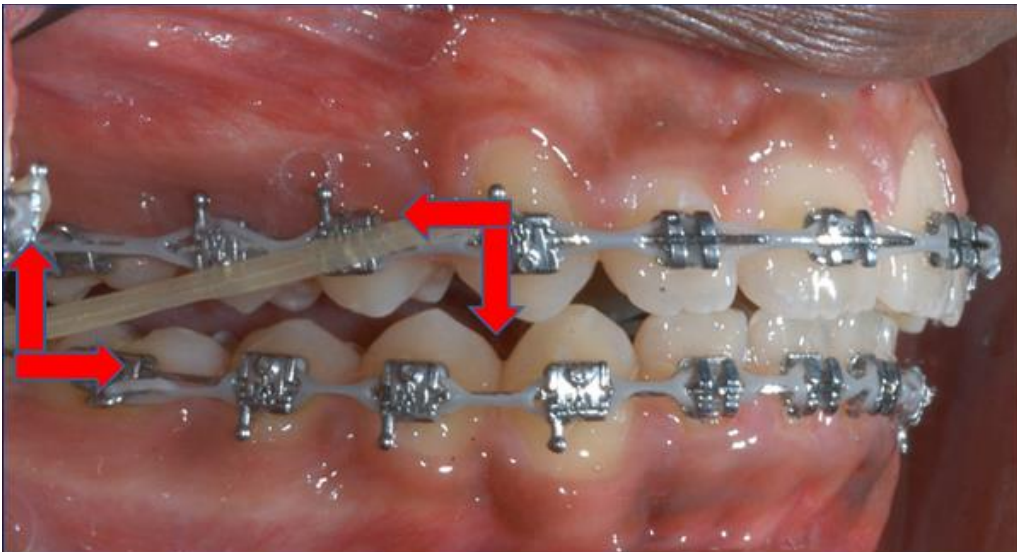
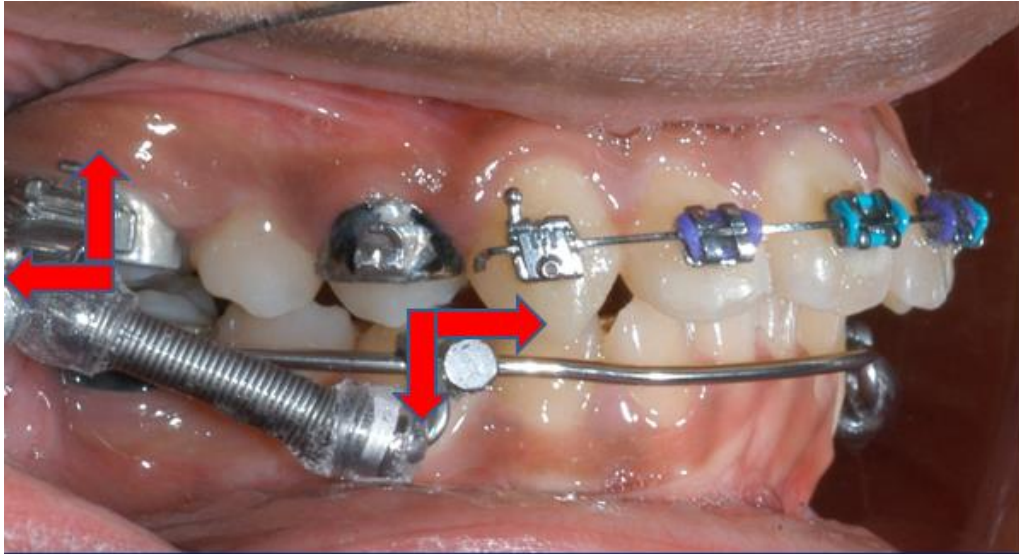


Class II Elastics vs Class II Springs

When to Extrude...
When to Intrude



Good For Bite Opening (Especially With a Turbo)
May Cause Upper Incisor Extrusion
Greater the Class II, Greater the Side Effects

