metapaste, CP, IRM. 10-12 week recall.
- 06/28/2010: #9 doing well, open access, cavitron, NaOH, Peridex irrigation, dry, fill with gutta percha/sealer. Root canal therapy complete.

Professional Endodontics, P.C.

Dominick Shoha, D.D.S. Allen Shorr, D.D.S. Robert J. Valice, D.D.S.
Louis M. Shoha, D.D.S. Jeffery C. Marderosian, D.D.S. Gabrielle D. Noory, D.D.S.
Steven D. Shoha, D.D.S. Andrew J. Schoelch, D.D.S.

www.profendo.com

Hi Annette,

I have enclosed two films: the initial appointment radiograph and the most recent remedication. I first saw Jessica Septemeber 2, 2008 and our most recent appointment was June 26, 2009. You can see the apical rarefaction at the initial visit and the thin, open root apex. Looking ahead to the more recent film, the tooth is filled with Calcium Hydroxide and as you can see, an apical barrier is forming and has corraled the medication within the confines of the tooth. I can still get a 130 file through the apex. I will wait until a minimum 40 file can pass or smaller before completing the case.

She still shows some remnants of a sinus tract over #9 but it is not purulent. At her most recent visit, there was some drainage noted but the tooth dried up prior to injecting the medication. She has been comfortable.

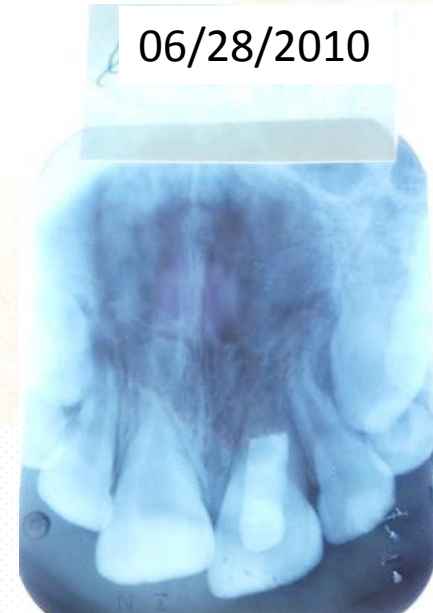
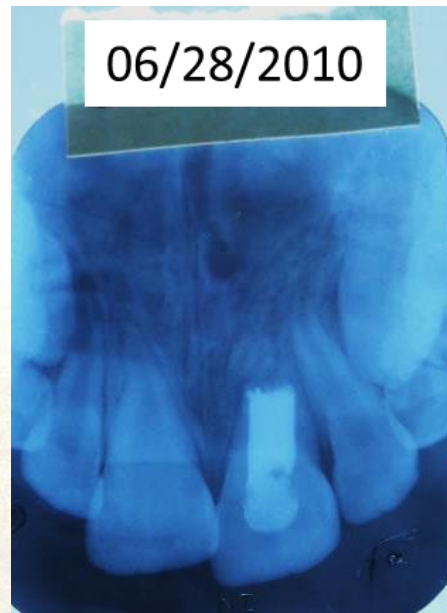
Our next appointment is in September, 2009. There is a possiblility of completion at that time. However, if that isn't possible, I am hoping to complete the case before the end of the year if the the current rate of progress continues.

She is a sweet, little gal.

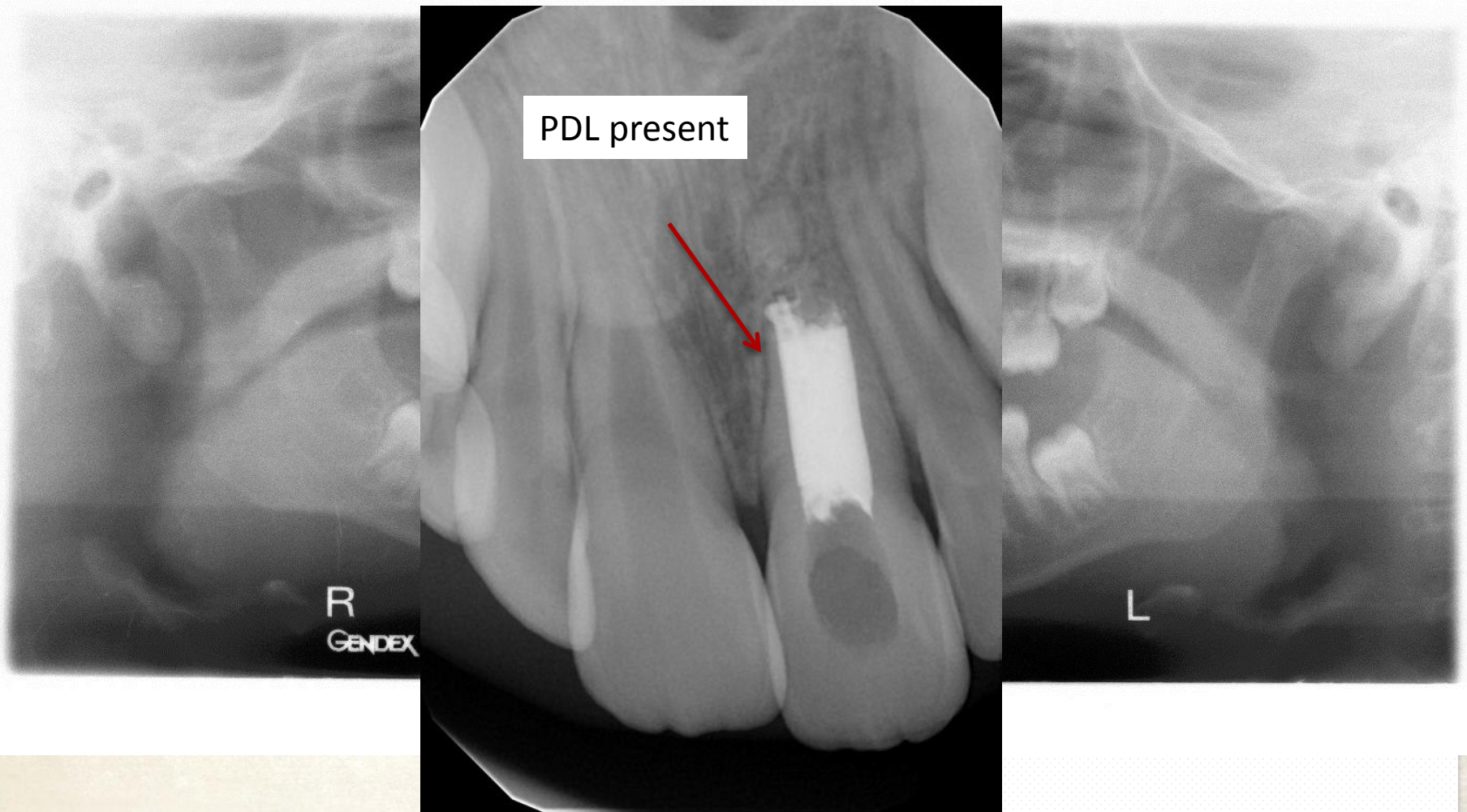


Jeff Marderosian D.D.S.

Radiographic Progress 03/20/2009-06/28/2010



Panoramic and Periapical Radiographs 03/10/2011



07/02/12: 3 Years, 11 Month Since Avulsion #9
Chief Concern of Patient??



We will talk about it when you loose all of your baby teeth!!

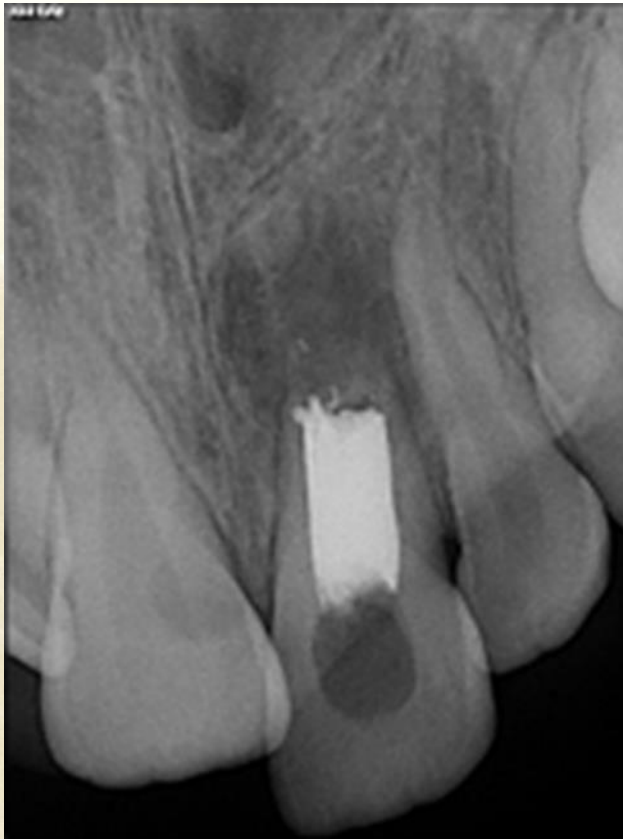
When can I have braces to straighten my teeth?

