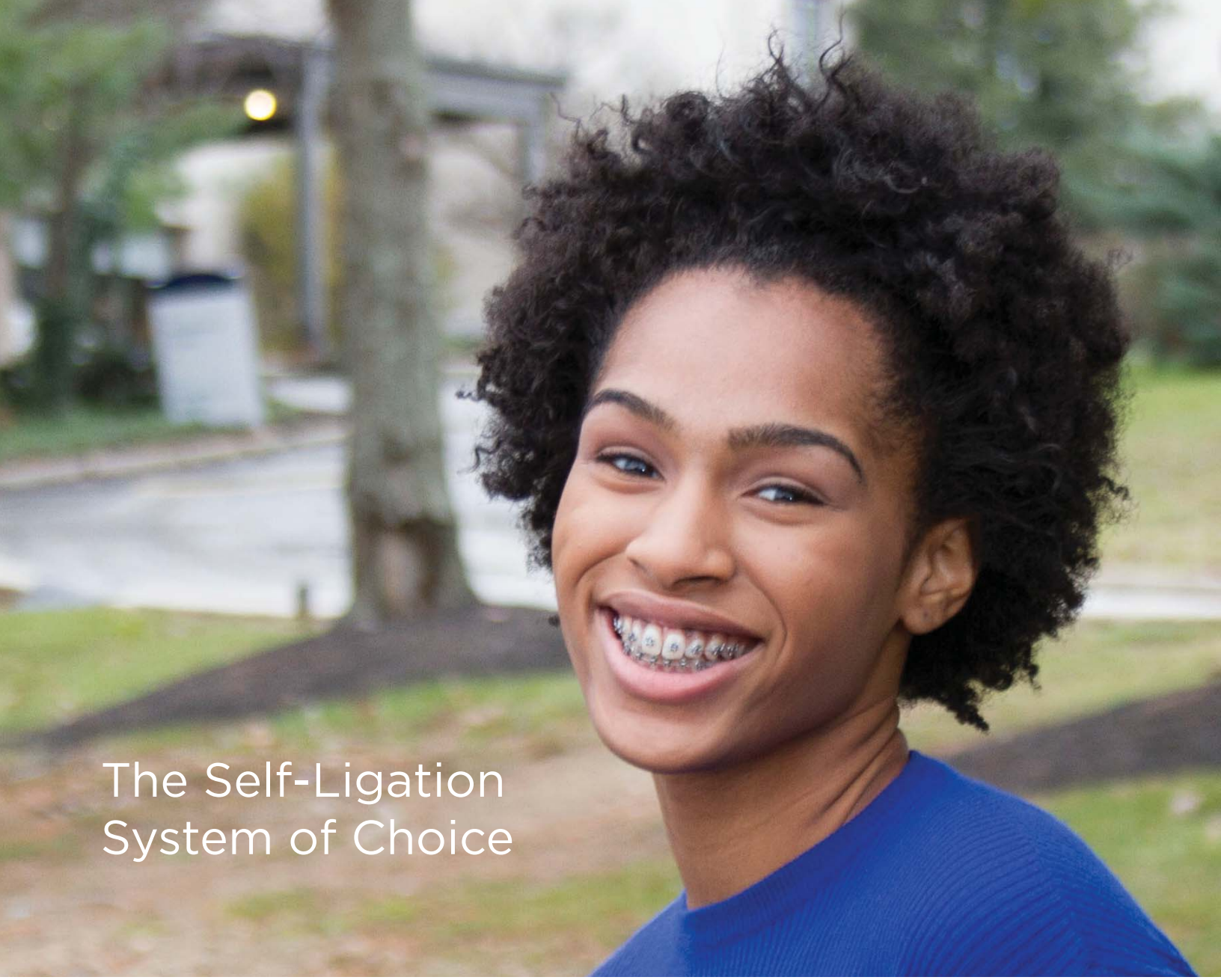


GAC's In-Ovation® R

Dentsply Sirona
Orthodontics

Over 2 Million Patients Treated... And Counting

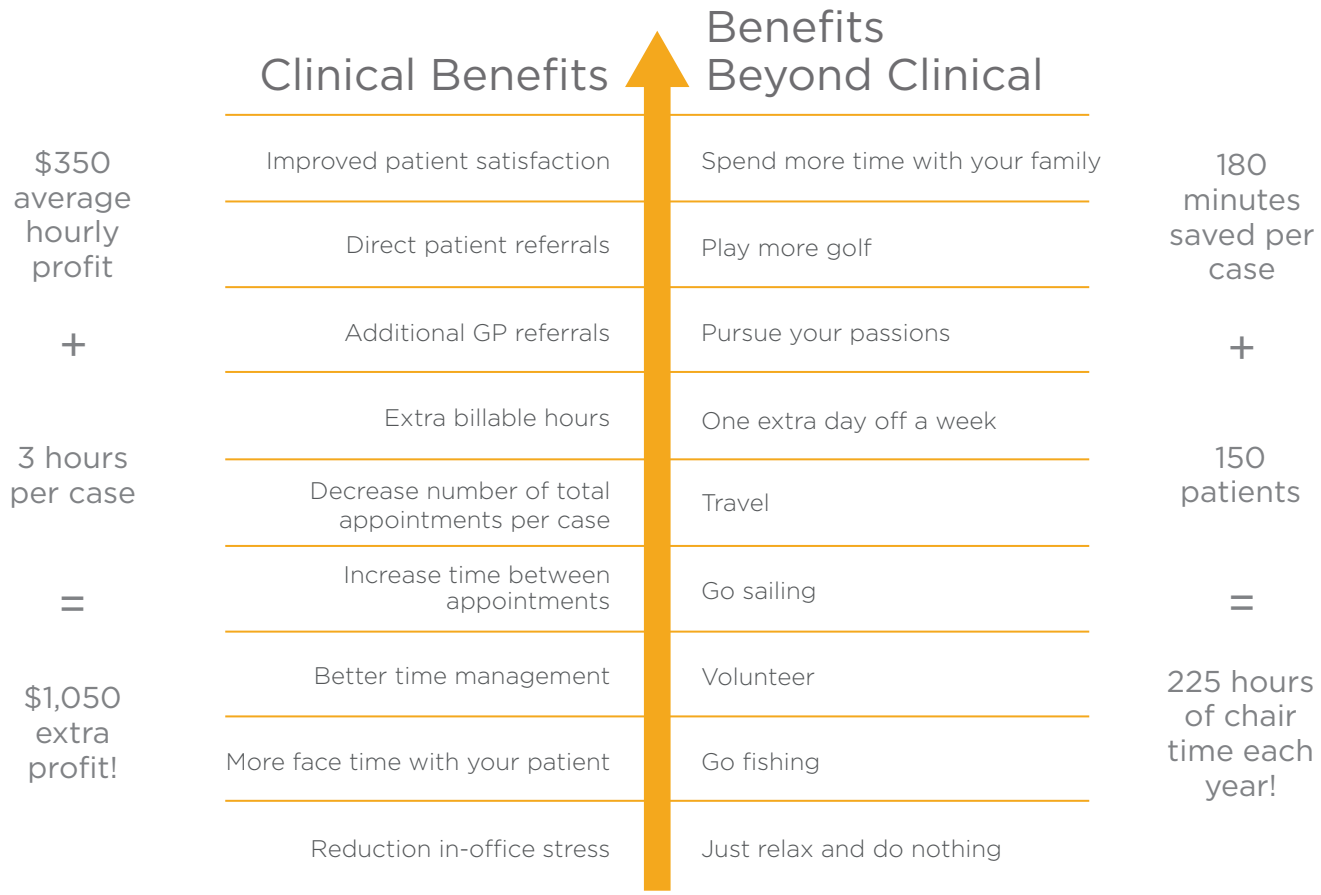
In-Ovation R has been recognized as an industry leader for over a decade. Thousands of clinicians worldwide have trusted In-Ovation to treat their patients. The precision and quality built into these brackets offers repeatable success, practice efficiencies and beautiful results every time. See how far In-Ovation R can take you, your patients and your practice.

