

DRS. P. KESLING, MAURICIO BALLESTEROS, SUSIE RIVAS, TOM ROCKE AND EDUARDO AGUILAR IN MEXICO CITY (PAGE 4).



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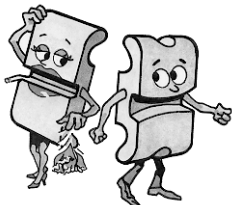
DR. PARKHOUSE ANSWERS STUDENT'S QUESTION DURING TYPODONT SESSION IN BOURNEMOUTH (PAGE 4).

SUMMER 1996

EDGE LINES

COMPATIBILITY?

Can Tip-Edge be compatible with conventional brackets? Advantages and disadvantages are pointed out in Cover Story, Page 1.



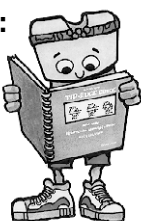
LOWER ANTERIORS SCOOT THEIR ROOTS:



Intrusion may result in roots moving mesially or labially. Q's & A's, Page 2.

NEW EDITION:

A new, up-to-date and expanded Third Edition of the Tip-Edge Guide© is now available, Page 3.



TIP-EDGE GRAPHIC



The day Tippy first learned that a second order force (log falling) can result in third order torque.

COVER STORY

Combining Tip-Edge With Conventional Straight Wire Brackets—An Alternative Approach

By: R. Thomas Roche, D.D.S., M.S.

The Tip-Edge bracket, as developed by Kesling^{1,2} in 1986, has proven to be a highly efficient tooth-moving appliance in its purest form. Tooth movement can be accomplished using lighter forces, fewer archwires and simpler mechanics than with other techniques. Torquing and uprighting of individual teeth are accomplished in the last stage of treatment with .0215" x .028" rectangular archwires and Side-Winder springs. Side-Winder springs provide the force to torque the maxillary incisors on zero degree rectangular wires. These springs will position individual teeth into their final positions as determined by bracket prescription.

For those who wish to limit maxillary incisor tipping, it is possible to combine Tip-Edge with conventional straight wire brackets.³ This modification will allow for more torque control in the earlier stages of treatment. Preadjusted, Straight-Edge® brackets (Figure 1A), are placed on the maxillary central and lateral incisors and, optionally, on mandibular central incisors. Tip-Edge brackets (Figure 1B), are placed on the remaining teeth. Early in treatment if maxillary incisors are protrusive, round archwires are used for retraction. When the axial inclination on the incisors is corrected, rectangular archwires are placed. In extraction cases, space closure is continued with a rectangular

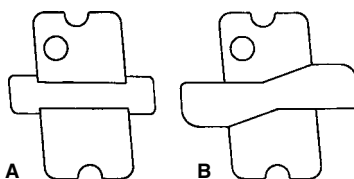


Figure 1. Straight-Edge brackets (A) are combined with Tip-Edge brackets (B).

archwire in the maxillary arch during Stage II. In nonextraction cases, the rectangular archwire would usually be used for a finishing wire.

Patient 1

The patient, a bimaxillary protrusion case treated with the extraction of four first premolars, is started with .016" (Wilcock) archwires and light (2 oz.) Class II elastics. Straight-Edge brackets are placed on maxillary central and lateral incisors and mandibular central incisors. Tip-Edge brackets were placed on all others (Figure 2).

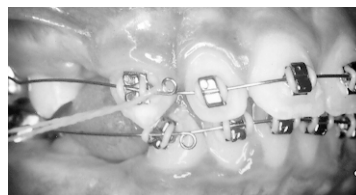


Figure 2.



Figure 4.

When maxillary incisor torque is estimated to be nearly correct, a rectangular archwire is placed in the maxillary arch and space closure is continued. When the extraction spaces are closed, a mandibular rectangular archwire is placed and Side-Winder springs are added to all teeth needing uprighting (Figure 3). The appliance continues to torque and upright teeth without archwire modification. Figure 4 shows treatment nearing completion and at appliance removal (Figure 5).

Patient 2

The second patient was missing mandibular second premolars. The treatment plan was to extract the mandibular second deciduous molars and maxillary second premolars. Attempt would be made to close spaces from the rear. Straight-Edge brackets were



Figure 3.



Figure 5.