08/1/2013: Recurrence of Periapical Pathosis and Fistula

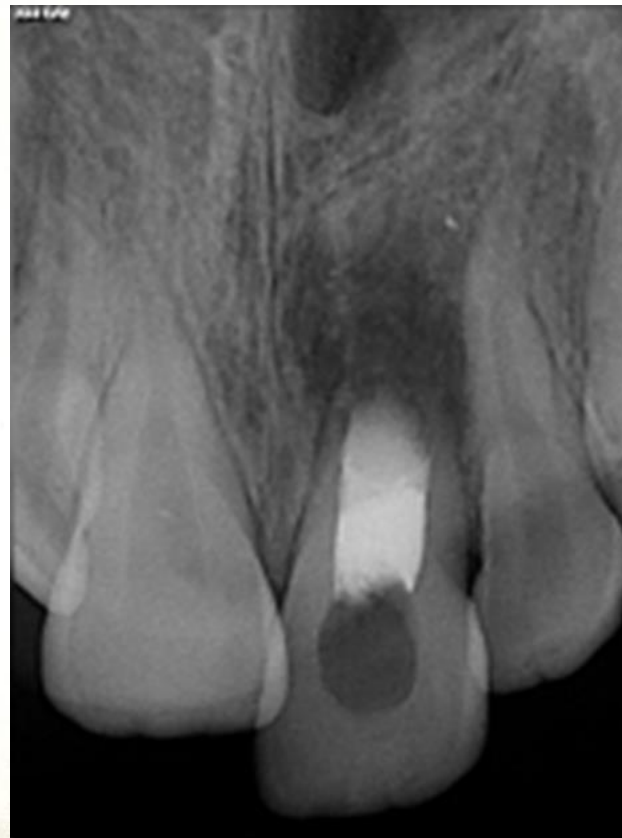
- Apicoectomy #9 recommended with the following risks:
 - a. Loss of tooth
 - b. Paresthesia
 - c. Fracture
 - d. Pain
- Consent given by father, full thickness flap laid, curettage of infection, retroprep, MTA filling and close with 2 single silk sutures. Rx: T #3 and ABO



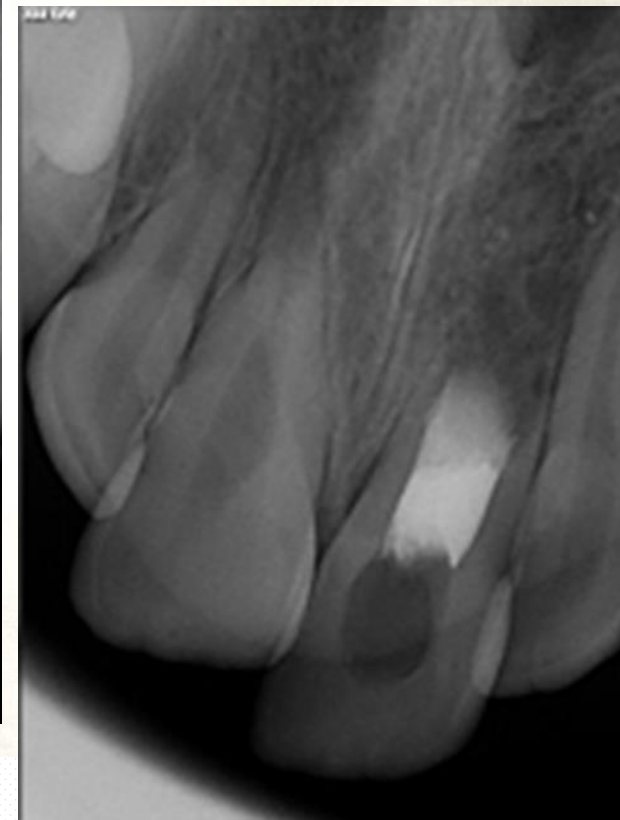
Post Apicoectomy Healing #9



08/12/2013



08/22/2013



03/17/2014



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Jeff Marderosian, DDS
Andrew Schoelch, DDS

March 17, 2014



Dear Dr. Skowronski,

We wanted to inform you that I had Jessica Thompson for a post-operative evaluation of tooth #9 that was treated on 10/6/2008. Healing has progressed well and no further treatment is needed.

Hi Annette,

#9 both clinically and radiographically looks excellent. For an almost avulsed tooth at age 6, the tooth has made a surprising recovery. Pulp tested upper centrals and laterals. #7, #8, #10. All test vital, normal to percussion and palpation. Xray #8 looks suspicious at apex but tests normal. Please monitor. Patient asked about orthodontics. I informed mother that it could potentially cause a failure of #9. If orthodontics is to be done, I recommend orthodontics be done slowly with minimal pressure on tooth but no guarantees. I will follow Jessica at 1 year intervals.

If you have any questions, please call me.

Sincerely,
Jeff Marderosian, DDS

Handwritten signature and date:
JM
3/19/14



Dr. Jeffrey Marderosian

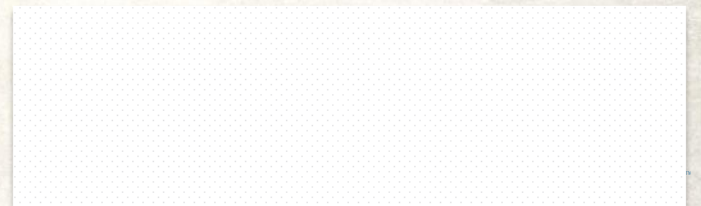
Dr. Marderosian attended Albion College and Michigan State University where his studies emphasized physiology. His high undergraduate grades and entrance examination scores earned him admission to the University of Michigan School of Dentistry without requiring a bachelor's degree. He received his Doctor of Dental Surgery degree in 1991 and went on to achieve certification in endodontics from the university in 1995, the same year he joined Professional Endodontics. His professional associations include the Michigan Association of Endodontists, the Macomb County Dental Society, the Oakland County Dental Society, and the American Association of Endodontists. Dr. Marderosian has been recognized by Hour Detroit magazine as a Metropolitan Detroit Top Dentist. In addition, he has helped provide dental services to the indigent—a reflection of his belief that everyone should have access to quality dental care

How do you say no to this smile?
To be continued.....





BREAK



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Acute Management of Immature Permanent Avulsed #9

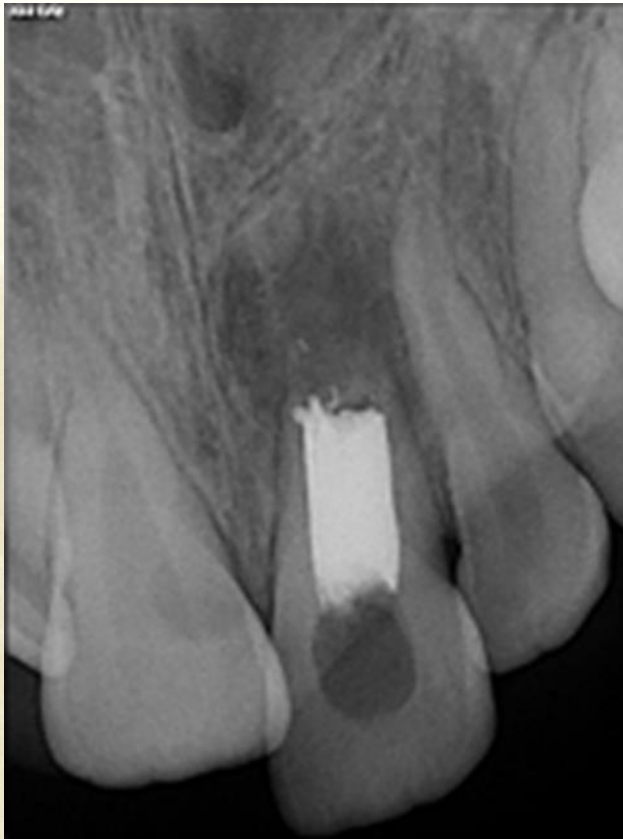
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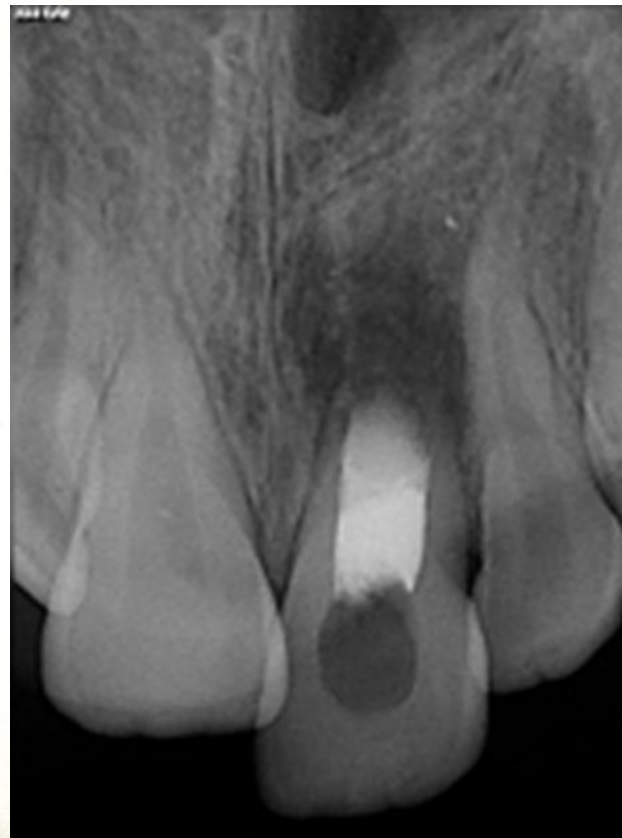
08/30/2008