Finding the Extra 225 Hours Hidden In Your Schedule*

In-Ovation R self-ligating brackets offer you the luxury of faster, more infrequent visits from your patients. Whether you use this benefit to streamline your schedule for a less hectic day, bump up the bottom line by treating additional patients or even reassessing how you practice to enjoy more free time to pursue your passions, it's nice to be able to choose. Because once you start realizing all the time-saving benefits of the In-Ovation R brackets, you can really begin to manage your practice... and not the other way around.

Improve Your Bottom Line

In-Ovation R can offer you benefits that extend well beyond the practice. When you consider everything you can do with more hours in your day, the benefits can really start to add up.
With an average savings of three hours chair time per case, In-Ovation R braces can add $950 – $1050 profit, per patient, to your bottom line.



*Based on an average case load of 150 patients and an average 2 year treatment time.

Practice Advantages

The In-Ovation orthodontic systems are the result of a keen understanding of human physiology and orthodontic engineering. The compound contoured base of the In-Ovation R bracket is designed to provide a precise anatomical fit across the enamel surface of the tooth. The smooth swept tie-wings are engineered to minimize occlusal interference in order to increase patient comfort. In addition, the chamfered archwire slot is designed to reduce chair time by facilitating wire engagement and reducing the chance of archwire binding or crimping. This dedication to quality and attention to detail is infused into every product that carries the In-Ovation name.

Control
Interactive spring clip for control throughout treatment

Precision
True straight wire design for optimal, precise treatment options

Quality
Highly advanced manufacturing processes with over a decade of real-world repeatable success

Time

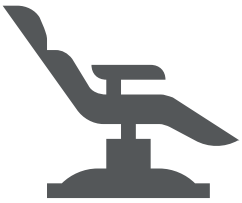
302.55 minutes vs 476.76 minutes

With In-Ovation* doctors realize a chairside time savings of approximately 3 hours per patient.

Months in Treatment

19.83 months vs 23.97 months

In-Ovation finishes equivalent cases approximately 4 months sooner than traditional brackets with ties.



Appointments

9.6 vs 16.26

In-Ovation averages 40% fewer appointments than traditional brackets with ties.

Patient Advantages

Today more than ever, patients are doing their part to better understand the options available to them. Savvy practices have come to recognize this as an opportunity, enabling you to offer the benefits of self-ligation as an adjunct to your talent, technique and reputation.

In providing a self-ligating option, you'll be able to offer your patients less chair time, fewer appointments and a cleaner, more esthetic appearance. In doing so, you'll be able to create a perceived (and potentially significant) point of differentiation between your practice and the other competing practices in the area.

Comfort
Low-profile and smooth surfaces offer enhanced patient comfort

Convenience
Fewer and shorter appointments mean better control over your daily schedule

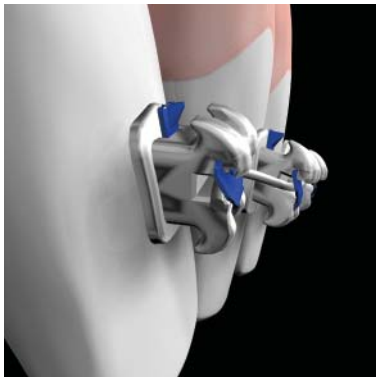
Freedom
Elastomeric free treatment for longer appointment intervals and enhanced hygiene

*Jerry R. Clark, DDS, MS, Jack Gebbie, BS, Datatex Market Research Report Summary: Increasing Practice Efficiency and Profitability Using In-Ovation Self-Ligating Brackets, March, 2007. Datatex is a member of CASRO® - Council of American Survey Research Organizations

In-Ovation Means Interactive

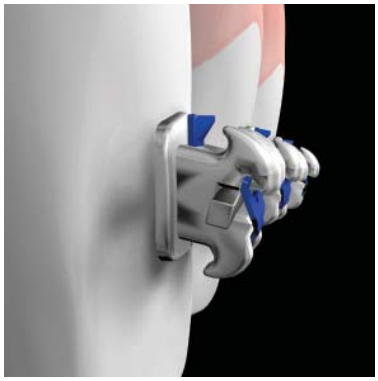
In-Ovation R provides you with the ability to start and effectively finish your treatment with one, simple system. Using the technique of your choice, In-Ovation R enables you to maintain the precise degree of control that you need for each phase of your patient's treatment. In-Ovation R's unique Interactive technology means you can choose the degree of engagement between the bracket and wire. It can be passive for leveling and aligning, expressive where control is realized and free-sliding is maintained, or active for controlled, optimal finishing.

Interactive Control



Passive Phase

Small, round wires slide freely, initiating the tooth movement process as the archwire gently levels the teeth and coaxes them into alignment.

