How ‘a penguin’ can help your practice (really!)

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This complex orthodontic case was chosen to illustrate the significant benefits of using In-Ovation R self-ligating brackets. Throughout this article I plan to demonstrate how these self-ligating brackets allow one to treat cases more efficiently and effectively, thus reducing patient discomfort, treatment time, the number of patient visits and also the amount of patient chair time needed to successfully treat the case. I know from experience that the CCO bracket prescription for the InOvation bracket consistently delivers precision torques and angulations making it an ideal choice for all of my patients.

Case presentation

Lizzy B. presented in our office with a Class II, division 1 dental malocclusion with significant maxillary and mandibular dental crowding; excessive overjet; an end-on molar and canine relationship; an excellent nasolabial angle; a mildly retrusive mandible; and a small chin.

The panoramic X-ray was negative, with the exception of the presence of third molars that will need to be removed in the future (Figs. 1–9).
Inspiration Just Went Viral

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Various treatment options were considered before I elected to treat this case using the Penguin Appliance, developed by Dr. Joe Mayes of Lubbock, Texas. This appliance is easy to use and does a very effective job of distalizing maxillary molars in order to correct dental Class II malocclusions and create a Class I molar relationship (Figs. 10–12).
To Grow Your Practice, Step Up to In-Ovation R

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 reassess 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.

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*Based on an average case load of 150 patients and an average 2 year treatment time.
After six months of wearing the Penguin Appliance, please note that the relationship of the molars has changed from an end-on molar relationship to a solid, if not slightly overcorrected, Class I molar relationship. There has been a significant amount of space created by the distalization of the maxillary molars that will allow for the correction of the maxillary crowding problem. Also, note that the maxillary incisors and the overjet and overbite relationship have not changed (Fig. 12).

The case is now bonded and a Nance Appliance placed so as to maintain the position of the distalized molars and maintain maxillary anchorage. The .022 x .028 slot In-Ovation R-brackets have been bonded, the molars banded, and please note that the .014 Sentalloy® archwires stop at the first molars to prevent these flexible wires from coming out of the mandibular second molar tubes (Figs. 13–16).

After just four months, please notice how much tooth alignment has been achieved and how much space has closed due to the ability of the .014 archwire to freely slide in an almost frictionless manner. The bicuspids and canines have distalized and the maxillary anterior teeth have aligned without the upper incisors protruding. The alignment of the lower anterior teeth has improved significantly and at this appointment, a second .014 Sentalloy archwire is placed to eliminate the remaining rotations in the mandibular arch (Figs. 17–26).
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After six months, an interactive .020 x .020 Bioforce archwire is placed in both arches. Bioforce is a fantastic archwire that allows for optimum force to be exerted to move teeth in a highly effective manner via low force in the anterior area, more force in the bicuspid area and higher force in the molar area. In just six months, almost all the space is closed, the archform has been established and in the lower arch, the incisors have aligned without increasing the inter-canine width (Figs. 27–35).
Connecting Individuals, Ideas and Inspiration.

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At eight months, the upper elastic chain is changed to close the remaining space. In the mandibular arch, a .0215 x .028 Bioforce archwire is placed and a panoramic X-ray is taken to verify the root positions and their parallelism (Figs. 36–45).

At 10 months, a full-sized .0215 x .028 Bioforce archwire was placed in the maxillary arch to allow the wire to interact with the customized bracket prescription to produce the proper torque and angulation for each individual tooth. The Nance Appliance is also removed at this time. Elastics are now placed to start the working phase of treatment to correct the biting relationship, with a Class II elastic being employed on the left side to correct the midline discrepancy (Figs. 46–49).

At 12 months, the final set of .018 stainless-steel archwires with soldered spurs are placed to provide for the finalization of the biting relationship, and the seating of the cusps. The mandibular midline is still off to the left, so short triangular elastic are being utilized to correct the midline and seat the cusps. This process of detailing will continue for six months to ensure the proper alignment and occlusion is achieved to promote the stability of the final occlusion (Figs. 50–54).

At 18 months, the appliances are removed and final treatment records are obtained. Results were achieved with only 14 appointments and less than six hours of chair time was needed to successfully treat this case (Figs. 55–64).
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**Figs. 46–49** At 10 months, Nance Appliance removed. .0215 x .028 Bioforce archwire is placed as well as elastics.

**Figs. 50–54** At 12 months, final set of .018 stainless-steel archwires with soldered spurs are placed.
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One-year post-treatment photos are also included to show how the stability of the case has been maintained and the occlusion has continued to improve, as has the profile and appearance. Also, please note the attractive smile line that has been created. (Figs. 65–71).

The interactive nature of the In-Ovation bracket is the key to efficient and effective treatment. Initially, with small round wires, the teeth are free to slide and move with incredible speed. Once square and rectangular archwires are placed, they interact with the active clip and exert the force to express the torque and angulation that has been built into the bracket. With the precise nature of the CCO bracket prescription, the crowns and roots of the teeth are aligned in the most exacting manner available today.

Figs. 55–64. Appliances removed at 18 months, final treatment records obtained.
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One year posttreatment.

Jerry R. Clark, DDS, MS, maintains a successful orthodontic practice in Greensboro, NC. He received his BS and DDS degrees from the University of North Carolina and his master’s degree in orthodontics from St. Louis University. He is board certified and has practiced orthodontics for more than 35 years and been lecturing on various orthodontic topics for more than 30 years. He is also a partner in Bentson, Clark and Copple, a company dedicated to assisting orthodontists with successful succession planning, practice valuation and sale of their orthodontic practices. For more information call, (800) 621-4664.