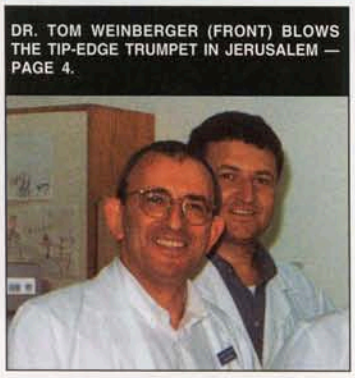
APPLIANCE UPDATES — Q'S & A'S — CASE REPORTS — TECHNIQUE TIPS — REVIEWS



DR. TOM WEINBERGER (FRONT) BLOWS THE TIP-EDGE TRUMPET IN JERUSALEM — PAGE 4.

TIP-EDGE TODAY™

Published Quarterly In The USA

DR. JIUXIANG LIN, WITH DRS. ROCKE AND PARKHOUSE IN ADELAIDE, IS NOW GIVING TIP-EDGE COURSES IN CHINA—PAGE 4.

WINTER 1995-96

EDGELINES

SIMULTANEOUS:

Streamlined mechanics let operator do everything at once. Cover Story.

STRAIGHT SHOOTER®:

Packaging of replacement fingers proves to be an extra bonus. Q's & A's Page 2.

PIZZA ANYONE?

Caponis serve up a course with international flavor. Page 3.

TIP-EDGE GRAPHIC

Santa knows what today's children (and adults) like!

Simultaneous Correction Of All Treatment Goals — A Tip-Edge® Exclusive

By: Christopher K. Kesling, D.D.S., M.S.

The Tip-Edge bracket (that maximizes the effectiveness of light orthodontic forces) brings with it the ability to begin the correction of most aspects of each malocclusion simultaneously—from the very start of treatment. Of course other benefits of using light forces to produce tooth movements are increased patient comfort, reduced treatment times and simplified mechanics.

This is a significant improvement in the efficiency of orthodontic treatment when compared to the approach taken by most edgewise techniques. Ordinarily the correction of each aspect of the malocclusion is addressed separately, in a series of distinct, chronologic treatment phases (i.e. leveling, anchorage preparation, canine retraction, anterior retraction, etc.).

Conventional and preadjusted edgewise techniques must use relatively heavy (6-16 oz.) forces to produce most desired tooth movements, particularly retraction. Forces of such magnitude invariably generate significant, adverse side effects which force the practitioner to address each aspect of the existing malocclusion separately. This is necessary to avoid being overwhelmed from undesired secondary tooth movements such as anchorage loss, bite deepening, and/or molar extrusion.

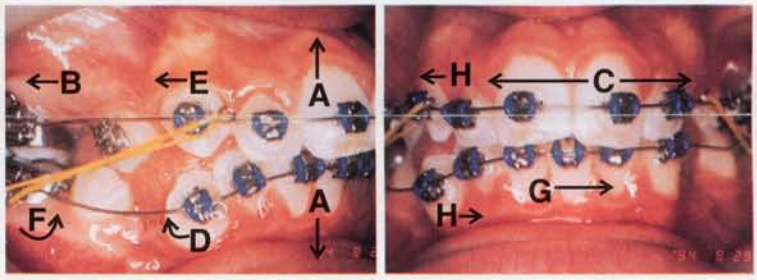


Figure 1. When using the Tip-Edge appliance, the correction of all aspects of each malocclusion begins simultaneously at the place appliance appointment. In the above photo (taken at the start of treatment) each of the following objectives is being accomplished: A) Bite opening, B) Class II molar correction, C) Anterior alignment, D) Correction of rotations, E) Canine retraction, F) Anchorage preparation, G) Midline correction and H) Crossbite correction. With the Tip-Edge archwire slot, no complex mechanics or archwires are required to produce these corrections.

When using Tip-Edge brackets and the Differential Straight Arch® Technique, the limited tipping and uprighting mechanics allow for the use of far lighter forces to produce the same tooth movements achieved with traditional edgewise mechanics.[1] Since these forces are so light, any adverse secondary responses are clinically insignificant. This allows for the simultaneous correction of most aspects of existing malocclusions using streamlined treatment mechanics.[2]

The start of treatment of a typical Class II, Division 1 malocclusion with a deep anterior overbite, illustrates the concept of simultaneous correction used during Tip-Edge treatment (Figure 1). The day the appliances are placed, Class II elastics are initiated and each of the following aspects of treatment are commenced: Bite opening (leveling), correction of anterior crowding (or spacing), canine retraction, anterior retraction, anchorage preparation, correction of the Class II interarch relationship, and midline correction.

