

# CASE 2

## SPACE CLOSURE BY MOLAR PROTRACTION

### Indications

- To protract the posterior segment to close a space caused by tooth loss or a congenitally missing tooth.
- **In a Class II case:** To protract the mandibular posterior segment after obtaining ideal anterior occlusion. Obviates the need for Class II elastics while maintaining good lip support in the maxilla.
- **In a Class III case:** To protract the maxillary posterior segment after obtaining ideal anterior occlusion. Obviates the need for Class III elastics.

### Benefits of VectorTAS vs. Conventional Mechanics

- Provides absolute anchorage for posterior segment protraction without the unwanted reciprocal side effect of anterior tooth distalization.
- Achieves Class I molar relationships without elastics or affecting the torque and/or position of the anterior teeth of the opposing arch.

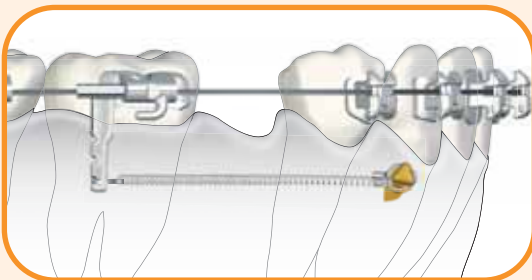
### Prior to Miniscrew Placement

- Complete leveling and aligning, including leveling the curve of Spee.
- In Class II and III cases, obtain Class I cuspids by idealizing the anterior segment first.
- Progress through the archwire sequence to a full size rectangular stainless steel archwire (for example, .019 x .025 if using the Damon® System) to prevent tipping when protracting the posterior segment and to prevent tissue impingement with the crimpable posts (left uncrimped in this case).


### Items Required for Placement

- Topical anesthetic.
- Supplemental local anesthetic delivered via MadaJet XL.
- VectorTAS Straight Driver.
- Two VectorTAS Orange 8 mm Miniscrews.
- Two VectorTAS 150 g Single-Delta Ni-Ti Coil Springs (5 or 10 mm).
- Two VectorTAS Crimpable Posts (left uncrimped).
- Indirect Method: Eliminate the two VectorTAS Crimpable Posts. Add two ligature wires.


### Direct Biomechanical Setup



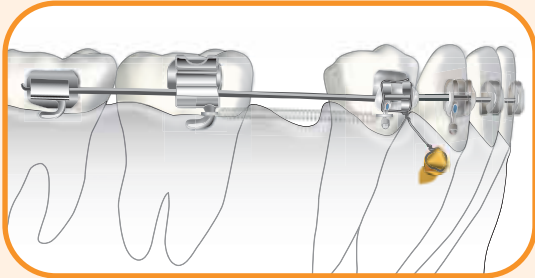
#### MINISCREW PLACEMENT

TYPE	POSITION
 8 mm	Between roots of cuspid and first bicuspid at the mucogingival junction.

#### ATTACHMENT

TYPE	POSITION
 150 g 5 or 10 mm	Attach each coil spring from the miniscrew to the VectorTAS Crimpable Post (left uncrimped).  Clinician may tie the second molar to the first molar or allow the second molar to drift behind the first molar.


## Indirect Biomechanical Setup




### Rationale for Indirect Approach

The indirect biomechanical setup addresses cases in which the vestibule is too shallow to comfortably accommodate the VectorTAS Crimpable Post.

### MINISCREW PLACEMENT

TYPE	POSITION
 8 mm	Between roots of cuspid and first bicuspid.

### ATTACHMENT

TYPE	POSITION
 150 g 5 or 10 mm	Attach a ligature wire from each miniscrew to the first bicuspid bracket.  Attach each coil spring from the first molar hook to the first bicuspid hook.  Clinician may tie the second molar to the first molar or allow the second molar to drift behind the first molar.

- ▶ For rotational control, bond a button on the lingual surface of the molar being protracted and the lingual surface of the ipsilateral first bicuspid or cuspid. Connect a light elastic chain to each button.

*Note: Keep in mind that the force being applied to the lingual surface of the molar is an anti-rotational force, not a protraction force. Any force greater than that required to prevent molar rotation will likely result in rotation and movement of the involved bicuspid or cuspid.*

- ▶ Indirect Approach: To reduce friction in the posterior, round the posterior segment of the archwire with a gray stone.

### Clinical Expectations

- Be alert to anterior tooth flaring due to the archwire binding in the brackets during protraction.