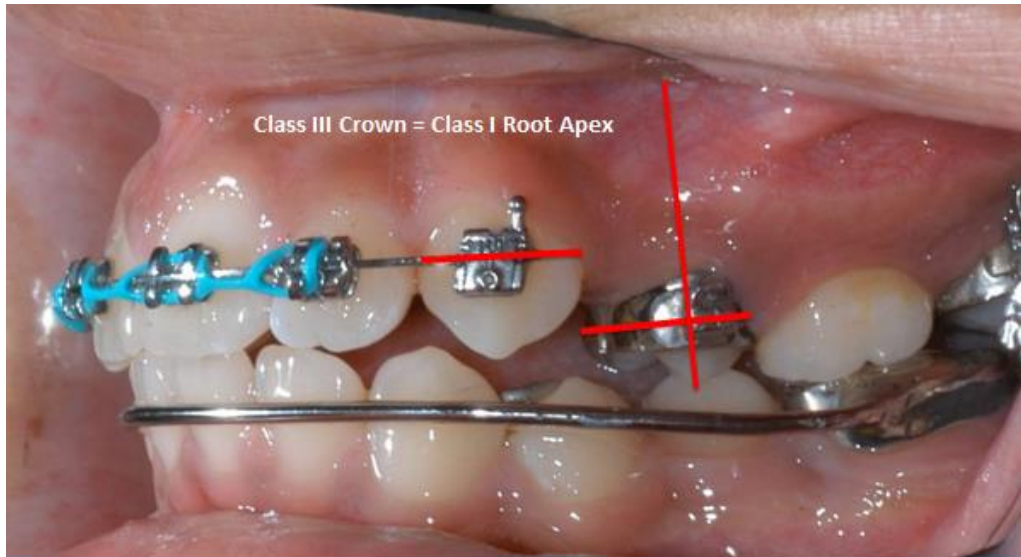


May Cause Temporary Posterior Openbite
Supports Upper Incisor Intrusion
Segment Archwire Before Attaching Springs



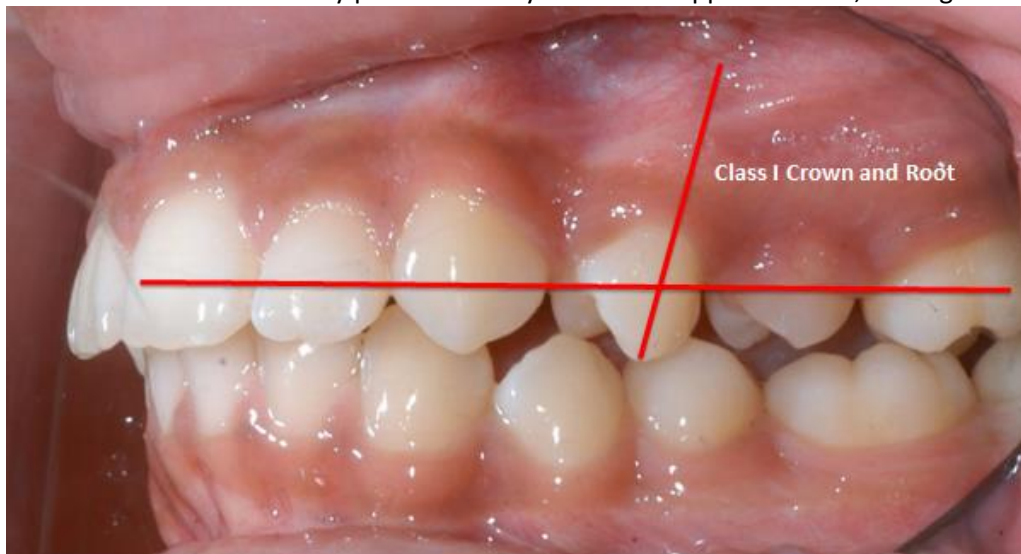
RME X 6/Xbow

This is an example of why we segment the arch wire distal to the canine before placing springs.



Isolate the anterior teeth from the side effects of the Class II springs...
 ...to avoid extrusion of the anterior segment, and...
 ...to avoid anterior canting when the spring is used on one side only, and...