Bite Opening: This is usually overcorrected to an edge-to-edge incisal relationship during the first six months of treatment. Light Class II elastics (1.5 oz. on each side) in conjunction with properly modified .016″ archwires fabricated from A.J. Wilcock stainless steel wire. The one-point contacts between archwire slots and archwires maximize bite opening without using extraoral forces or other complex fixed or removable appliances.

Anterior Alignment: Both anterior space closure or correction of crowding is usually accomplished in 2-3 appointments using light forces.

Continued on page 2

Simultaneous Correction...

Cont. from page 1

Correction of anterior crowding is facilitated by the ability of the canines to tip distally in response to light forces without producing any significant anchorage strain or vertical archwire deflection.

Canine and Anterior Retraction: Pitting controlled (and limited) tipping of canines as well as incisors against bodily movement of molars, produces no significant anchorage strain. Consequently enmasse retraction of canines and incisors is routinely performed with little, if any, anchorage loss using light intraoral forces. The one-point contact between archwire slot and archwire also enhances bite opening by eliminating the adverse archwire deflection often seen during retraction using conventional plain or preadjusted edgewise appliances.

Anchorage Preparation: Anchorage preparation is effectively built into the Tip-Edge archwire slot which automatically creates highly beneficial anchorage differentials between the anterior segment or an entire arch requiring retraction and the anchor units. This occurs because the Tip-Edge archwire slot results in tipping in one direction and bodily movement in the other.

Correction of Class II Molar Relationship: Class II elastics are initiated at the place appliance appointment. These automatically begin the correction of the molar relationships. It should be noted that these mechanics place no anchorage strain upon the anchor molars in the protrusive arch—a highly beneficial concept in anchorage management. Also, because the Class II force is so light, anterior teeth are not extruded. Actually they are intruded by archwire forces which are greater than elastic forces.

Midline Correction: Close examination will reveal, in most situations that midline discrepancies exist at the crowns of the incisors and not at the root apices. The one-point contacts of the Tip-Edge archwire slots allow the crowns of the teeth to upright without shifting their root apices. Therefore, most midline discrepancies are corrected during the first few months of treatment.

References

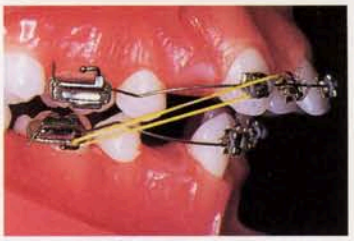
1. Gianelly AA, Arena, AA Bernstein L. A comparison of Class II treatment changes noticed with the light wire, edgewise and Fränkel appliances, Am J Orthod 86:269-276, 1984.

2. Kesling PC. Tip-Edge Guide, 2nd Ed. 1994, Two Swan Advertising.

Problems During Treatment

One of the most popular and beneficial teaching aids during Tip-Edge courses and lectures has been the "Problems During Treatment" slides.

Three of the most popular, one from each stage, are illustrated. Each photo has one main problem—those with keen eyes may uncover even more.



Stage I Problems

ANSWERS—Stage I:

The main problem with the appliances as depicted in Stage I are the positions of the anchor bends. They are too far mesial and, therefore, occlusal also.

Their mesial positioning reduces the anterior bite opening forces and their occlusal positioning can result in deformation from occlusal forces. Of lesser importance is the elastic not twisted once or twice—to keep food out during eating and the fact that the elastic is under the tie wing of the canine bracket. Twisting would solve this problem also.

Stage II:

The E-Links® elastomerics in place to close posterior spaces are engaged on the canine brackets—not the circles. This would cause spaces to open between the canines and the lateral incisors and is the main problem in this photo.

Of interest is the fact that the archwires are ligated to the premolar brackets. This is proper in second premolar extraction cases as the premolars travel distally at the same rate as the archwires so there is no problem with friction.

It appears the ends of the archwires might be striking the mesial surfaces of the second molars. If this were the case, it would be a problem which could prevent the desired retraction of anterior teeth. Worse than that, over a period of time the only thing that could happen would be the mesial movement of the first molars.

As the second premolar spaces close (to about one-half their original size) the archwires should be placed in the rectangular occlusal tubes for the remaining space closure. This will

Continued on page 3

Q's and A's

Q. Straight Shooter ligature guns are truly great. My edgewise colleagues look a-gah-gah when I show them how easy it is to shoot on the ligatures. However, the metal claws occasionally get bent and although we can purchase replacement inserts, it is often wasteful to throw away the plastic assembly even though they are still good. In this environmentally sensitive age, wouldn't it be far better and economical if we could purchase the metal claws only and continue to use the plastic components of the shooter?