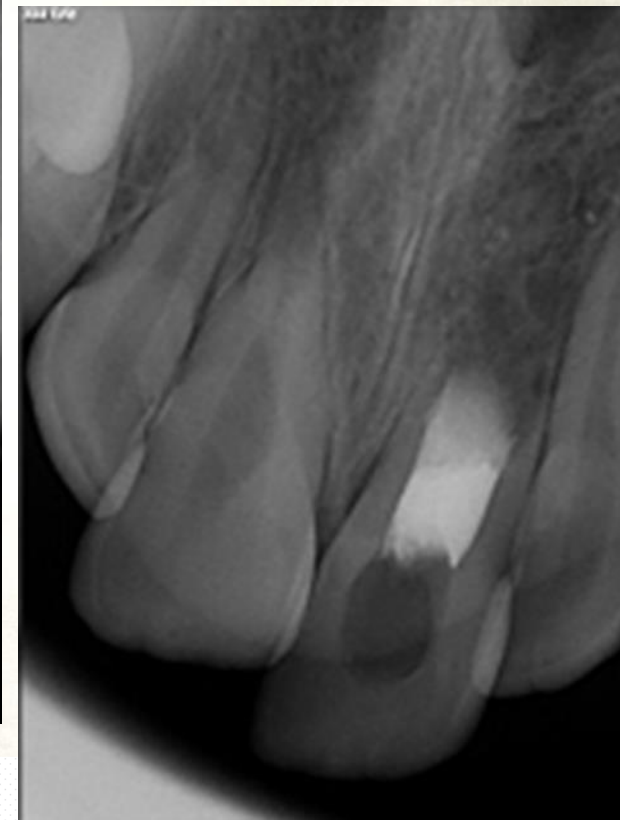
Post Apicoectomy Healing #9



08/12/2013



08/22/2013

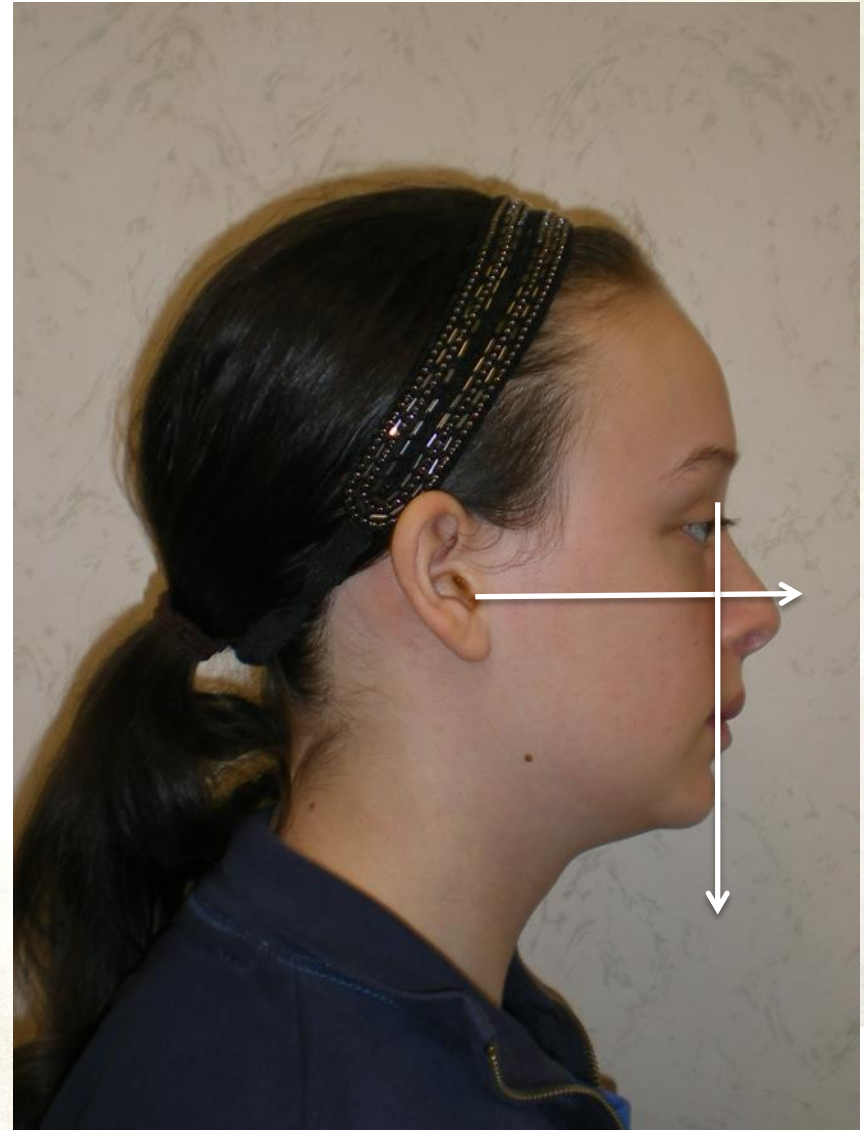
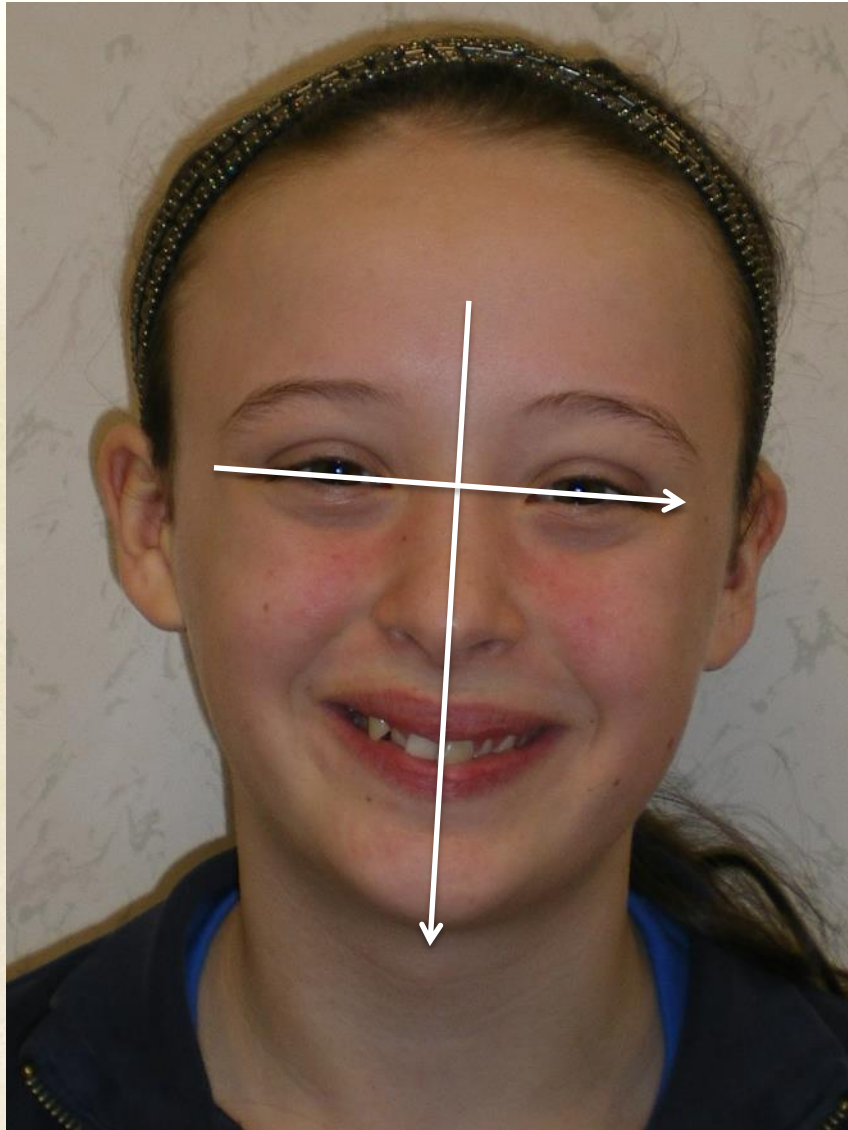


03/17/2014

04/8/2014 Day of Orthodontic Diagnostic Records
No Pressure Dr. Annette, right?