Please see COVER STORY next page

COVER STORY — Combining Tip-Edge... Continued from page 1



Figure 6.

placed on the maxillary incisors and Tip-Edge on the rest.

After leveling with .016" archwires, .022" round archwires were placed with Side-Winder braking springs on the canines and first premolars to limit their tipping and promote space closure by mesial movement of the molars. E-Links® (E-5) provide space closing force (Figure 6).

When maxillary incisor torque was judged to be nearly correct, rectangular wires were placed and space closure and uprighting were continued (Figure 7). A braided .021" x .025" archwire with vertical elastics was

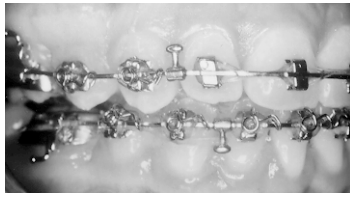


Figure 7.

nonextraction. Straight-Edge brackets were placed on maxillary and mandibular incisors and Tip-Edge brackets on canines and premolars. Bite opening, leveling and Class II correction were accomplished with .016" archwires and 2 oz. Class II elastics. No headgear was used. At this time, premolars were bracketed and leveled (Figure 11). Proceeding to a full size maxillary rectangular archwire at this time would be difficult and painful for the patient since the maxillary incisors needed more torque and the maxillary lateral incisors were tipped slightly to the distal. Therefore, a maxillary .022" arch-



Figure 8.

wire with a 30 degree nickel titanium Torque Bar were initially placed (Figure 12). When the maxillary incisor torque was improved, rectangular wires were placed to finish the treatment (Figure 13), and the result as shown in Figure 14.

The advantages and disadvantages of combining conventional edgewise and Tip-Edge brackets:

Advantages:

1. Control of tip and torque of maxillary incisors throughout treatment.
2. Side-Winder springs are not needed on maxillary central and lateral incisors



Figure 9.

3. Without Side-Winder springs, esthetics are improved.

Disadvantages:

1. Bite opening procedures in Stage I may be slowed due to lack of one point contact on the maxillary incisors.
2. Anchorage may be compromised during space closure due to bodily retraction of maxillary incisors.
3. It may be difficult to go from .016" to full size rectangular wires if the maxillary lateral incisors are tipped and/or if the maxillary incisors need torque.
4. Torquing the teeth by flexing rectangular archwire may deepen the overbite.
5. Patient discomfort.

It is left to the reader to evaluate the advantages and disadvantages of combining conventional, preadjusted and Tip-Edge brackets. ■



Figure 10.

used to finalize the occlusion (Figure 8), the result is shown in Figure 9.

Patient 3

The third patient exhibited a severe Class II, Division 2 (Figure 10), and was treated



Figure 11.

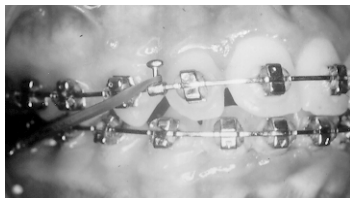


Figure 13.



Figure 12.



Figure 14.

References

1. Kesling PC. Expanding the horizons of the edgewise archwire slot. Am J Orthod Dentofac Orthop 1988;94:26-37.
2. Kesling PC. Dynamics of the Tip-Edge bracket. Am J Orthod Dentofac Orthop 1989;96:16-25.
3. Rocke RT. Employing Tip-Edge brackets on canines to simplify straight-wire mechanics. Am J Orthod Dentofac Orthop 1994;106:341-350.

Q's and A's

Q. I have noticed that sometimes a midline shift appears in the early months of my Rectangular Stage Three patients. It does not seem to be related to mesiodistal crown tipping. What is the cause of this?

ST. LOUIS, MISSOURI

A. Slight midline discrepancies such as this are usually due to uncoordinated or improperly placed archwires. The relatively stiff .0215" x .028" archwires are able to warp the dental arches to cause midline shifts and/or posterior crossbites. Placement of preformed archwires with their midlines off center can result in midline shifts. Be sure the marks on the archwires are located exactly between the central incisors when crimping the intermaxillary hooks. This will then ensure that the forms of the archwires are coordinated with those of the dental arches.

Q. I am hitting problems in Stage I of Tip-Edge treatment when the first premolars have been extracted. The lower labial segment seems to be retroclining excessively. What is the cause and solution?