MELBOURNE, AUSTRALIA

A. The tips of the wire fingers, "claws," are ground in sets of four to achieve proper alignment in the closed position. If the fingers get out of order, they will not fit properly and may not close together in a small enough cluster to easily fit inside the centers of the elastomeric rings. Therefore, TP is faced with the problem of keeping the wire fingers oriented on their way to the customer and while being placed in the gun. This would mean the creation of some sort of orientation device. It didn't take much thought to realize the best way would be to place them on a plunger. Of course, the tips of the plastic plungers also can become broken and bent. Therefore, I am sure you will find the extra plungers you have on hand also to be of value, if not now, in the future.

Q. I recently experienced difficulty in torquing the root of a palatally displaced maxillary lateral incisor labially. I was using an Individual Root Torquing (I.R.T.) auxiliary and saw little change over a period of six months.

ANDERSON, SOUTH CAROLINA

A. Assuming the I.R.T. auxiliary was employed properly—inserted through the vertical slot from the *gingival,* something was inhibiting its action. There must be space to permit the contact areas on either side of the lateral incisor to swing past the corresponding areas of the adjacent teeth. If the contact points are tight, there is often a slight overlapping of the proximal surfaces which can inhibit torquing.

Another, more obvious problem would be contact between the lingual surface of the maxillary lateral incisor and the labial surfaces of the mandibular incisors. Since torquing with an I.R.T. requires the tooth to rotate around the main archwire, the incisal edge must move lingually for the root to torque labially. Overcorrection of the original palatal position of the crown by offsetting the archwire labially solves this problem. Also when dealing with such teeth, don't forget to ensure there is at least 1mm of overbite to help prevent relapse of the crown lingually once the appliances are removed.

Stage II Problems

Stage III Problems

ensure the proper vertical relationships between first molars and first premolars and eliminate the need for a "Pre-III" adjustment with .016″ archwires.

Stage III:

The most severe problem in this set-up is the presence of localized anchor bends in the heavy, .022″ round archwires. Such bends (when spaces are closed and the premolars are engaged), will tend to cause the anchor molars to tip distally and flare buccally. This would also be true even if the archwires were only .016″.

Of less importance, notice the arm of the Side-Winder on the maxillary canine striking the intermaxillary circle and being tangled up with the elastics. The easy solution to this would be to remove the Side-Winder and insert it from the gingival direction. (The action would still be the same—counterclockwise uprighting.) The coils would then not be protected from occlusal forces, however, this is seldom a problem in the maxillary arch. By inverting the spring, the arm would then engage the archwire distal to the canine where there is plenty of space.

It also appears the archwires may not be securely bent distal to the molar tubes. If these wires were full size, .0215″ x .028″, the degree of deflection would be adequate to prevent spaces from opening.

Clinical Seminars In UK

The Glan Clwyd Hospital Trust in North Wales is offering a series of two-day Clinical Teach-Ins in Tip-Edge given by Dr. Richard Parkhouse. The first day demonstrations are given on placing the appliances and making adjustments during Stages I and II. Rectangular Stage III and finishing adjustments are covered on day two. Attendance is restricted to three orthodontists at one time.

Tip-Edge Clinical Seminar (top left to right), Dr. Susan Cobley, Dr. Van Vherberghe and Dr. Lawrence Ko. Dr. Parkhouse and nurse, Ms. Pam Sheridan, in front on either side of the patient.

Additional information is available from Richard Parkhouse, Consultant Orthodontist, Glan Clwyd District General Hospital, Bodelwyddan, Rhyl, Clwyd, North Wales, UK. Telephone: 01745 583910 or Fax 01745 583143.

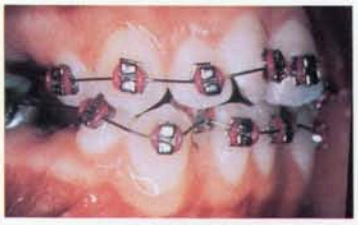
Italian-Swiss-Brazilian Course

Doctors Regina and Giuseppe Caponi of Italy recently gave a five-day Tip-Edge course in Chiasso, Switzerland for a group of Brazilian orthodontists. The Caponis felt this was their best Tip-Edge course in five years. The "pioneer" of Tip-Edge in Brazil, Dr. Messias Rodrigues was also in attendance.