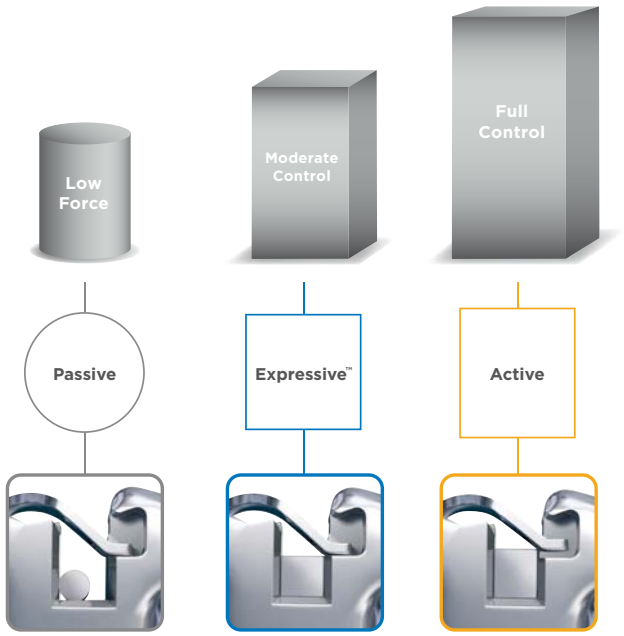


Expressive Phase

Square or rectangular wires are gently seated into the base of the slot without contacting the clip. Programming is expressed, rotations are corrected and space closures are completed.

Active Phase

Rectangular archwires extend beyond the slot to fully engage the clip, providing the active control necessary for functional finishing, uprighting of the roots and adjusting the torque.



Interactivity Guide

Archwire Sizes	.018" Slot	.022" Slot
Passive	.014" .016"	.014"/.016" .018"/.020"
Expressive™	.016" x .016" .018" x .018"	.018" x .018" .020" x .020" .022" x .018"
Active	.016" x .022" .017" x .025" .018" x .025"	.018" x .025" .019" x .025" .021" x .028"

In-Ovation R
Dedication to Detail

True Twin Design

Occlusal and gingival twin tie-wings offer an optimal mesial, distal span for achieving superior rotation control. The elimination of the elastomeric ligatures increase your inter-bracket distance.

Spring Clip

The self-ligating clip extends fully through the vertical channel in the bracket body, enhancing the structural integrity of the clip.

Full Slot Slip Coverage

The In-Ovation R clip provides full coverage across the entire slot for superior rotational control. This allows the clip to interact with the wire both on the mesial and distal, as needed, without the need for auxiliaries.

Easy Open Clip

The clip opens easily when pressure is applied occlusally to the v-notched clip at the gingival side of the bracket, using the engage R or similar instrument. The clip can be closed with an instrument or simple finger pressure on the incisal curve.

Slot Blocker

A patented slot blocker prevents the archwire from escaping from the slot and sliding up into the clip engagement channel.

Triple Chamfered Slot Wall

Slot walls are beveled outward, facilitating wire engagement and reducing the chance of the archwire binding or crimping.

Straight Wire Technology

A true straight wire appliance is one in which all the brackets have been designed to guide the teeth into their ideal position with a preformed wire. In-Ovation R is a true straight wire appliance that features a compound contour base, torque in the base, programmed in/out control and level slot alignment.

Disto-Gingival Dimple

A color code on the disto-gingival tie-wing provides immediate identification of the tooth for which the bracket was designed.

Base Design

An 80 gauge single mesh, compound contoured base provides a precise anatomical fit. The Standard Palmer Notation laser etched into the mesh facilitates bracket management with a ready reference of the quadrant, tooth and prescription.

Vertical Scribe Line

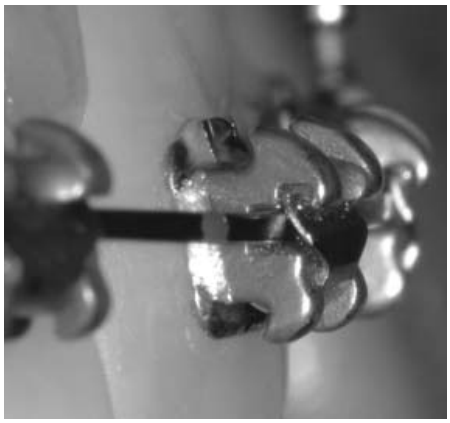
A scribe line on the bracket face aids positioning by providing a convenient reference for orienting the center line of the bracket with the facial axis of the clinical crown (FACC).

Smooth Swept Tie-Wings

Smooth, swept tie-wings help to reduce occlusal interference while increasing patient comfort. Adequate undercuts allow easy anchoring for elastic chains or the fastening of color ties at the patient's request.

A Proper Finish Begins With a Proper Start

Perhaps the single-most-important phase of orthodontic treatment is proper bracket placement. Taking time to achieve proper placement at the outset can help mitigate—or even eliminate—final archwire bends and correction.



Facial Axis Point (FA point)

The point on the facial axis that separates the gingival half of the clinical crown from the occlusal half.

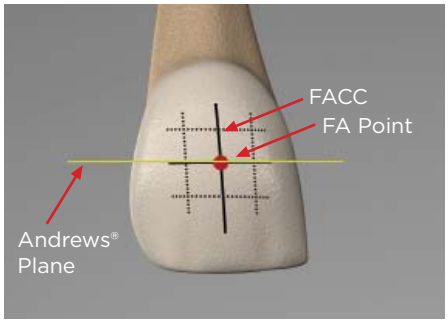
Facial Axis of the Clinical Crown (FACC)

The most prominent portion of the central lobe on each crown's facial surface. For molars, the buccal groove that separates the two facial cusps.

Andrews® Plane

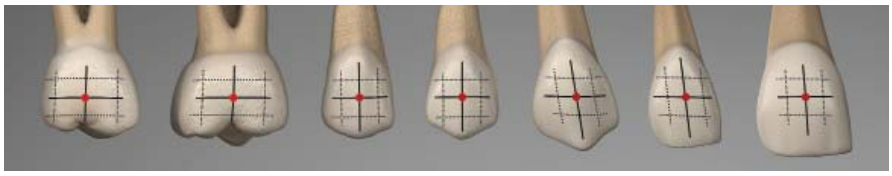
The surface or plane on which the mid-transverse plane of every crown in an arch will fall when the teeth are optimally positioned. This plane virtually connects the appliance through the FA point.