We have just removed the springs after over-correcting the first bicuspid to a half cusp Class III
 The lower incisors are overly proclined. They have been tipped forward, leaving the roots in bone.



...to allow settling of the side effects before phase two

The bicuspid crown relapses forward by tipping, leaving the root apex Class I. The lower incisor relapses back by tipping, leaving it proclined 3 degrees on average.



Eruption mechanics with Class II elastics or intrusive mechanics with Class II springs? Springs support upper incisor intrusion.



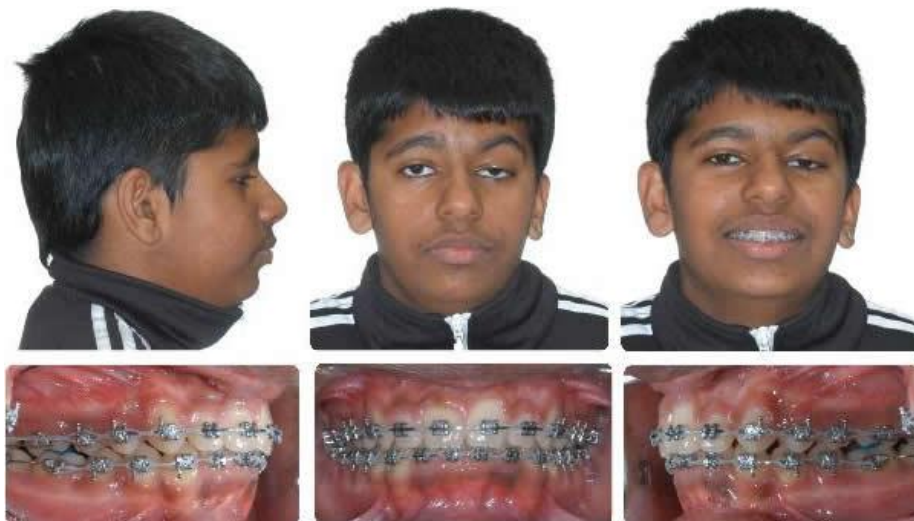
1. RME X 6 2. Xbow with springs 3 months 3. Full Braces for 13 months



Impinging overbite. This is where you need Class II elastics. Class II springs cannot open the bite.



1. Upper 2X6 and posterior bite openers, 2. 6 months Xbow followed by compensatory maxillary expansion, now hold expansion and test CI II correction for 5 months

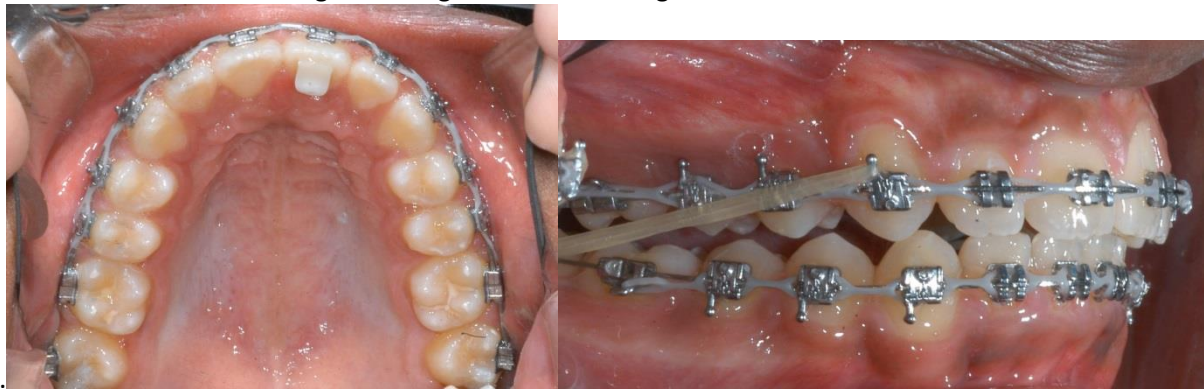


Day of bite opener switch from posterior to anterior (bite-turbo) 5 months into full braces



posterior bite openers _____ bite openers removed _____

We begin most cases with posterior bite openers. They remove occlusal interferences to prevent debonds as well as allowing lower alignment with the lightest forces