Tip-Edge course in Switzerland. Front row—Dr. Rodrigues (second from left) and Drs. Caponi (right).

CASE REPORT

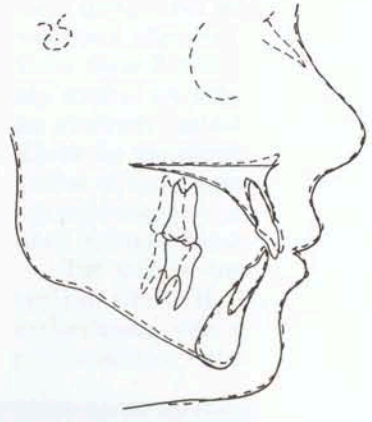
A female (17 yrs.) presented with a Class I malocclusion with severe anterior crowding in both arches. Mandibular arch length tooth mass discrepancy was 6 mm. Four second premolars were extracted and spaces closed with mesial movement of the molars to avoid flattening the profile.



Initial .014″ nickel titanium leveling archwires to unravel the crowding. These wires were followed by archwires of .016″ stainless steel (A.J. Wilcock).

Maxillary .022″ and mandibular .0215″ x .028″ wires with E-Links for Stage II space closing mechanics. Side-Winder springs provided maximum mandibular braking mechanics.

A maxillary .0215″ x .028″ archwire was placed when all the spaces were closed. Side-Winder springs were placed in every bracket to torque and upright all teeth to slot prescriptions. Class II elastics maintain overbite and overjet correction.



J.T. ..... Female, 17 Years
Class I
Extractions U55, L55
Archwires Used 8 (4U, 4L)
Adjustments ..... 12, **Time**: 20 Months
Retention ..... Upper & Lower Retainers

Cephalometric Changes:

	Start-Dotted	Finish-Solid
1-APo	+3.0 mm	+3.5 mm
Wits	+1.0 mm	+1.5 mm
SN-MP	32.0°	32.5°
ANB	3.0°	3.0°
SNA	81.0°	82.0°
SNB	78.0°	79.0°
1-SN	108.0°	102.0°

University in Israel Begins Third Class in Tip-Edge Technique

The present orthodontic graduate class at Hadassah-Hebrew University School of Dental Medicine in Jerusalem is the third to receive a formal course in the Tip-Edge technique. The course is taught by Dr. Tom Weinberger who has been teaching Tip-Edge for over five years.

Present graduate class in Jerusalem. From left to right; Dr. Tom Weinberger, Dr. Samir Abu Ata, Dr. Motti Rothman, Dr. Shefi Ben-Moshe, Dr. Stella Shashu and Dr. Orit Nadav.

During their first year, the students are given an introductory course of 24 hours which covers the theory and practice of Tip-Edge using a typodont. They then start in the clinic by observing the Seniors at work and gradually take over the treatment of the Seniors' patients, as well as starting treatment of their own patients. During the 2¼ years of the clinical course, the students are able to start and finish many Tip-Edge cases which is a tribute to the speed and ease of the technique.

Dr. Weinberger attended a Tip-Edge course at the Orthodontic Center in 1990 and was instrumental in having Dr. Richard Parkhouse give a course in Jerusalem in 1992. Three orthodontists "converted" on the spot!

Six Israeli orthodontists are members of the E.B.S.O. and Dr. Lucille Rotstein was awarded the prize for the best treated case by an applicant for membership at their recent meeting in Chester, England. Interest in and appreciation for Tip-Edge continues to grow in Israel!

Tip-Edge in China

A Tip-Edge course was held in Tsingtao, China this May. It was the second Tip-Edge course to be given in China, the first taking place in Xi'an city in March, 1993. Each course was presented to more than 60 participants by Dr. Jiuxiang Lin, Professor of Orthodontics in Beijing Medical University. Both courses were a great success and Dr. Lin received recognition for his in-depth knowledge of the light wire, straight-wire and Tip-Edge techniques.

Dr. Lin is the first to promote Tip-Edge in China. He began practicing Tip-Edge in 1989 and attended a Tip-Edge course in Adelaide in September, 1993.

His two papers about Tip-Edge were presented in two international meetings of orthodontics. Dr. Lin's Chinese translation of the Tip-Edge Guide by Dr. P.C. Kesling was recently published in China.

TP products are distributed in China by Meco Dental & Medical Supplies, Hong Kong.

Dr. Lin (center front row) and students at the Tip-Edge course in Tsingtao, China, May 1995.

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