Optimal Bracket Position

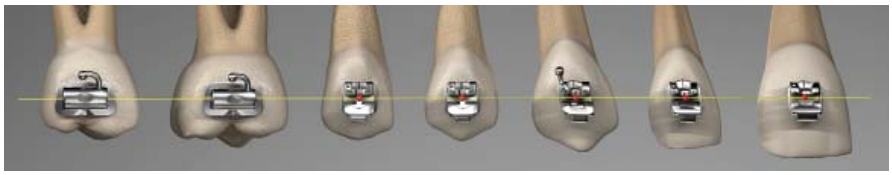


Bracket Placement

Upper Arch FA Point & FACC

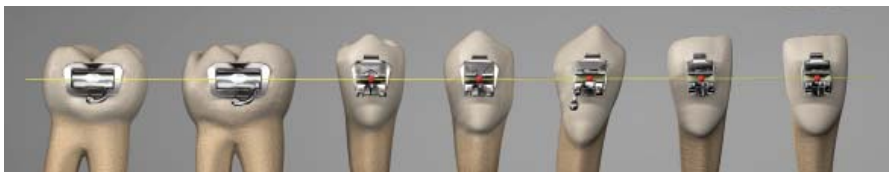


Upper Arch Brackets On Andrews® Plane Line

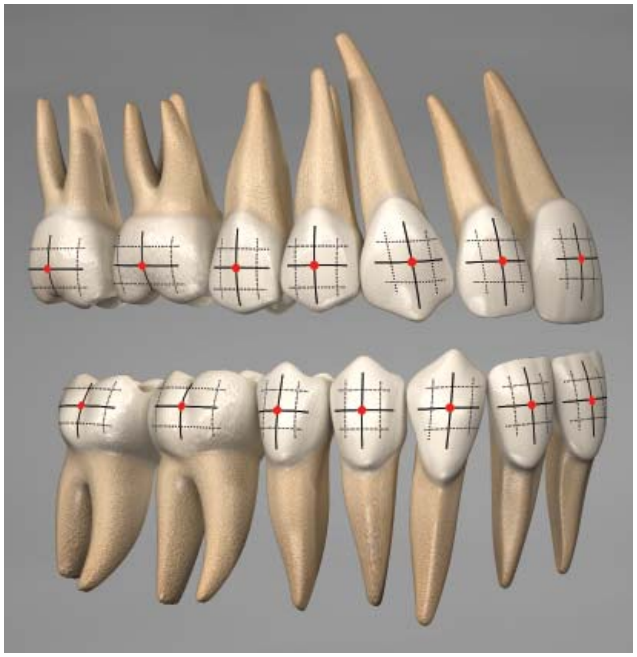


Lower Arch FA Point & FACC

Lower Arch Brackets On Andrews® Plane Line

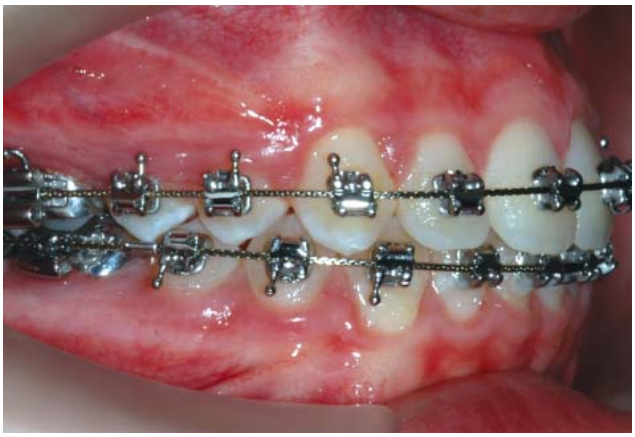


Full Arch Representation

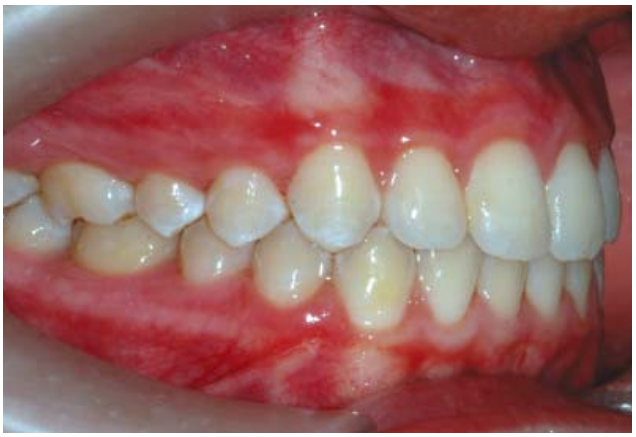


The FA point and FACC for each maxillary and mandibular tooth in an ideal alignment are shown.

Brackets and tubes placed in the ideal position along the references previously shown. The yellow line represents the Andrews® Plane, virtually connecting the appliance through the FA point.



Intraoral photo showing a case with the final wire just before the appliance is removed. The combination of a well designed appliance and proper bracket placement allows for ideal finishing with the appliance still in place!



Intraoral photo showing the final result right after the appliance is removed.

True Straight Wire Design for Truly Predictable Outcomes

In-Ovation is a completely adjusted true straight wire appliance system that positions teeth at all four dimensions: in/out, angulations, torque, and overcorrection. With this completely adjusted four dimensional appliance system you will need no offset bends in the archwires to obtain an optimal finish in most cases (if the brackets are optimally positioned on teeth).

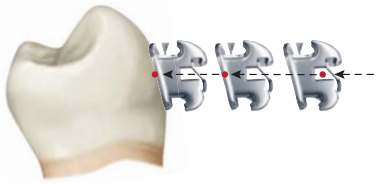
In order to be considered a completely four dimensional appliance, the bracket must contain:

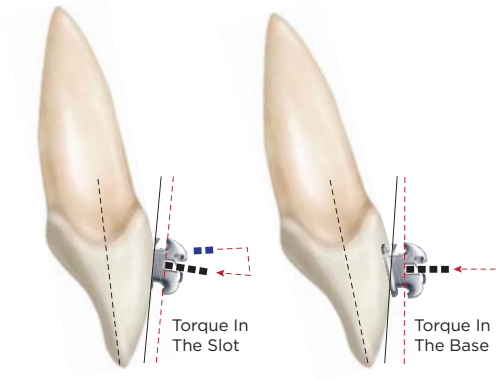
- Compound contour base
- Torque in base
- Proper in/out and anti-rotation
- Level slot alignment at the conclusion of appliance therapy

If **any** of these features is missing from a bracket design, even a case with perfect placement can be compromised.