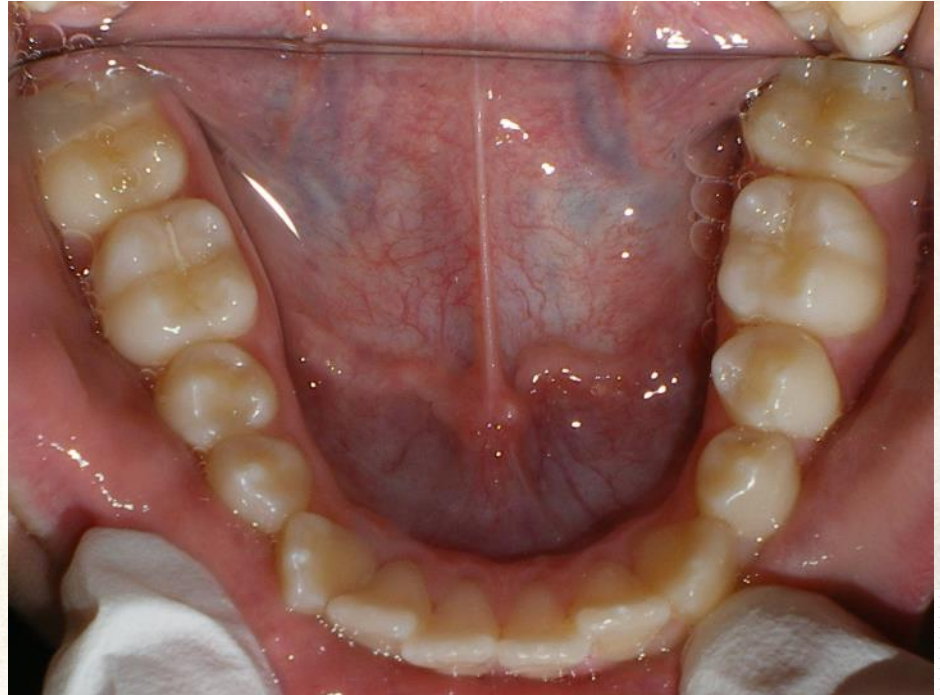
Extra Oral Images



Intra Oral Images

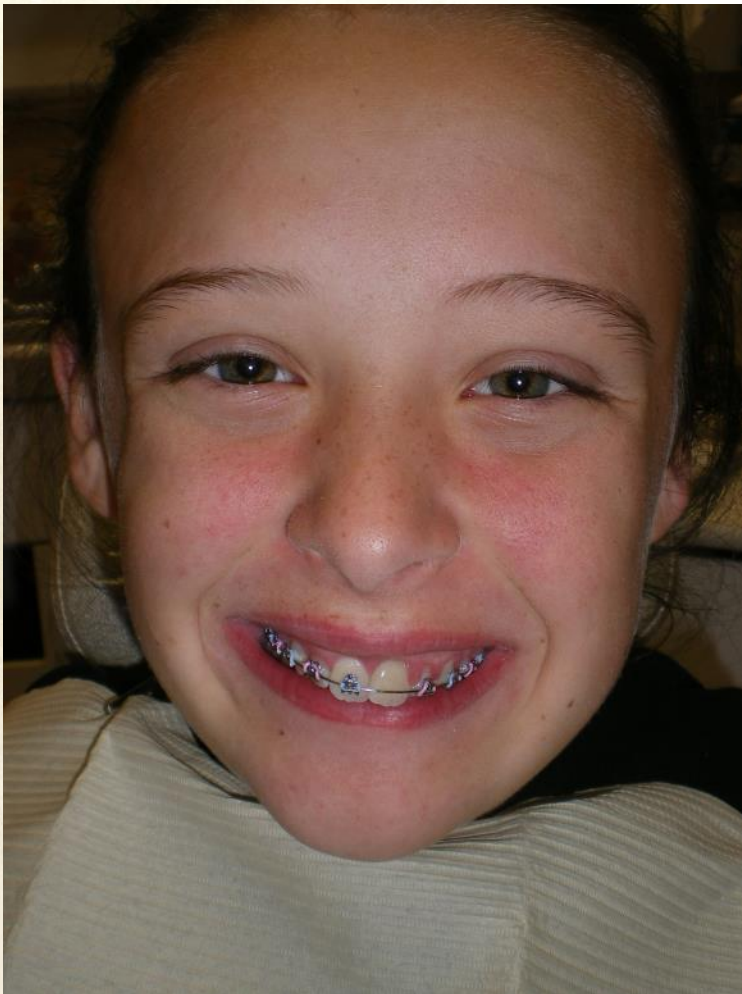


Occlusal Images



07/12/2014 Bracketing of Maxillary Arch Bypass of #9

.014 rd Nickel Titanium maxillary wire



11/19/2014 Bracket Mandibular Arch

- Maxillary .018 rd Nickel Titanium wire, bypass #9
- Mandibular .014 rd Nickel Titanium wire

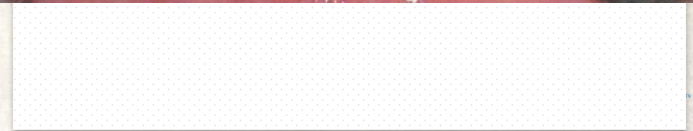
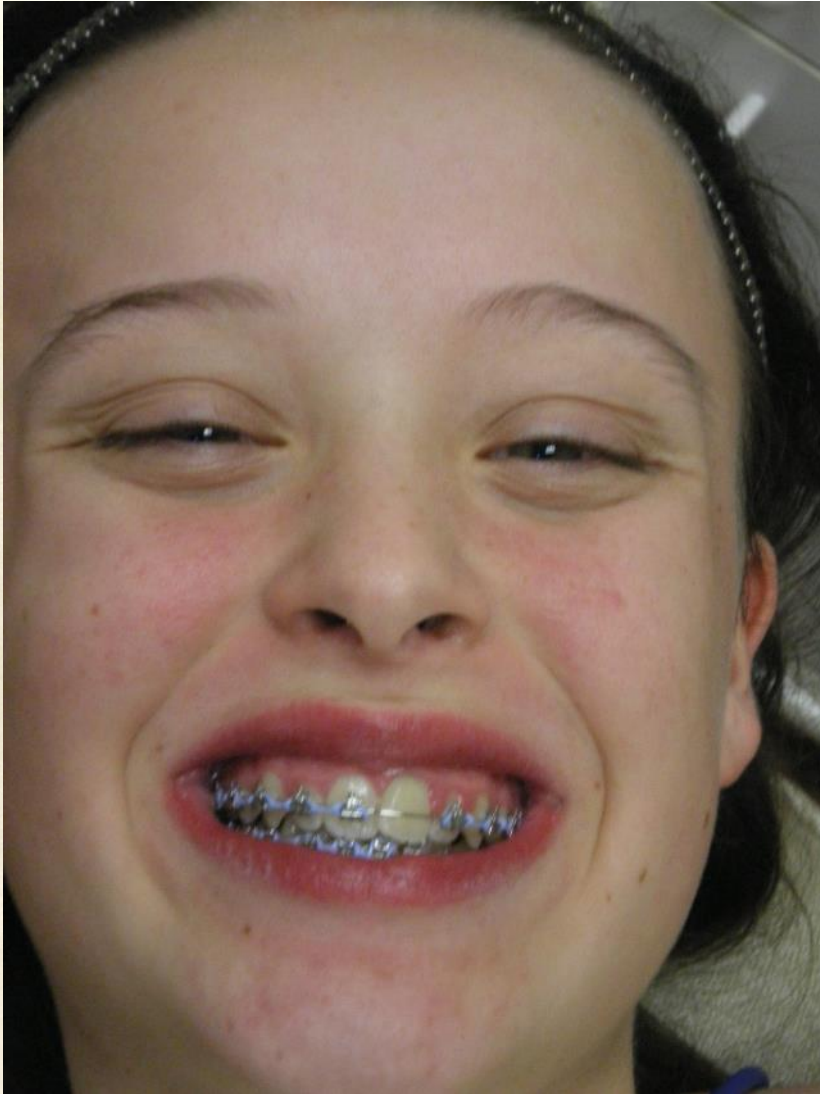


04/07/2015 Wire Change

- .020 rd Maxillary Stainless Steel Wire
- IPR btw #8/9/10
- Chain #3-8; #10-14
- .018 rd Nickel Titanium mandibular wire; chain #25-28



04/07/2015 Wire Change

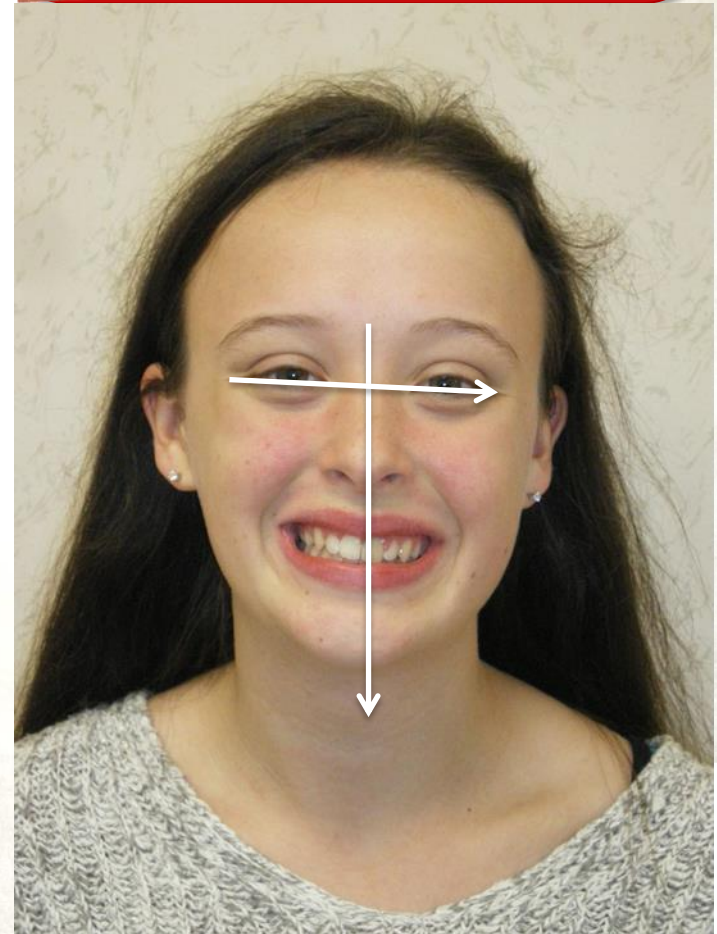
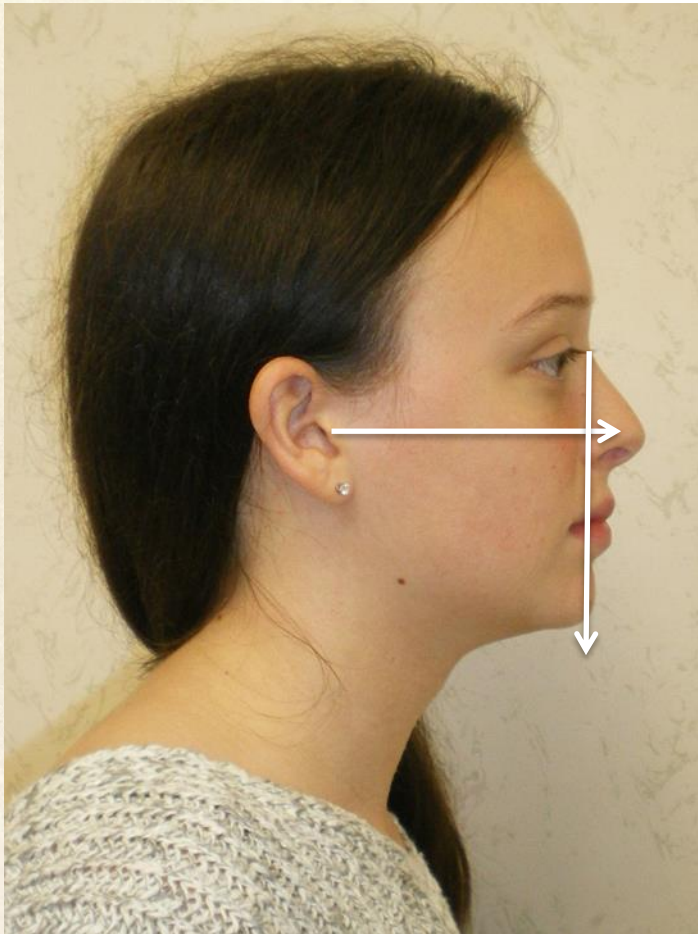