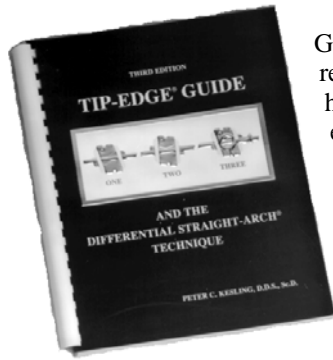
NORTH HUMBERSIDE, U.K.

A. If the mandibular anterior teeth are slightly retroclined at the beginning of treatment and intrusive forces are applied from an archwire, their roots will tend to move further labially and/or mesially. This phenomenon is referred to as "root scooting" and usually is no problem.

Normally such malocclusions (with linguallly tipping anterior teeth) are treated nonextraction which would prevent the canine crows from readily tipping distally to aggravate the situation.

The application of Side-Winder springs (in the braking mode) with mild activation would help prevent or at least stabilize the situation. However, the correction of labial and mesial root tip displacement should be left until the final stage. At that time such axial discrepancies can automatically be taken care of easily by the simple application of the appropriate Side-Winder springs in conjunction with a passive .0215" x .028" mandibular archwire. ■

New Third Edition of Tip-Edge Guide Now Available



The Third Edition of the Tip-Edge Guide by Dr. Peter Kesling was recently released by Two Swan Advertising. It has been completely revised and greatly expanded as compared to the First (1988) and Second (1990) Editions.

Its 234 pages are divided into five sections. Together they provide the most complete compilation of information relating to the Tip-Edge archwire slot, the Differential Straight-Arch® technique and related subjects both current and historical.

The first section explains the concept behind the Tip-Edge bracket and its unique dynamic archwire slot. It also reveals the exciting possibilities of the Differential Straight-Arch technique.

The second details Tip-Edge attachments including brackets and molar tubes as well as those instruments used with the technique.

The third covers the three distinct stages of treatment in detail. Also included is a diagnostic regime keyed to the versatility of the technique and case reports to verify the effectiveness of both.

The fourth is a reference section which includes reprints of articles by the author that are not readily available, a review of attritional occlusion and a biography of Dr. P.R. Begg. It was Begg who introduced the concept of differential tooth movement which the Tip-Edge bracket now makes possible with an edgewise appliance.

Section five includes a glossary of terms unique to Tip-Edge brackets and the Differential Straight-Arch technique, which also serves as an index, plus a bibliography of related articles listed both by subjects and authors.

To order: **100-110** Tip-Edge Guide \$43.95 U.S. 📞

Easier Placement of IRTA's

IRTA's deliver either labial or palatal/lingual root torque to individual teeth depending on the direction from which they are inserted into the vertical slot. If inserted from the gingival, they generate labial root torquing forces, if inserted from the incisal, they deliver palatal/lingual root torquing forces.

To engage conventional IRTA's, the torquing arm is first inserted into the vertical slot. The tail of the auxiliary is then ligated under the archwire into the archwire slots of the brackets on adjacent teeth. This manner of engagement requires partial disassembly of the appliance and loosening of the archwire to slip the tail under the archwire.

Through a slight modification of the IRTA it is possible to engage these auxiliaries so that they lay over, instead of under, the base archwire (Figure 1). The modification is easily made by placing a 90 degree bend at the bend between the u-shaped portion and the tail of the auxiliary. When bent in this manner, the auxiliary crosses over the front of the bracket rather than alongside the bracket under the base archwire (Figure 2). After inserting the torquing arm into the vertical slot, the tail can be ligated over the archwire on the adjacent teeth (auxiliary should extend through at least two adjacent teeth). 📞

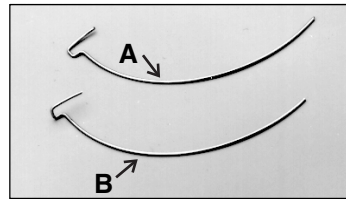


Figure 1. A) Conventional IRTA lies in one plane. Auxiliary is engaged under base archwire after insertion in tooth requiring torque. B) By bending torquing arm of auxiliary at a 90° angle from plane of auxiliary tail the auxiliary can be engaged over the base archwire.