Compound Contour Base

The design of the appliances base must mirror the mesio-distal and occluso or inciso gingival curvature of the crown of each tooth type. The base curvature must be the same or slightly more curved than the tooth surface so that the bracket stem and slot are precisely positioned. This allows the appliance to properly transmit the programmed activation.



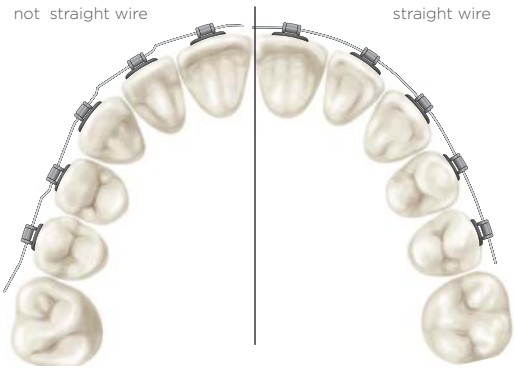


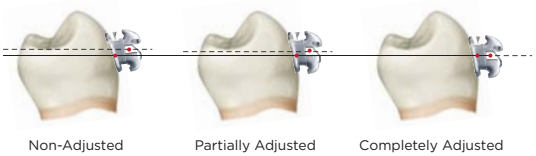
Torque In The Base

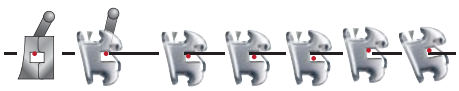
A fundamental necessity for a programmed appliance is torque in the base, but this must be accompanied by the correct base contouring or it will not work properly. This allows the slot point, the base point (middle of the base) and the reference point on the tooth to be on the same plane,
a necessity for proper tooth positioning and level

Programmed In/Out

As a result of the proper thickness relative to the adjacent brackets, in and out (first order) bends are virtually eliminated with proper bracket placement. slot alignment.







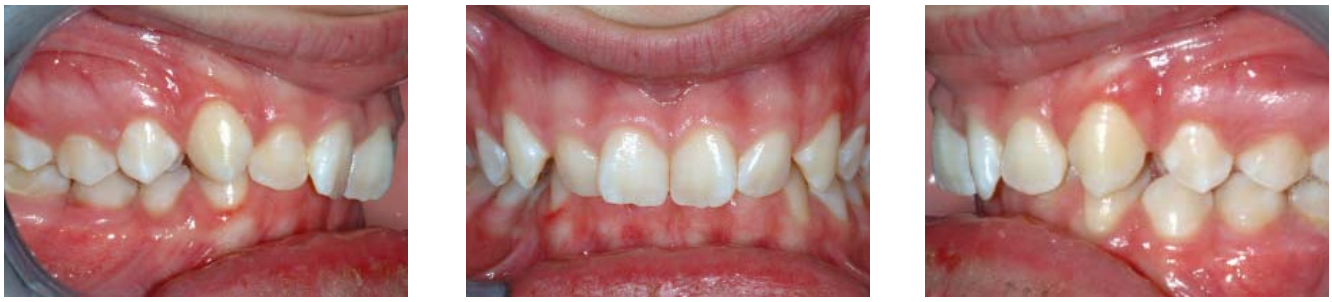
Level Slot Alignment

When all the teeth reach their programmed positions, all four dimensions are correct, allowing alignment, leveling, and parallelism of all the slots on all the brackets around the arch.

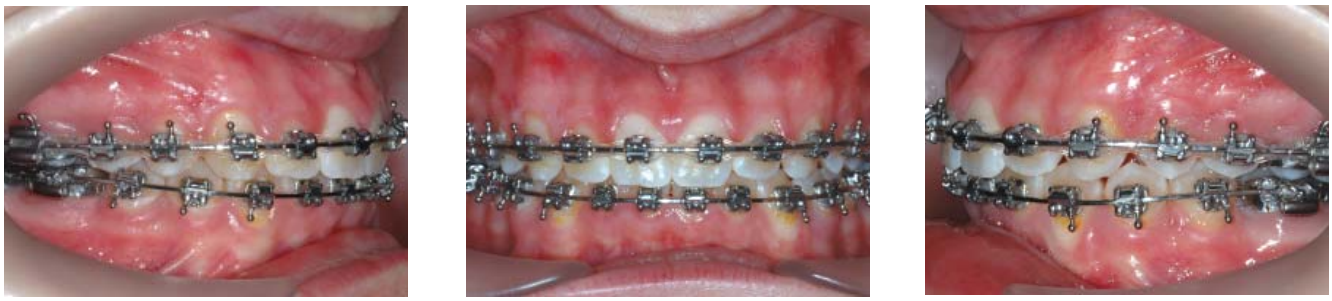
Case Study 1

Class I Deep bite/Unilateral Crossbite

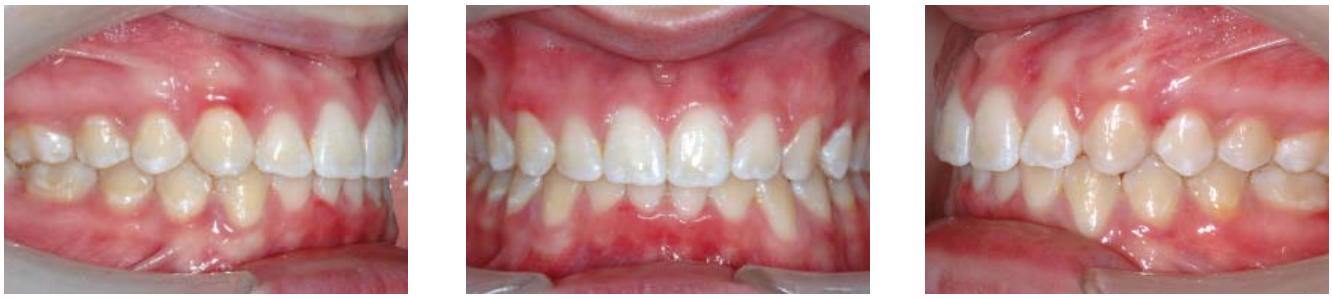
- 12-year-old female
- Deep bite
- Buccal crossbite of the right side
- Class II canines and crowding
- In-Ovation R appliance was used to level and align, parallel maxillary and mandibular occlusal planes and provide optimal buccal crown torque to the maxillary incisors
- Short Class II elastic were used at the working stage
- Treatment time: 25 months



Initial intraoral photos showing the severity of the deep bite, right side buccal crossbite and Class II canines. Notice the lack of inclination of maxillary incisors. In order to level the mandibular occlusal plane, proper inclination of maxillary incisors must be achieved.