09/23/2105 Maxillary and Mandibular Wire Change

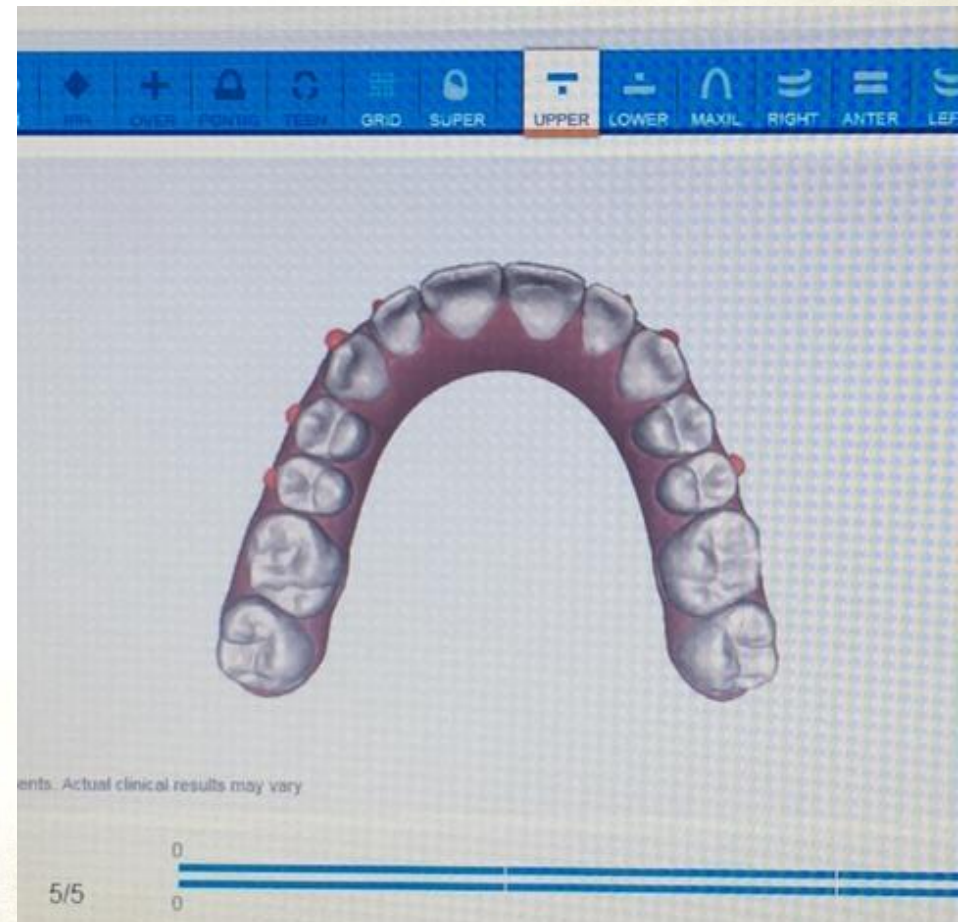
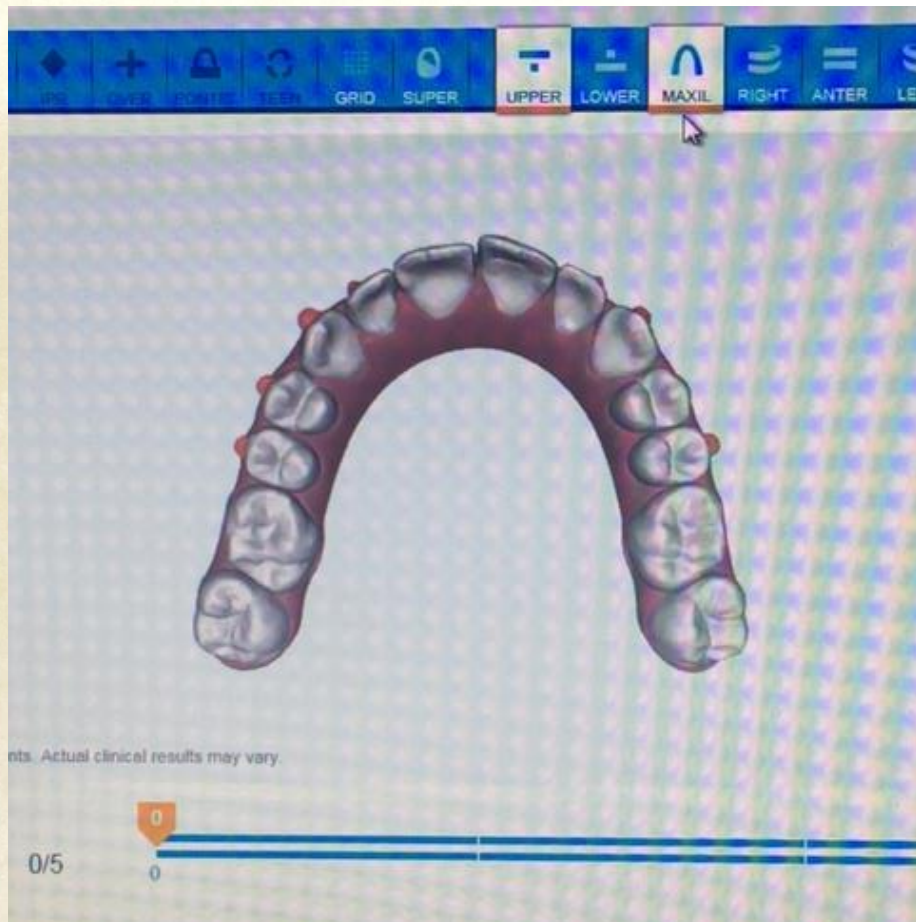
- .020 rd Stainless Steel Wires
- Cannot change angulation #9 any further
- Patient would not consent to bracket tooth, but wants #9 straight!



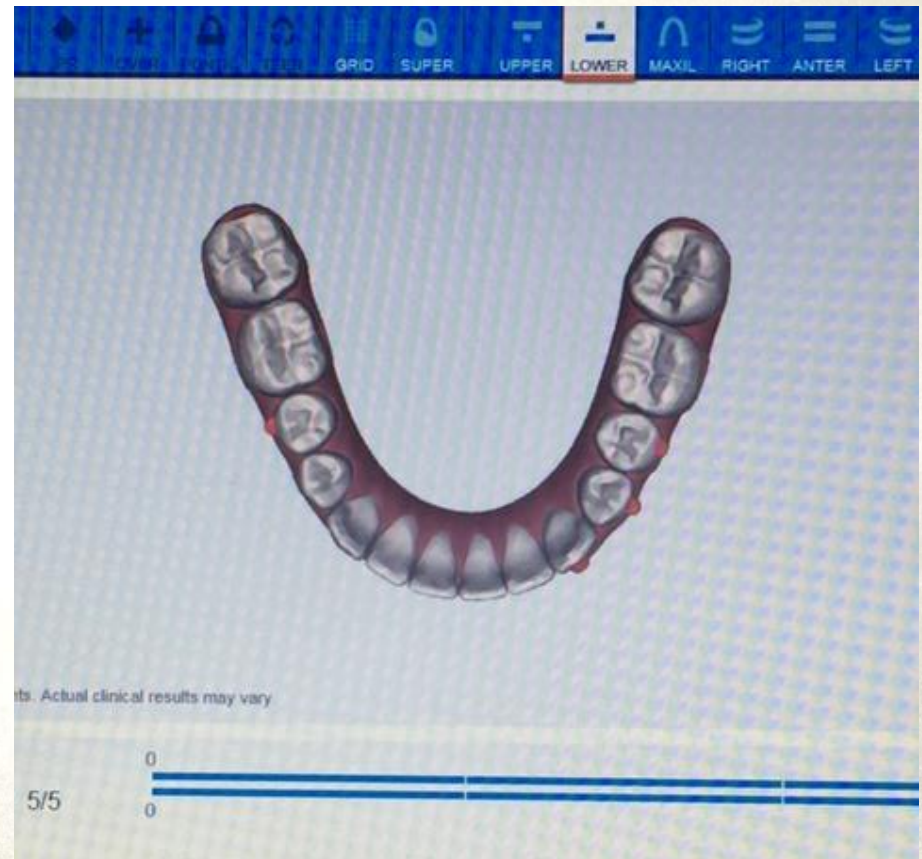
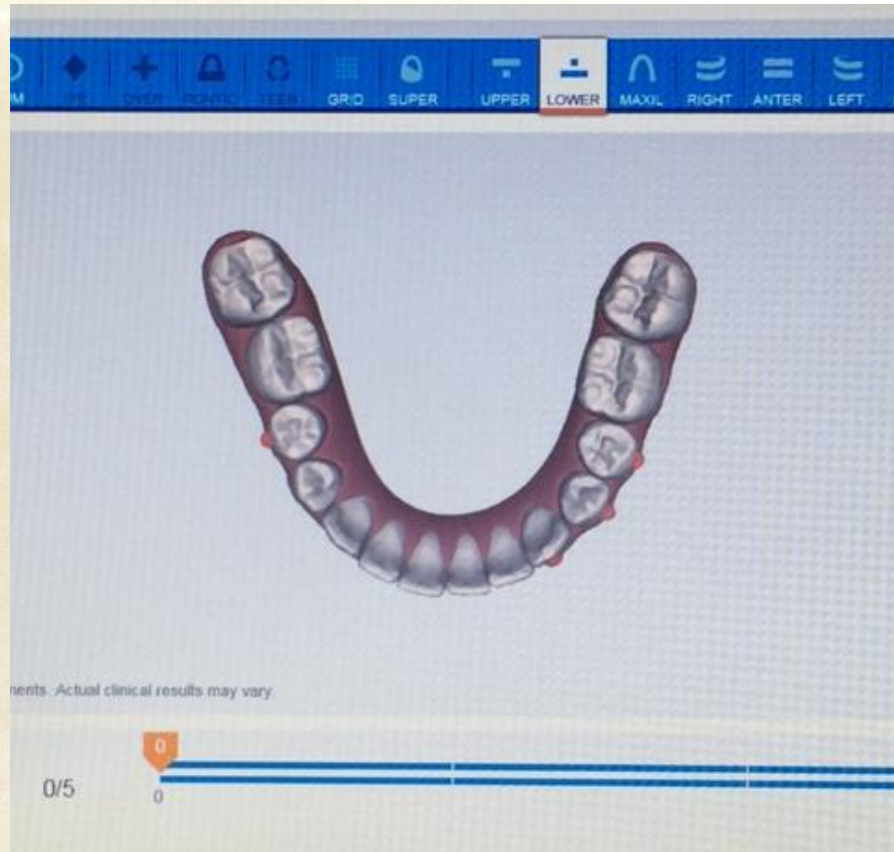
So how can the patient's and my expectations be met?



