

DR. P. KESLING CHECKS WIRES DURING RECENT JAPANESE TIP-EDGE COURSE HELD AT ORTHODONTIC CENTER.



# TIP-EDGE TODAY™

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DR. T. ROCHE CHECKING WORK OF PARTICIPANTS AT TIP-EDGE COURSE IN TOKYO FOR 42 UNIVERSITY ORTHODONTIC INSTRUCTORS.

FALL 1993

## EDGELINES

### COURSE/LECTURE UPDATE:

Upcoming Tip-Edge Courses and Lectures around the globe, Page 2.



### ANTERIOR SPACE CONTROL:

Routine use of E-Link® can prevent/eliminate anterior spacing during torquing, Page 3.

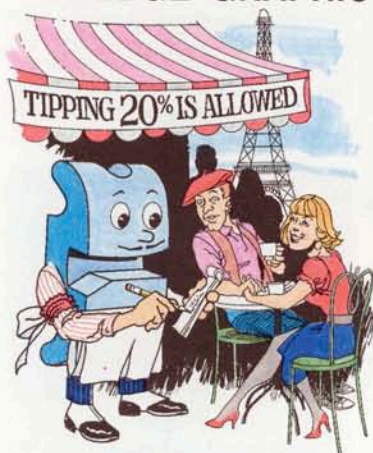


### "SWISS TWIST" FOR ADDED CONTROL:

A twist of elastomeric ligature can increase rotational control of canine, Page 3.



### TIP-EDGE GRAPHIC



## Eliminating Vertical Loops In The Tip-Edge® Technique With Protractive Mechanics

By Iain G. Edwards--Bondi Junction, N.S.W., Australia

The Tip-Edge technique can be described as essentially a straight wire system with the combined advantages of both allowing tip as per traditional Begg and the opposite optimum control of the edgewise appliance.

However, with rotated or malaligned anterior teeth it is usually recommended that traditional loop archwires be used to gain alignment of the crowded or displaced teeth.

Protractive arch mechanics eliminate this need in the following ways:

1. The intermaxillary circles are bent distal rather than mesial to the canine brackets.
2. By ligating with steel ligature around the canine bracket, an anterior component of force is created to protract the arch labially thereby increasing the

intercanine distance, Figure 1.

This is the same effect as placing a looped archwire when the intercanine distance is to be expanded to create sufficient space to gain tooth alignment.

**Step 1.** The arch is placed passively. Use light, .014" or .012" Premium Plus Wilcock wire to almost gain bracket engagement of the archwire even in severely malpositioned anterior teeth--.016" can be used for mild crowding.

**Step 2.** By causing protraction of the labial segment through means of the ligature method to the canine bracket, the anterior component of force is created to gain anterior arch expansion required for the alignment of the crowded teeth.

Where bracket engagement cannot be gained, the tooth is

ligated to the arch in the passive state. At each visit it is only necessary to create further protractive movement of the archwire.

The more crowded and displaced the anterior teeth are, the lighter the wire that should be used so that close proximity to the bracket may be gained. Premium Plus Wilcock wire (.012" or .014") is recommended in these cases--or .009" Premium Plus.

These light size wires will be adequate, providing Class II traction is not in excess of upper intrusive force being exerted by the archwire.

The ligation of the canine bracket to the intermaxillary circle may interfere with the placement of an elastic in the circle. This can be overcome by using a vertical loop instead of a circle.

However, the elastic may be

*Cont on Pg. 2*

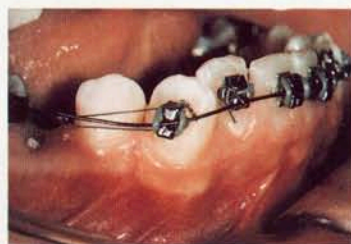


Figure 1. Protractive arch mechanics facilitate correction of anterior crowding without the use of loops during both extraction and nonextraction treatment. Intermaxillary circles are placed distal to the canines and steel ligature ties are tied through the circles to the canine brackets to deliver a distal component of force upon these teeth. As the canines move distally, space is gained for the alignment of the entire anterior segment.

## Q's and A's

**Q.** Sometimes the tips of the maxillary canines seem to drag on the mandibular canine brackets causing centre line shifts. How can I avoid this?