In-Ovation R appliance. Upper and lower .019" x .025" SS, lower arch with reverse curve of Spee and short Class II elastics. Parallelism of upper and lower wire has been achieved. Notice proper inclination of maxillary incisors and level curve of Spee.



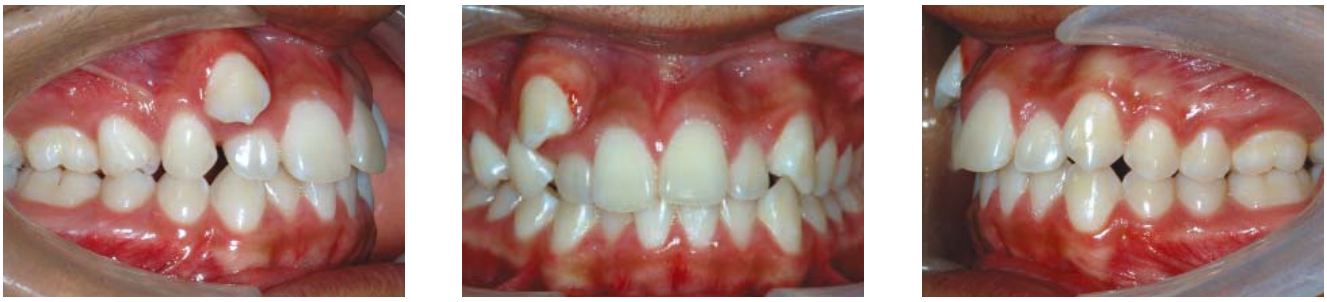
Finished case. Notice proper intercuspation, Class I molar and canine and proper overjet and overbite. Treatment time: 25 months

Case courtesy of Antonino G. Secchi, DMD, MS Assistant Professor of Orthodontics and Clinical Director of the Department of Orthodontics at the University of Pennsylvania. Private practice Philadelphia, PA.

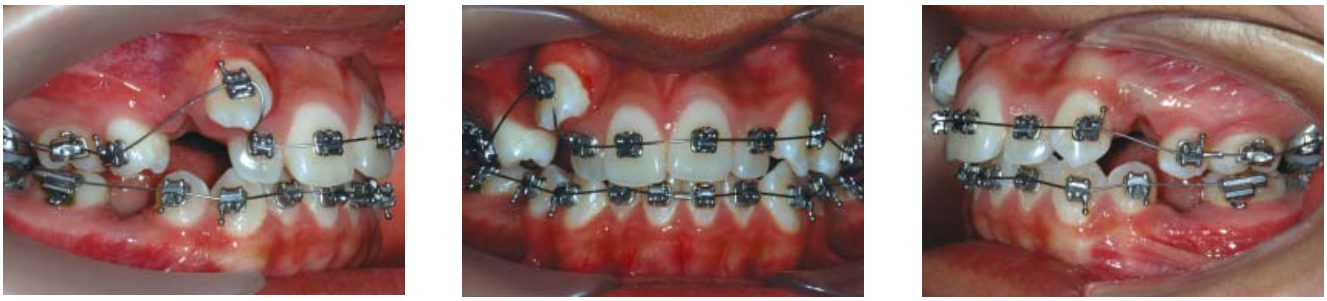
Case Study 2

Class II Crowding/Midline Discrepancy

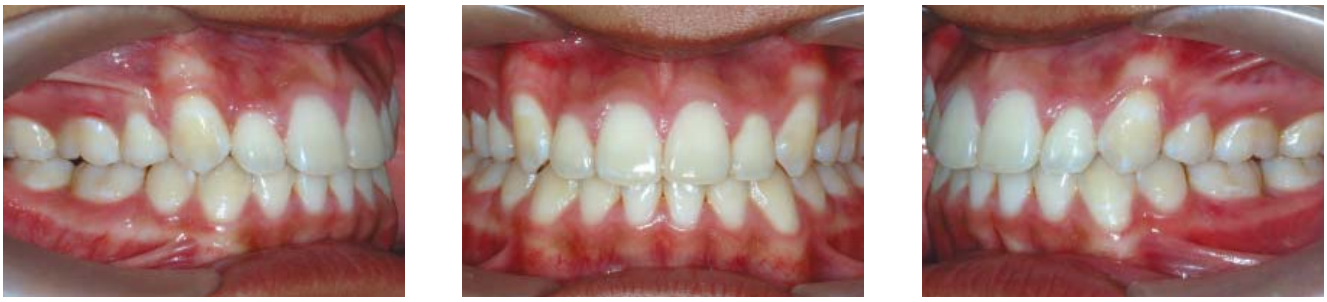
- 14-year-old male
- Blocked canine
- End-on molar relationship
- Midline discrepancy
- In-Ovation R appliance was used with extractions of maxillary first pre-molar and second mandibular pre-molar
- Minimum anchorage mechanics used
- Treatment time: 20 months



Initial intraoral photos showing maxillary right canine ectopically positioned, end-on molar and canine relationship and maxillary midline off to patient's right side.



Intraoral photos at the time the In-Ovation R appliance was placed with an upper and lower .014" Sentalloy archwires. Initial alignment was done in 7 months through a sequence of three archwires: .014" Sentalloy, .018" Sentalloy and .020"x.020" Bioforce.



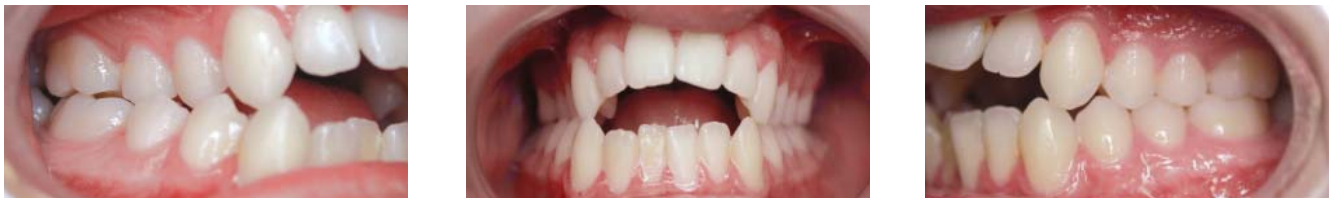
Finished case. Proper intecuspation, Class I molar and canine with proper overjet and overbite. Minimum anchorage mechanics allowed maintaining maxillary and mandibular incisors inclination while protracting mandibular molars to a Class I relationship. Treatment time: 20 months

Case courtesy of Antonino G. Secchi, DMD, MS Assistant Professor of Orthodontics and Clinical Director of the Department of Orthodontics at the University of Pennsylvania. Private practice Philadelphia, PA.