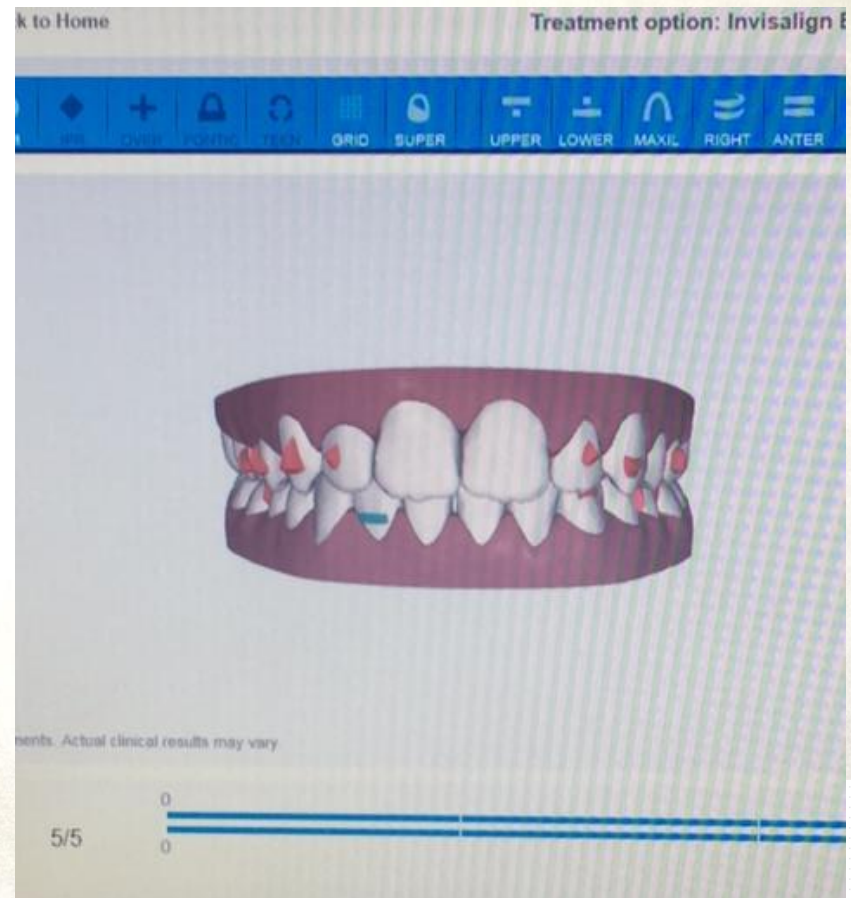
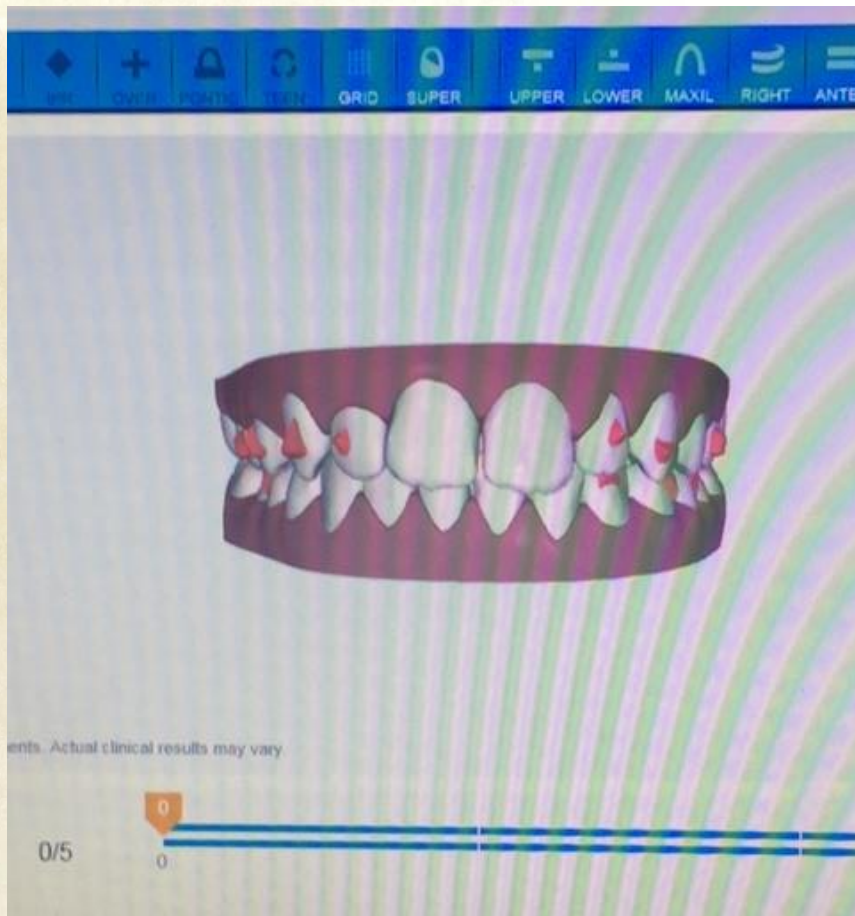
10/28/2015 Invisalign Clincheck Maxillary Occlusal Views



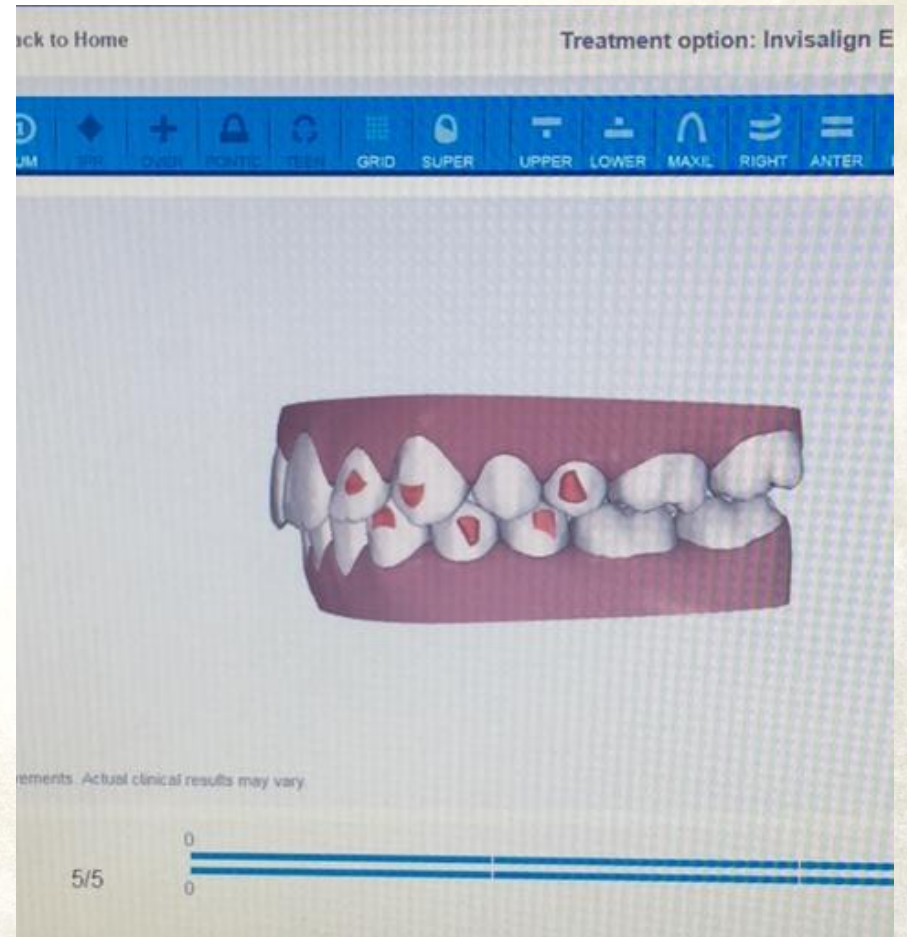
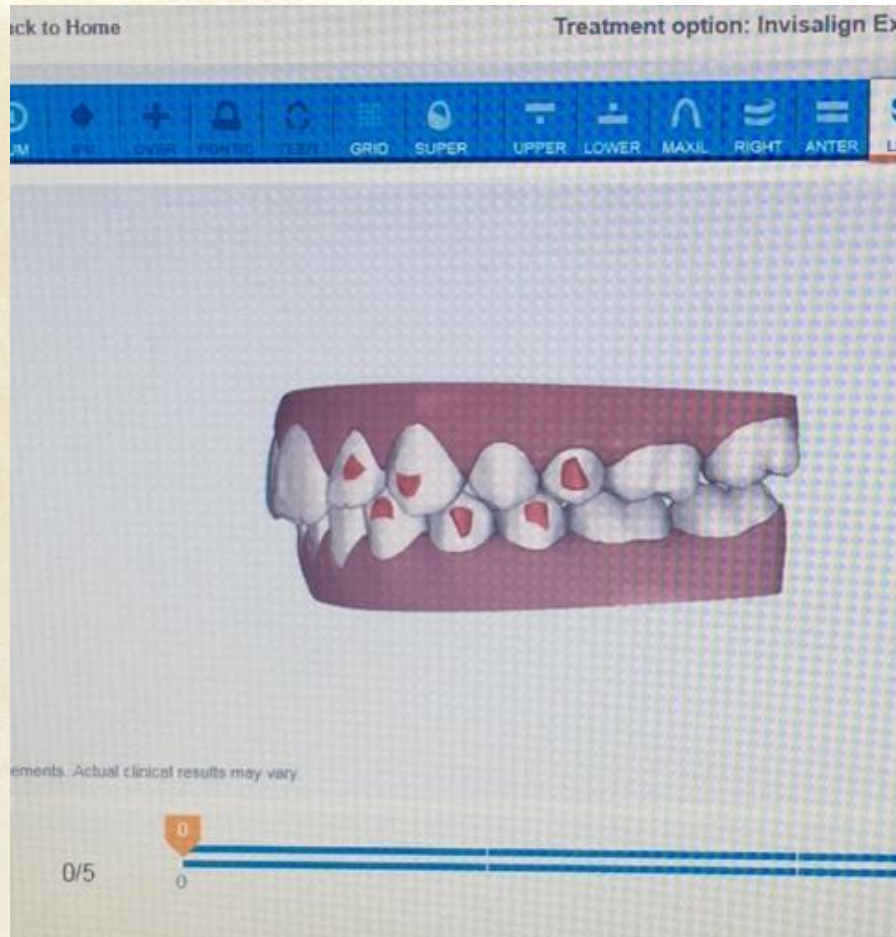
10/28/2015 Invisalign Clincheck Mandibular Occlusal Views