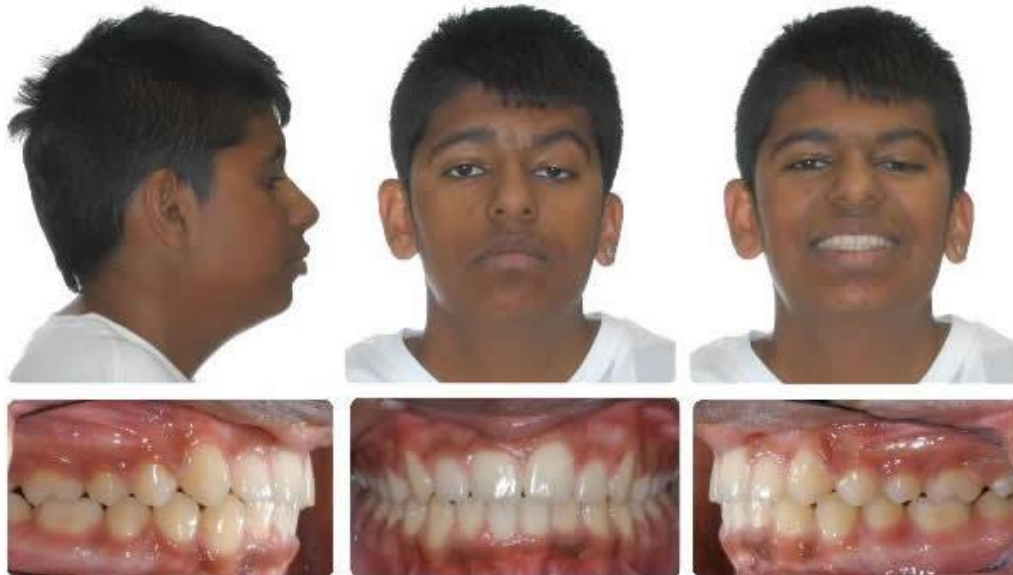


_____ bite turbo placed _____ Class II elastics to erupt lower molars and correct overjet from bite opening

This is where patient cooperation is needed. Over-correct to incisal edge to edge



9 months progress with full braces



12 months braces



3 years post deband

The Bite-Turbo Story

In 1981 I became an associate of Dr. Michael Wainwright. We went to a course on lingual orthodontics sponsored by Ormco which manufactured the lingual brackets. I had recently finished a master's degree involving research in orthodontic bracket bond strength. I had worked in the dental materials lab at Indiana University that Ralph Phillips had made famous. At the Ormco course I met Dr. Craig Andreiko who had invented the pre-adjusted lingual bracket. This led to me joining the Ormco Insiders, a think tank for orthodontic innovation, where Craig Andreiko did most of the innovating, and the other orthodontists did the clinical testing. Many of the Insider orthodontists had noticed that Class II elastics seemed to work better with lingual treatment than labial treatment.

This was due to the anterior bite plane and bite opening effect of the upper incisor lingual brackets. Craig began using the upper incisor lingual bracket blanks for labial treatment and called them "bite-turbos". He thought the best time to use them was with full size rectangular stainless steel arch wires

when the overjet had been reduced enough that the lingual of the upper incisors were hitting the lower incisor brackets. This was one of the "secret weapons" that I took away from the Ormco Insiders meetings. Another was the use of the four crown cantilever bite-jumper Herbst appliance or CBJ. This and the Ormco Bite Fixer Spring led to the Xbow Appliance.

The bite-turbo was used by some clinicians to treat TMD. It worked like a Lucia Jig by de-programming muscles and allowing the condyles to seat in the most superior position. It also worked like an NTI splint to reduce muscle contraction in bruxers. Some clinicians used heavy 6 oz Class II elastics to pull the mandible forward slightly which they claimed caused a "functional appliance effect", and even opened the airway slightly.