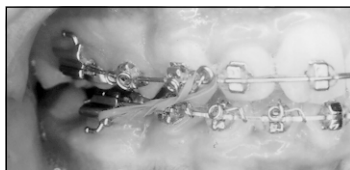
Figure 2. Modified auxiliary engaged in maxillary right central incisor bracket. Note that torquing arm of auxiliary crosses over the face of the bracket rather than alongside the bracket under the archwire.

CASE REPORT

A 13-year-old female presented for treatment with a Class II, Division 1 malocclusion. The maxillary left lateral incisor had erupted palatally. Because of anticipated problems with retention, this left lateral, the maxillary right first premolar and mandibular second premolars, were extracted. Straight-Edge brackets were placed on the maxillary four anterior teeth and mandibular central incisors. Tip-Edge brackets were bonded on all remaining teeth.



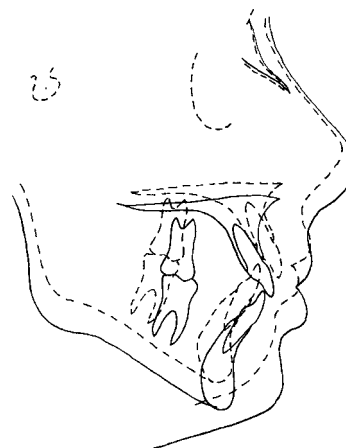
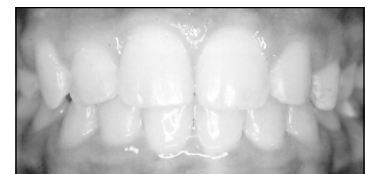
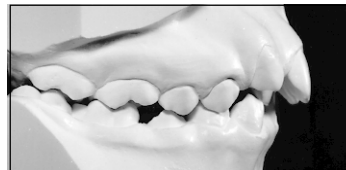
Stainless steel .016" (AJ Wilcock) archwires with bite opening bends and 2 oz. Class II elastics to correct the overjet and Class II relationship.



Beginning of Stage III with .022" maxillary archwire and 30 degree Torque Bar. Flat .0215" x .028" mandibular archwire with Side-Winder springs for torquing and uprighting.



When the incisors were adequately torqued, a maxillary .0215" x .028" steel archwire replaced the .022" archwire. Torquing and uprighting by Side-Winder springs continues.



T.H. Female, 13 Years
Class II, Division I
 Extractions UL2, UR4, L55
 Archwires Used 6 (3U, 3L)
 Adjustments 14, Time: 20 Months
 Retention Upper & Lower Retainers

Cephalometric Changes:

	Start-Dotted	Finish-Solid
T-Apo	+2.0 mm	+3.0 mm
Wits	+5.5 mm	+0.5 mm
SN-MP	47.5°	45.0°
ANB	8.0°	5.0°
SNA	76.0°	73.5°
SNB	68.0°	68.5°
1-SN	94.0°	98.5°

Mexican Tip-Edge Society Celebrates First Anniversary

January 14, 1996, marked the first anniversary of the founding of the Mexican Tip-Edge Society with Dr. Mauricio Ballesteros presiding.

Tip-Edge is increasing in popularity in Mexico with 110 members attending the meeting in Mexico City. Guest speakers were Drs. Peter Kesling and Thomas Rocke. Dr. Kesling spoke about Drs. Edward Angle and Calvin Case and gave an historical account of bracket development.

Dr. Rocke spoke about the use of rectangular archwires with the Tip-Edge appliance and also presented a three-day Tip-Edge course to 23 participants prior to the Society meeting. 📷



Dr. Kesling, interpreter Dr. Azucena Rivas and Dr. Rocke with course participants and faculty. Photo taken at Hotel Plaza, Mexico City.



Tip-Edge Course in Bournemouth, England

A Tip-Edge Course was held in Bournemouth, England in September of 1995 in conjunction with the British Orthodontic Society Meeting. Dr. Parkhouse of Glan Clwyd Hospital, Wales, and Dr. Richardson of Belfast, Ireland, instructed. There were approximately 45 attendees.

Dr. Richardson of Queen's University is one of the first professors to have graduate orthodontic students treat patients with Tip-Edge brackets and the Differential Straight-Arch technique. 📷



Drs. Richardson (second from left) and Parkhouse (center) with the members of the Tip-Edge course in Bournemouth, England.

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