UNITED KINGDOM

**A.** First of all, one must not be unduly concerned about center or midline dental shifts during the early stages of treatment with Tip-Edge brackets. This is because the unique archwire slots permit mesiodistal crown tipping—but do not promote lateral shifting of the root apices. Prolonged contact between maxillary canines and mandibular brackets indicates a lack of rapid anterior bite opening. Check for distorted or insufficient bite opening bends and patient cooperation. Remember, continuous intermaxillary wear is absolutely essential for rapid bite opening.

**Q.** Why do maxillary canines sometimes exhibit extreme buccal root torque (inclination) for no apparent reason during Stage III?

UNITED KINGDOM

**A.** This phenomenon can actually occur during stages one and two as the maxillary canine crowns are tipped distally during Class II correction and/or closure of first premolar extraction spaces. Since the center of rotation during simple tipping is not at the apex but somewhere within the root, the root apex will move mesially as the crown moves distally. The canines are situated in the "corner" of the arch such that mesial movement of their roots causes them to become prominent as the alveolar process and cortical bone remodel to accommodate them. Such changes, which occur from continuous, light forces with no lateral root control, cause little, if any, damage to hard or soft tissues. The final uprighting of these canines during stage three moves their root apices back into the wider portions of alveolar bone which eliminates the problem. Of course, canine roots can also become prominent under the influence of an archwire round in cross-section that has insufficient intercuspid distance—the crowns move lingually and the root apices buccally.

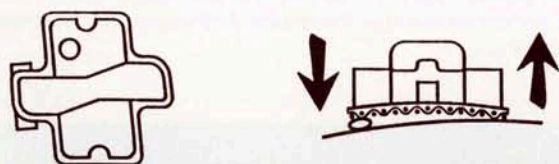
**Q.** Is it recommended to overcorrect rotated teeth using rotating springs? If so, by how much? Are second order bends incorporated in the finishing archwire to accommodate such overcorrections?

UNITED KINGDOM

**A.** It is always recommended to over-rotate teeth as early in treatment as possible. Nothing is more rapid and efficient than a rotating spring for this purpose. Canines and premolars can be over-rotated as much as 30 degrees and held with a straight archwire by bonding their brackets off center (*TIP-EDGE GUIDE, Page A-8*).

First order bends are most effective in achieving/holding over-rotations of central and lateral incisors. Over-rotations of anterior teeth can only be approximately 10 degrees or else proximal contact will be lost resulting in overlapping of the crowns and loss of desired arch length.

*Note: When torquing anterior teeth with a looped or nickel titanium auxiliary (Torque Bar) that rests lingual to the main archwire, first order bends will not be effective. A sure way to automatically create and hold over-rotations on such teeth would be to spot weld small sections of .016" wire vertically on either the mesial or distal sides of the bracket bases before bonding—see illustration.*



## Protractive Mechanics

Cont. from Pg. 1

placed directly on the canine bracket which is ligated to the archwire by means of a steel ligature tie rather than with the elastic ligature which tends to fill the bracket slot preventing the elastic from catching on the bracket, or a Power Pin can be used in the bracket.

### Nonextraction And Extraction

This technique of protraction of the labial segment to gain alignment of crowded anterior teeth can be used in both extraction and nonextraction cases.

As there is a distal component of force, it is recommended that the wire be ligated gently to the buccal surfaces of the premolars to prevent them from being squeezed buccally or lingually.

The ligation to the premolars should be such that it does not interfere with the bite opening effect of the archwire. Tip-Edge is then really a straight wire technique and does not need to use loops.

The protractive arch mechanics are especially valuable for proclining the mandibular anterior segment in cases where there is a lingual inclination (I to APo of 0 mm or less).

This may have an initial effect of "dumping" the crowns forward and the apices lingually. However, once the anterior segment is proclined, it can be uprighted using a reverse Torque Bar or rectangular archwire to move the apices labial to create a more upright labiolingual position.✚

*Editor's Note: If increased molar control and/or bite opening is desired while using this "Protractive Arch" concept, .016" high tensile Australian wire could routinely be used to form the archwire rather than the suggested .014" or .012". The ties from the circles to the canine brackets could then be made from elastomeric string or modules to generate the necessary anterior component of force.*

## Tip-Edge Courses/Lectures Around the Globe

The following is a current listing of Tip-Edge courses, seminars or lectures to be given by the Kesling & Rocke Group, Dr. Richard Parkhouse and/or Drs. Giuseppe & Regina Caponi.

