

Gentle, effective, and efficient Class II correction that sets a new standard for treatment

The Jasper Vektor™ — the first edgewise Class II corrector

Treating Class II malocclusions has historically found the practitioner choosing from a standard set of treatment options that have either been dependent on patient compliance or risked undesired extrusion in the course of correcting the overjet. Another challenge to correcting the Class II malocclusion is applying adequate force to create the necessary movement without producing extrusive tipping force on the maxilla and anterior teeth, which is always contraindicated for the over-erupted Class II patient.

According to Dr. James Jasper, “The greatest problem in orthodontics has always been that we can never touch or place any of our forces on the center of rotation of the teeth or jaws. Physics provides us with only one answer — curved vectors.”

While curved force vectors have been the standard for creating tooth movement for nearly 87 years, their use has not been applied to correction of Class II malocclusions. The Jasper Vektor™ has changed all that by harnessing energy from the muscles of the jaw to apply gentle and efficient force, correcting the overjet without causing extrusion and with greater comfort to the patient.

“The Jasper Vektor device does not tip the maxilla; it applies just what is required for efficient Class II correction — about 3.5 ounces of force,” says Dr. Jasper, inventor of the Jasper Vektor appliance. “This is free energy we are pulling from the face muscles; essentially we are using the same edgewise vectors we have traditionally used to move teeth to move the mandible.”

The difference between the Jasper Vektor and other Class II correctors is its innovative, arched spring design that flexes in its distal 25%-45% of the overall appliance length. The Jasper Vektor allows treatment of overjet with a host of benefits:

- Curved force vectors apply only the force needed to gently and efficiently move the mandible — about 3.5 ounces.
- The curved shape keeps the appliance away from the food bolus during eating and makes oral hygiene significantly easier.
- The coil spring is tightly wound to prevent soft tissue impingement.
- The low-profile arched spring allows for natural lateral mandibular movement for patient comfort.
- Class II malocclusions can be effectively treated in about 6 months with no dependency on patient compliance.

Class II correction without tipping the maxilla

The Jasper Vektor bite-correcting appliance attaches directly to brackets and archwire and works by introducing gentle intrusive force vectors to the patient’s upper and lower teeth. This light continuous force is not applied along the appliance’s axis, but instead sweeps in an arch to lift up on the front of the upper molar, and down on the lower front teeth as the appliance tries to return to its pre-installed (passive) state. This is in direct contrast to Herbst® and Herbst-like appliances, as well as spring-activated straight force devices that deliver their force straight along the axis of the appliance. These devices all attach to the distal of the upper molars, often with what amounts to be a small lever arm that ultimately magnifies the tipping force.

A comparison of the types of Class II correctors available and the force types produced is illustrated by a Newton analysis.

Newton’s Grid

		Flexible	Rigid		
Push		Jasper Vektor™ Light Continuous Forces Curved Vectors	Herbst® Heavy Intermittent Forces Linear Vectors	Fixed Intrusive	
		Fixed Spring-Type Appliances Jasper Jumper and Others Linear Vectors	Linear Vectors		
Pull		Headgears Heavy Intermittent Forces Elastics Light Intermittent Forces Linear Vectors	Functionals No Force	Removable Extrusive	
		Doctor Controlled Force Levels APPLIANCES	Patient Controlled Force Levels NOT APPLIANCES		

Figure 1: This Newton analysis of Class II correction devices illustrates the effectiveness of the Jasper Vektor in creating optimal results with none of the unwanted challenges inherent in current technologies



James Jasper, DDS, is one of the world’s leading experts on Class II correction. He began his extensive 45-year career as an orthodontic instructor in Denmark, where he also learned from Arne Bjork and others how the face developed. His works have been published globally, and he has lectured in over 35 countries. Dr. Jasper has a private practice in Fairview, Oregon, and holds several patents on Class II correctors, which have been used around the world.

Durability and dependability during treatment

The Jasper Vektor is constructed of nickel titanium, making the appliance break-resistant throughout the course of treatment.* Combined with its low-profile design and clearance from the food bolus, the Jasper Vektor may be the most durable and reliable Class II corrector available.

Five minutes to install. Six months to results

Even in an extreme case (a 14 mm Class II overjet), the Jasper Vektor has produced remarkably efficient results (Figure 2). Following an approximately 5-minute installation, the appliance produces full resolution of the overjet (Figure 3) and noticeable change in patient profile in just 6 months (Figure 4).

"The results we are seeing when patients are treated with the Jasper Vektor, particularly in terms of treatment time and patient comfort, are unheard of in the orthodontic industry," says Dr. Jasper.



Figure 2: Patient with 14 mm Class II overjet at start of treatment



Figure 3: Treated with rectangular wires for 7 months prior to installation of Jasper Vektor. Jasper Vektor was active for 6 months. Total case treatment time was 25 months



Figure 4: Patient shows visible improved profile after 6 months treatment with Jasper Vektor, even after missing multiple appointments during course of treatment

Installation of Jasper Vektor

- Note that molars must be banded and the use of an occlusal headgear tube is required. Patient must be in .017" x .025" (0.4318 mm x 0.635 mm) or .021" x .025" (0.5334 mm x 0.635 mm) rectangular archwires to fill the slot completely. (Second molars should be banded for improved anchorage.)
- When placing the large upper wire, narrow it as much as possible in the posterior area. For patient comfort, it is recommended to wait 4 weeks to install the Jasper Vektor appliance, which typically can be done in a 15-minute appointment.
- Remove lower archwire and lower bicuspid brackets.
- Place wire in anterior brackets; mark distal to canines and place 1-mm bayonet bands at marking. Place the archwire lock, and tighten at bayonet bend. (First loosen assembly without taking it apart, so it can slide on the wire.)
- Reinstall the archwire, bend the distal down, and cinch back to prevent mesial movement of the lower anchorage teeth.
- Have the patient bite down in centric and measure from the mesial of the upper molar headgear tubes down to the distal of the sliding arch. (Measure both sides.)
- To this number add 12 mm or 13 mm. For example, an 18-mm measurement would require a 30-mm appliance. A 20-mm measurement would require a 33-mm appliance. Select the correct right and left appliance.
- Slip the gap in the split ring onto the lower archwire just behind the arch lock, and squeeze the gap closed with a Howe plier.
- Hold the upper extension of the Jasper Vektor appliance with a Howe or Weingart plier, and slide it in the headgear tube from the distal. Hold it in with a finger, grip the 5 mm sticking out the front of the tube, and bend it into a U shape. The front 5 mm of this wire has been annealed to facilitate bending (and unbending during removal).
- At the end of the correction phase (6 months), use of Class II nighttime elastics is recommended for retention.



For more information about the Jasper Vektor appliance call, TP Orthodontics at 800-348-8856. Visit www.tportho.com/Vektor to view the video. **OP**

*The Jasper Vektor appliance has undergone more than 7 million cycles in laboratory testing.

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