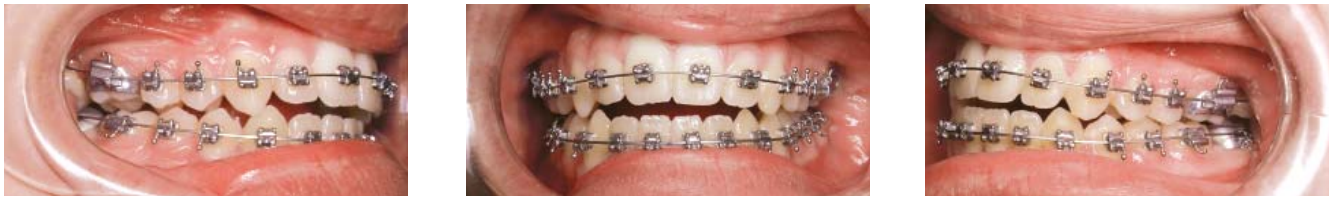
Case Study 3

Class I Openbite/Unilateral Crossbite

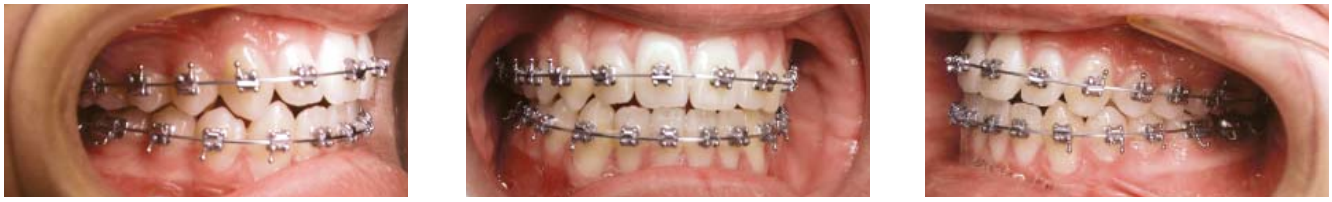
- 17-year-old male
- Anterior open bite
- Posterior crossbite
- Slightly recessive mandible
- Reverse smile line
- No extractions
- No surgery
- No spurs
- No elastics



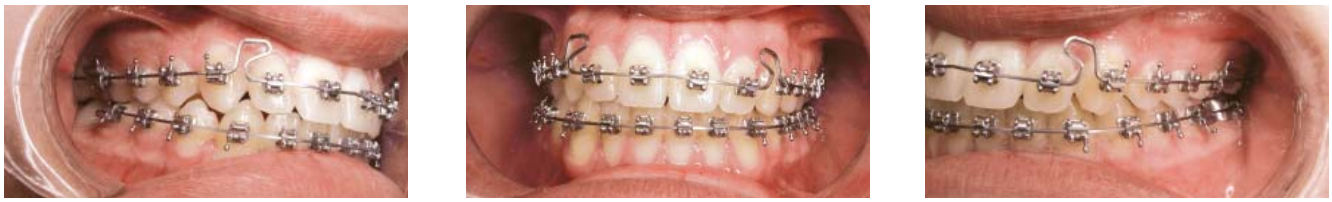
Initial malocclusion



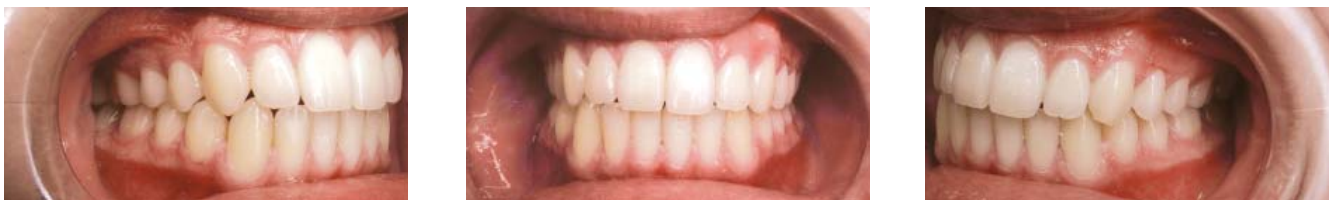
5 Months: Stage 1-Maxilla. Continue with original .018 Sentalloy Stage 2-Mandible. Begin .020 x .020 BioForce



7 Months: Stage 2-Maxilla & Mandible .020 x .020 BioForce



14 Months: Stage 3-Maxilla .019 x .025 Resolve "L" loop. Mandible .019 x .025 Resolve



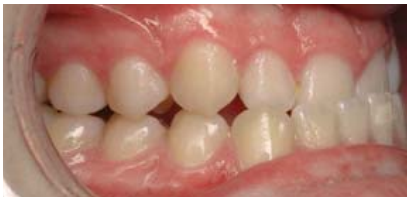
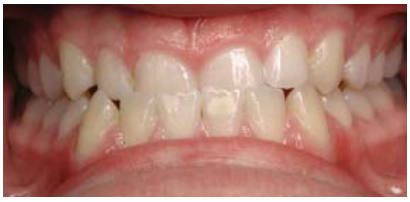
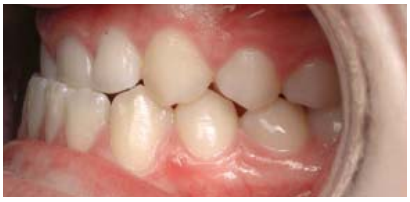
Day of removal, before gnathological positioner is placed - 16 months treatment time, 9 appointments

Case courtesy of Ronald Roncone, DDS, MS Vista, CA. Specializes in adult treatment (esthetics, surgical and TMD) as well as "early" treatment for children. He is a respected and frequent lecturer, and founder of the JSOP program used by practitioners around the world.