### --1993--

Sept. 16-18	Adelaide, South Australia	Course
Sept. 19	Glasgow, Scotland	Seminar
Sept. 20	Glasgow, Scotland	Lecture
Oct. 7-9	Belfast, Ireland	Course
Nov. 4-6	<b>ORTHODONTIC CENTER</b>	Course
Nov. 8-9	<b>ORTHODONTIC CENTER</b>	Course
Dec. 3-4	Cardiff, Wales	Course

### --1994--

Feb. 3-5	Mexico City, Mexico	Seminar
Feb. 14	St. Louis, Missouri	Lecture
March 19-21	Osaka, Japan	Course
March 23-25	Tokyo, Japan	Course
March 27-28	Hong Kong	Course
April	Rio de Janeiro	Course
April 27-29	<b>ORTHODONTIC CENTER</b>	Course
Date Open	Tel Aviv, Israel	Seminar
Date Open	Bali, Indonesia	Course
Oct.	Rio de Janeiro	Course
Nov.	<b>ORTHODONTIC CENTER</b>	Course

### --1995--

March	Philippines	Course
May	Chester, England	Lecture
June (Tentative)	Singapore	Course
Date Open	Middle East	Course
Oct.	Sao Paulo	Course
Oct. (Tentative)	South Africa	Course

## TECHNIQUE TIPS

### E-Link Corrects Spacing

When using .0215" x .028" rectangular wires in Stage III, anterior torquing auxiliaries are not necessary. Side-Winder springs provide the power to both upright and torque the incisors.

It is important to gently bend the ends of the rectangular wires around the tubes to prevent spaces from opening. However, in spite of this, spaces may open in the anterior segment, Fig. A.



A) A space has developed between the maxillary central incisors.

Such spaces can be avoided by removing the caps on the Deep Groove incisor brackets and placing an E-Link (Size E-8) from canine to canine, Fig. B.

Each end of the E-Link acts as a canine elastomeric tie and the center strand lies behind the main archwire in the Deep Grooves of



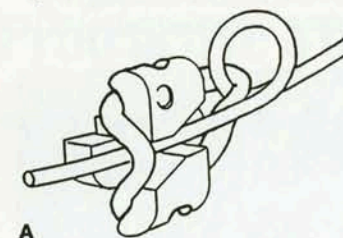
B) E-Link from canine to canine lies in the Deep Grooves lingual to the archwire.



C) Space is closed at next visit. the incisor brackets. Side-Winder springs are deleted until spaces are closed, Fig. C.

### "Swiss Twist" Adds Rotational Control

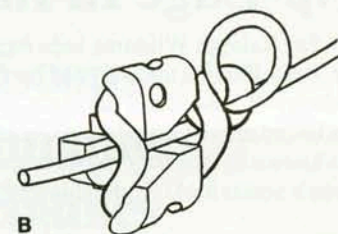
When an elastomeric ligature is used to both secure the archwire in a canine bracket and keep the six anterior teeth together, it is referred to as a "cuspid tie." However, a degree of rotational control is lost as the elastomeric ligature slips into the cuspid circle engaging only the lingual base of the circle, Fig. A.



A

A simple solution to this problem has been suggested. The ligature is first placed over the intermaxillary circle then given

a "twist" before engaging the wings of the canine bracket. This results in both strands of the ligature falling inside labial to the archwire, Fig. B.



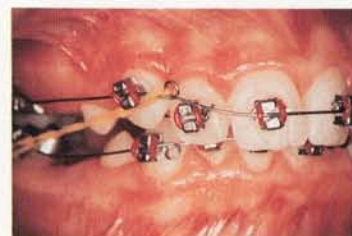
B

This particular tie has been suggested by Dr. Curtis Rohrer of Minnesota and nicknamed the "Swiss Twist."

