



I have been using the Isoglide\* eruption spring for the past two years, and it has changed my practice. First, I create a 150% canine space on an .017" x .025" stainless steel archwire. Second, I place a large occlusal step-down bend in the archwire at the canine space to maximize the Isoglide spring activation. Third, my surgeon exposes the canine, bonds the Isoglide spring, and clamps it to the archwire with a rongeur plier. Remarkably, the canine often erupts within one or two orthodontic appointments, without the need for reactivation. NDK

### A New Device for Erupting Impacted Canines

The most frequently impacted teeth (aside from third molars) are the maxillary canines, with an occurrence rate of 1-3%.<sup>1</sup> While modern

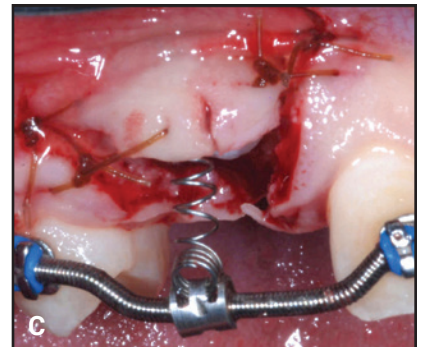
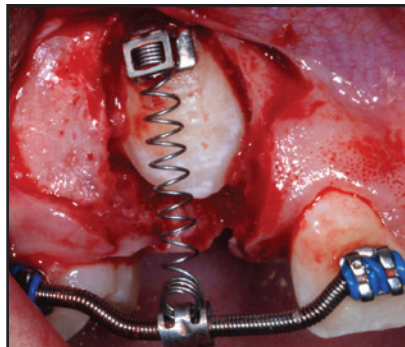
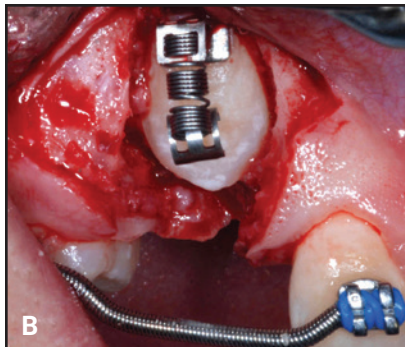
orthodontic treatment is characterized by the use of light, continuous forces to achieve the most efficient tooth movement, the most common traction methods used on impacted canines tend to apply higher forces, utilize inefficient mechanics, and require frequent reactivation—all of which can create a host of problems for both orthodontist and patient.

Perhaps the oldest method of applying traction to an impacted canine is a bonded gold chain, to which elastomeric thread is tied to bring the tooth into the arch. Improved devices have been introduced over time, including Monkey Hooks,<sup>2</sup> the Kilroy Spring,<sup>3</sup> and nickel titanium springs\*\* attached to gold chains.<sup>4</sup> These methods still require reactivation and monitoring to maintain the desired level of force, however, and to ensure that the appliance does not overerupt the affected tooth.

The Isoglide eruption spring (A) can provide a light, continuous traction force to an impacted canine without the need for reactivation. The Isoglide mechanism consists of a bondable bracket pad, a superelastic nickel titanium coil spring, and a stainless steel clamp to be crimped to the archwire. Isoglide delivers a light, constant force



\*Zalinsky Ortho Parts, LLC, Charlotte, NC; www.isoglidespring.com.  
\*\*Nikodem Spring, trademark of Wirelign Orthodontics, Chalfont, PA; www.wirelign.com.



of 60-80g to the impacted tooth throughout most of its range of action.

### Procedure

During surgical exposure, the surgeon bonds the pad to the cervical third of the impacted canine's facial surface. The spring is stretched, and the clamp is crimped onto the archwire at the desired location (B). Prior communication is needed to inform the surgeon of the ideal point of attachment of the Isoglide clamp, so that the direction of force will move the canine away from the roots of the adjacent incisors. The surgical site is closed as usual (C).

For maximum eruption potential, a 3-4mm step-down bend can be made in the archwire at the target site where the clamp will be placed. The Isoglide is active immediately upon placement, and because the spring applies constant force, no reactivation appointments are needed until the tooth has erupted. Most impacted canines erupt within four to 12 weeks. Once the canine has erupted and the spring is no longer active, the Isoglide is removed and replaced with a normal bracket.

### Conclusion

Patients experience several advantages from this procedure, including reduced discomfort due to the light forces, fewer appointments, and shorter overall treatment time. The orthodontist benefits from the elimination of reactivation appointments, reduced practice overhead, and increased net profitability per patient visit.

### REFERENCES

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