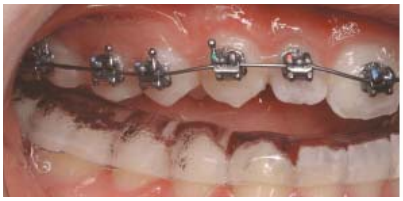
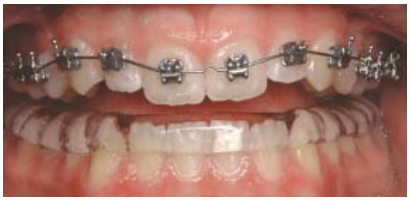
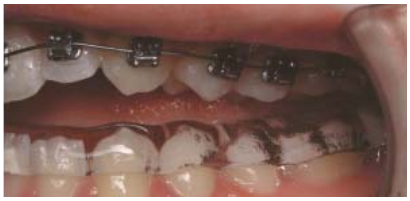
Case Study 4

Class III Non-Extraction

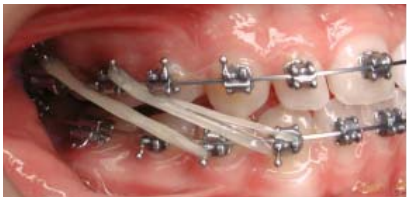
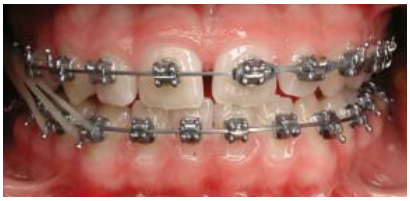
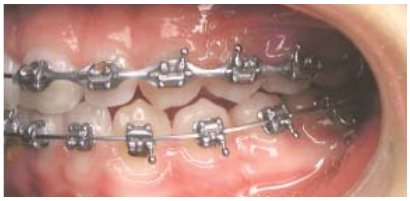
- 14-year-old male
- Unilateral Class III
- TMD
- Recessive upper lip
- Anterior crossbite

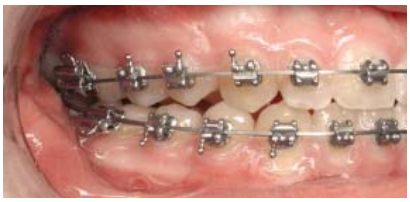
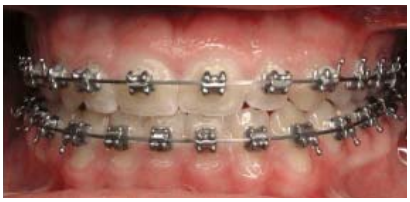
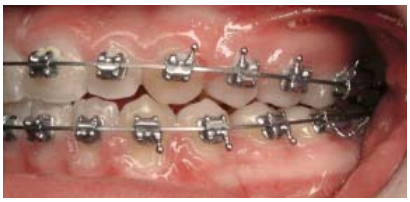
Initial malocclusion

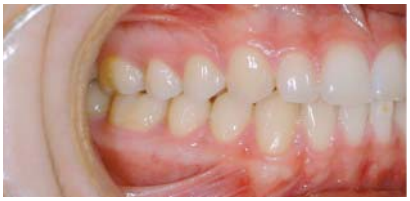
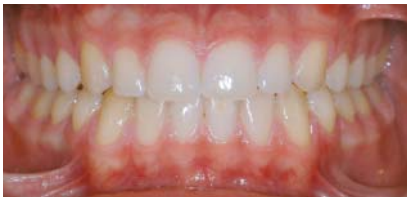
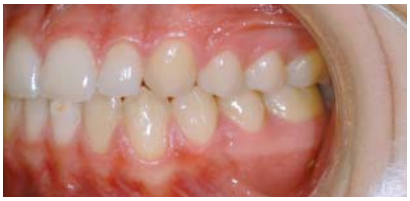
Upper: .018 Sentalloy • Lower: splint

Upper: .017 x .025 Resolve • Lower .017 x .025 Resolve

Upper: .019 x .025 Resolve • Lower .019 x .025 Resolve

Day of removal - 14 months treatment time, 6 appointments

Case courtesy of Ronald Roncone, DDS, MS Vista, CA. Specializes in adult treatment (esthetics, surgical and TMD) as well as "early" treatment for children. He is a respected and frequent lecturer, and founder of the JSOP program used by practitioners around the world.

Clinical Journal Articles

"Gaining Control with Self-Ligation"
Michael C. Alpern – Seminars in Orthodontics, Vol 14, No 1 (March 2008): pp 73-86

"Measurement of plastic and elastic deformation due to third-order torque in self-ligated orthodontic brackets"
Thomas W. Major, Jason P. Carey, David S. Nobes, Giseon Heo, and Paul W. Major
Edmonton, AB Canada – *American Journal of Orthodontics and Dentofacial Orthopedics*, Vol 140, Issue 3 (September 2011)

"Mechanical effects of third-order movement in self-ligated brackets by the measurement of torque expression"
Thomas W. Major, Jason P. Carey, David S. Nobes, Giseon Heo, and Paul W. Major
Edmonton, AB Canada – *American Journal of Orthodontics and Dentofacial Orthopedics*, Vol 139, Issue 1 (January 2011)

"Plaque retention by self-ligating vs elastomeric orthodontic brackets: Quantitative comparison of oral bacteria and detection with adenosine triphosphate-driven bioluminescence"
Peter Pellegrini, Rebecca Sauerwein, Tyler Finlayson, Jennifer McLeod, David A. Covell, Jr, Tom Maierf and Curtis A. Machida – Portland, OR – *American Journal of Orthodontics and Dentofacial Orthopedics*, Volume 135, Number 4 (April 2009)

White Papers

Increasing Practice Efficiency and Profitability Using In-Ovation® Self-Ligating Brackets
by Dr. Jerry Clark Item #120-089-04

Self-Ligation: The Future of Orthodontics
by Dr. Jerry Clark Item #120-089-05

In-Ovation...Fewer Office Visits...Shorter Treatment Time
by Dr. Straty Righellis Item #120-089-03

The Practice Pulse™ Program Featuring In-Ovation R Cost Saving Analysis
by Dr. Glen Cowan

Text Book

Interactive Self-ligation - Orthodontic Techniques
John C. Voudouris, DDS, DOrth,MSc (D)
M.M. Kuftinec DMD (Harv.), Editor
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