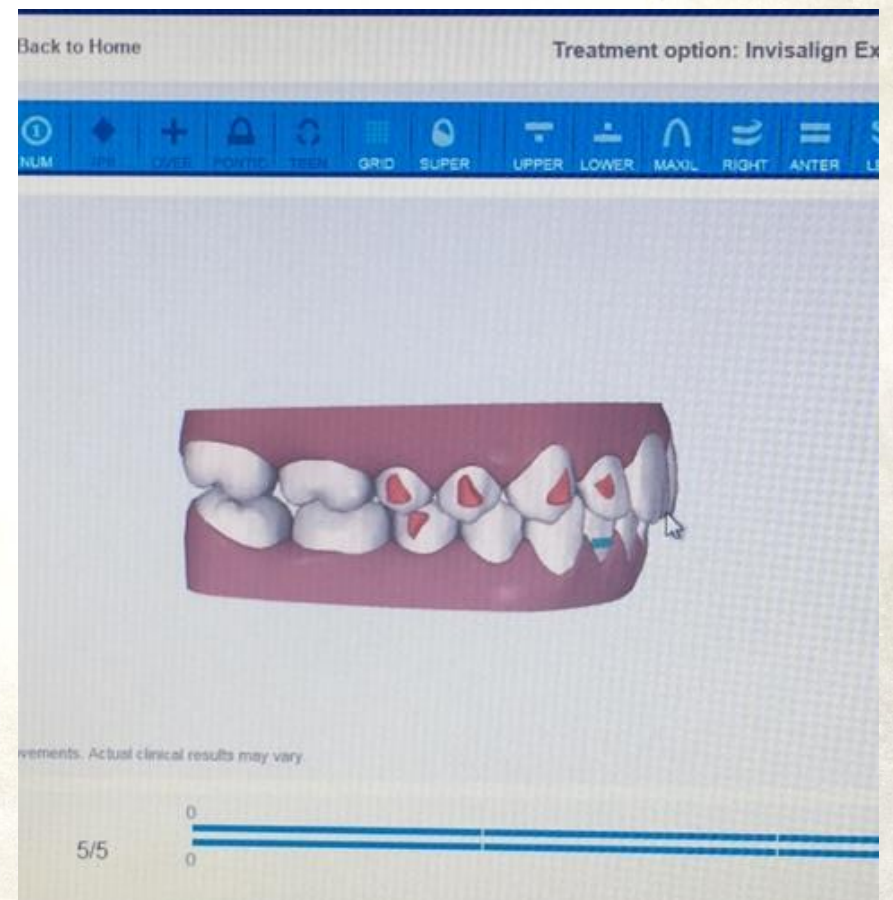
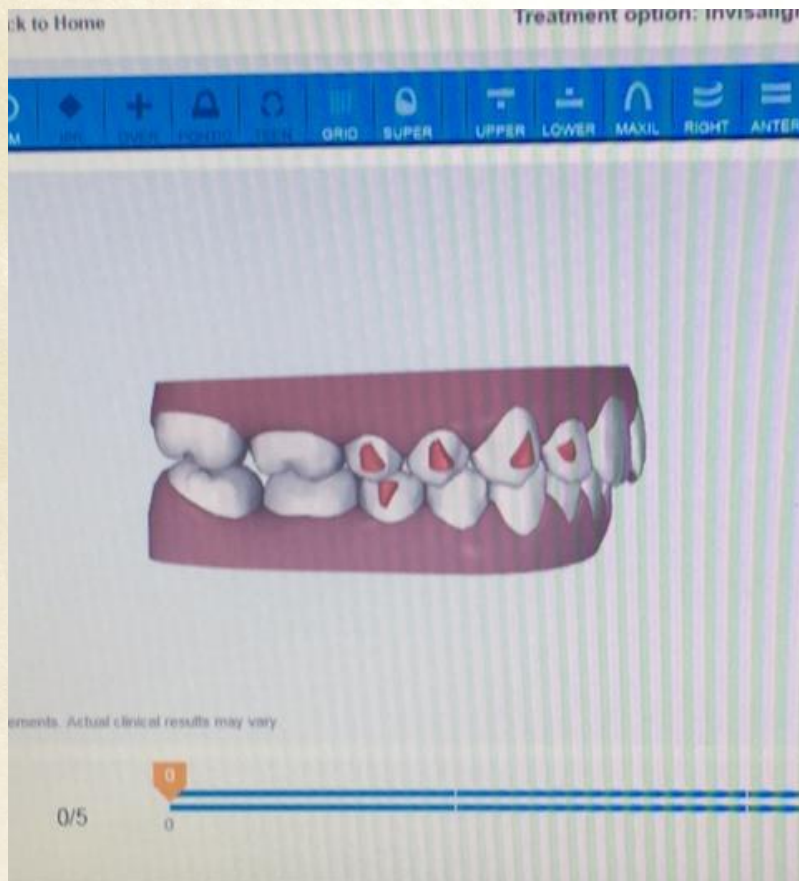
10/28/2015 Invisalign Clincheck Anterior Views



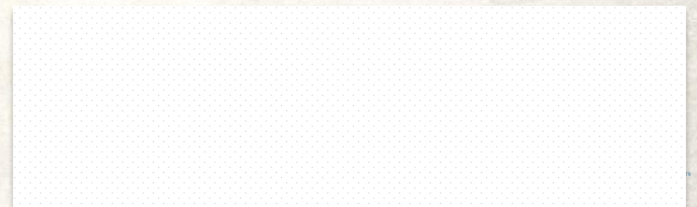
10/28/2015 Invisalign Clincheck Left Lateral Views