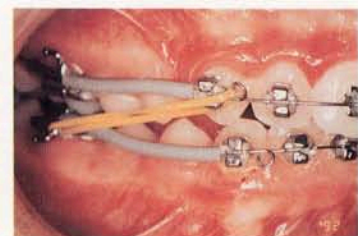
*Editor's Note: A clever idea—I wonder if this tie could also be used to deliver labial or lingual root torque?*

## CASE REPORT

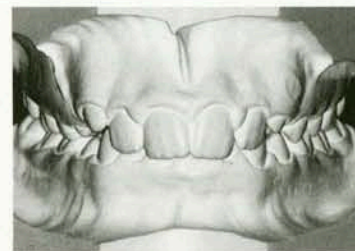
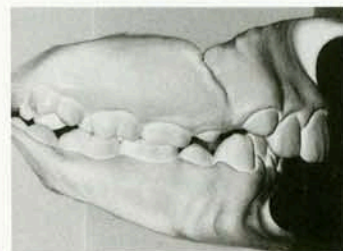
A 13-year old male exhibited a Class II Division 1 malocclusion. There was 2 mm of crowding in the mandibular arch but the second deciduous molars were present. The treatment plan was to begin nonextraction treatment and evaluate progress.



Place appliance appointment. Maxillary and mandibular .016" A. J. Wilcock stainless steel archwires with bite opening bends mesial to the first molars. Class II (1.5 oz.) elastics to correct sagittal discrepancy.



Bump-R-Sleeve® between canines and molars to prevent crowding of unbracketed premolars. Class II elastics continued.



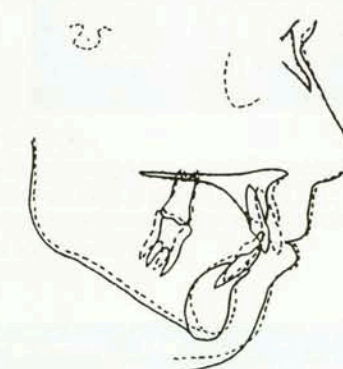
T.J.M. .... Male, 13 Years  
**Class II, Division 1**  
**Nonextraction**  
**Archwires Used** ..... 5 (2U, 3L)  
**Adjustments** ..... 10, **Time:** 18 Months  
**Retention** ..... Maxillary Retainer, Mandibular 3-to-3

**Cephalometric Changes:**

	Start - Dotted	Finish - Solid
1-APo	+1.0 mm	+2.0 mm
Wits	+3.5 mm	+2.0 mm
SN-MP	33.0°	35.0°
ANB	5.0°	4.0°
SNB	75.0°	74.0°
SNA	80.0°	78.0°
1-SN	103.0°	100.0°



Full sized .0215" x .028" archwires. Side-Winder springs provide the power to torque and upright the anterior teeth. Precision finish with three-dimensional control is provided.





### ◀ Tip-Edge In Italy

Drs. Giuseppe and Regina Caponi along with Dr. Chris Kesling with attendees of recent Tip-Edge course presented in Bergamo, Italy. This course was attended by orthodontists from throughout Italy including Professors from several university residency programs. During the course it was announced that the Tip-Edge technique will now be taught and used in the University of Pavia Orthodontic Department.

### Tip-Edge In Indiana ▶

Dr. Raleigh Williams bids farewell as Dr. Bob Shirley watches Drs. Peter Kesling and Richard Parkhouse test drive this re-creation of a Model "T" speedster during a break at a recent Tip-Edge Course conducted at the Orthodontic Center in Westville, Indiana. This car was known as "the Bug" by its original owner, Dr. H. D. Kesling, who drove it across the U.S. after his freshman year of dental school in 1922.



### ◀ Tip-Edge In Manila

Dr. Richard Parkhouse poses with participants of recent Tip-Edge course presented by Dr. Parkhouse in Manila, Philippines. The Tip-Edge technique is rapidly increasing in popularity in the Philippines with several additional Tip-Edge courses tentatively scheduled here in the near future.

*For more information on future courses, contact: TP Orthodontics (Phone: 800-348-8856 or Fax: 219-324-3029)*



TP Orthodontics, Inc.  
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LaPorte, Indiana 46350



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