10/28/2016 Invisalign Clincheck Right Lateral Views



12/22/2015 Mid-Treatment Invisalign Express 5
Occlusal Views



12/22/2015 Mid-Treatment Invisalign Express 5
Anterior and Lateral Views



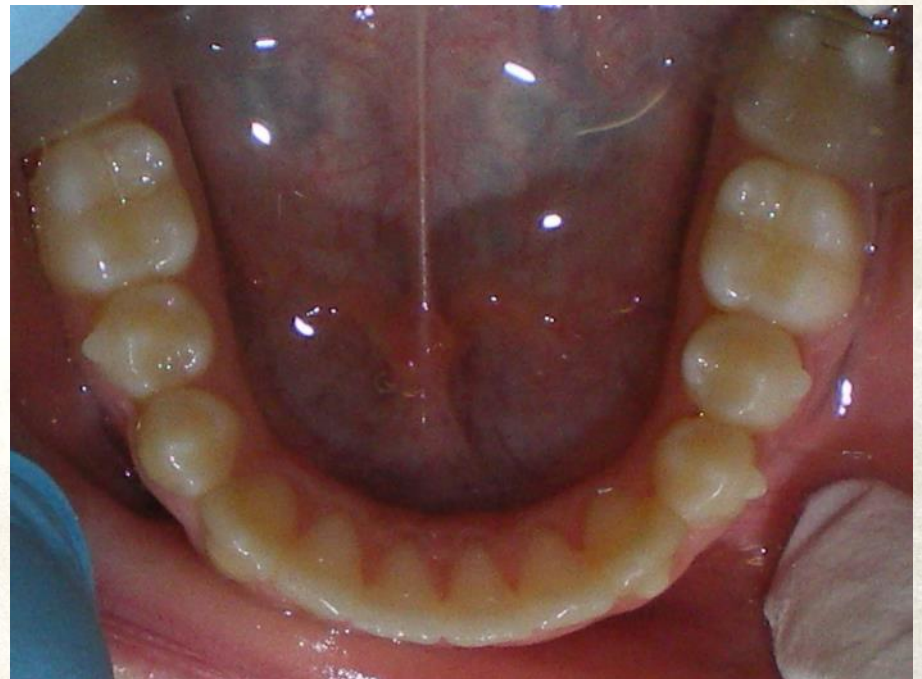
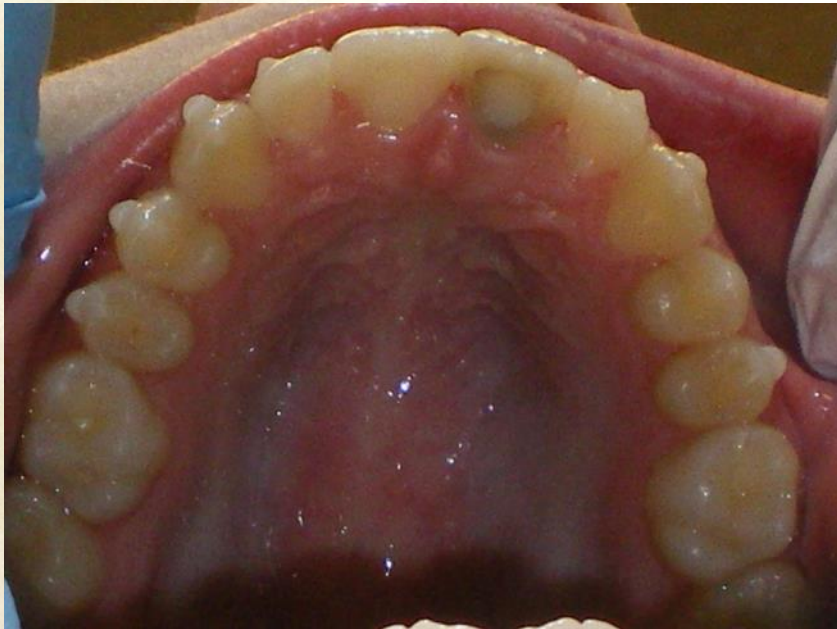
12/22/2015 Mid-Treatment Invisalign Express 5
Extra Oral Images



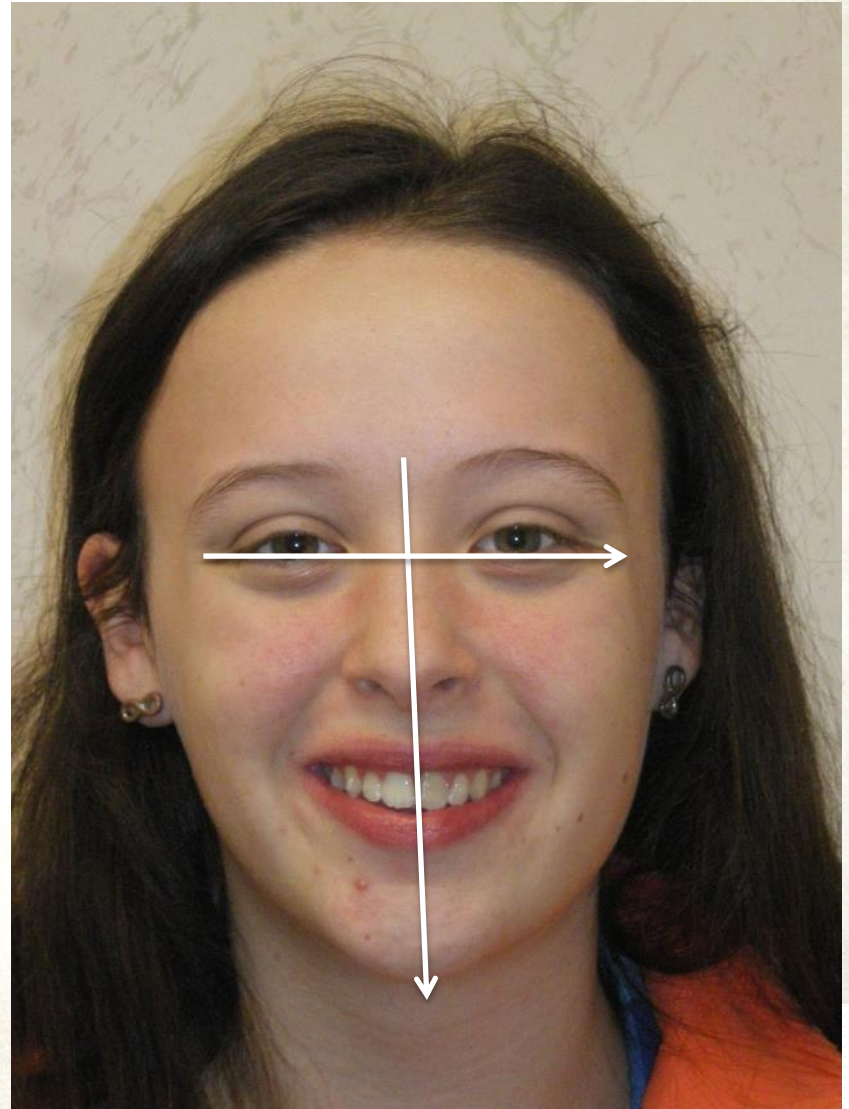
Invisalign Express 5 Final Aligner



Invisalign Express 5 Final Aligner Occlusal Views

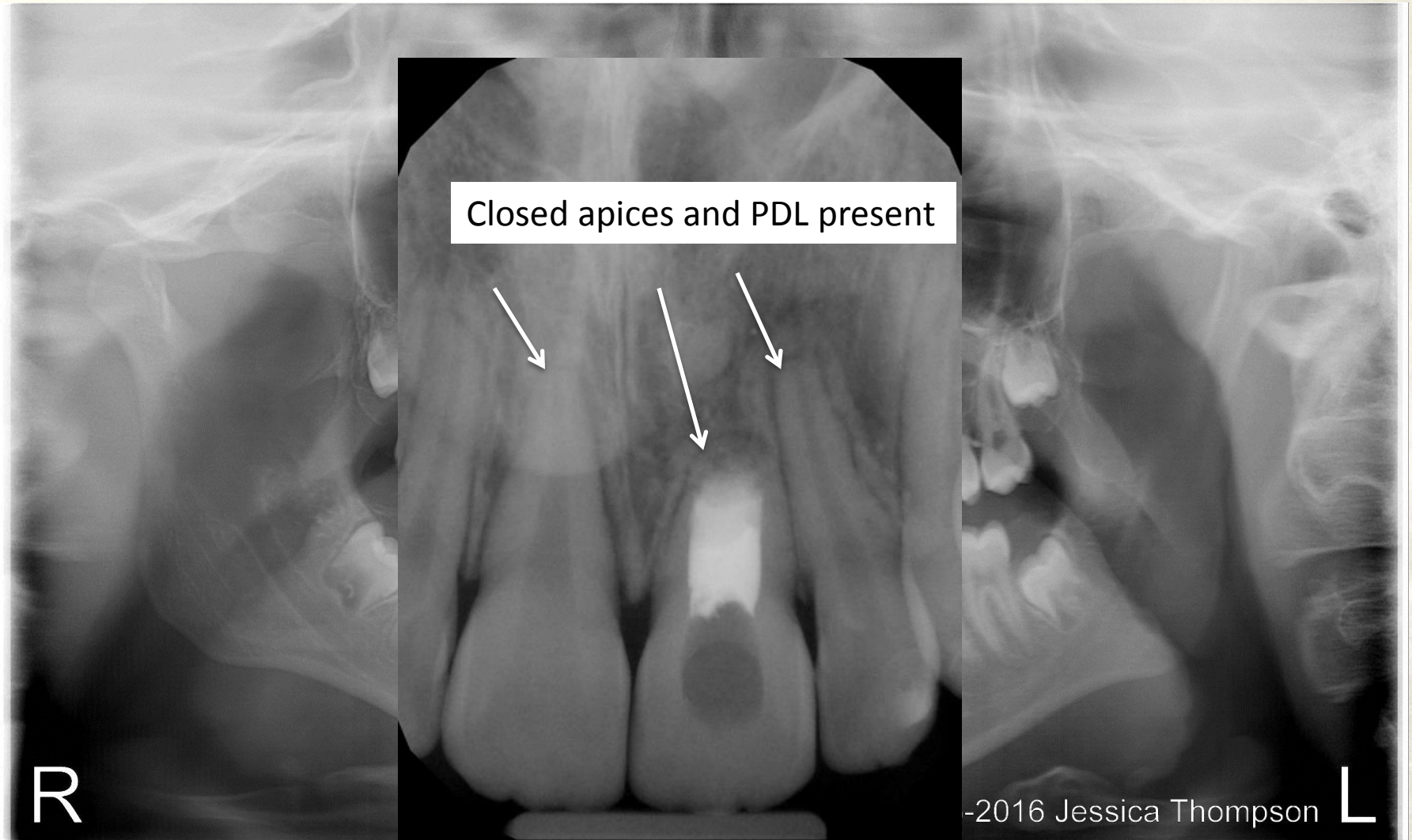


Final Extra Oral Images



Panoramic Radiograph, PAX #9 04/26/2016

Post-Orthodontic Treatment



In Summary:

- Stay calm during emergencies
- Treat conservatively
- Consult excellent specialists when necessary
- Be patient with the body as it heals
- Think out of the box!



FAMILY DENTISTRY



16 BOSTON

REVOLUTIONARY CHANGES IN DENTISTRY

