

DRS. RICARDO MEDELLIN (RECOVERING FROM AUTO ACCIDENT) AND TOM ROCKE WITH INTERPRETER DR. AZUCENA RIVAS DURING 1998 TIP-EDGE COURSE IN PUEBLA, MEXICO. DR. MEDELLIN QUALIFIED AS AN INSTRUCTOR IN 1999, PAGE 4.



OVER SEVENTY ORTHODONTISTS PLUS THEIR WIVES ENJOYED TP ORTHODONTICS 4TH SEMINAR AT SEA.

SUMMER 1999

## EDGELINES

ELASTICS—THEY WON'T LEAVE HOME WITHOUT THEM



A new auxiliary, the Outrigger, ensures intermaxillary elastic compliance, Cover Story.

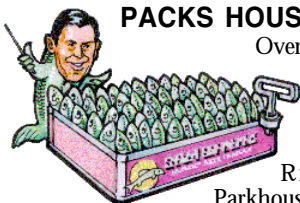
## SELF-LIGATING CERAMIC BRACKETS

Self-ligation solves problem of staining of elastomeric rings with ceramic brackets, Page 3.



## DR. R. PARKHOUSE PACKS HOUSE

Over 100 are turned away from Dr. Richard Parkhouse's lectures at Royal Society of Medicine Meeting in London, Page 4.



## TIP-EDGE MOST EFFICIENT OF THREE TECHNIQUES\*

Tip-Edge® 7 WIRES

19 APPOINTMENTS

Straight Wire® 12 WIRES

27 APPOINTMENTS

Standard Edgewise 10 WIRES

34 APPOINTMENTS

\*A 1998 study based on four premolar extraction treatment of Class II malocclusions by nine orthodontists. Results reported in a thesis written by Dr. G. Ramos, a graduate orthodontic student at Saint Louis University.

## COVER STORY

# The Outrigger® The Noninterfering Answer to Noncompliance

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

### History of Non-compliance Appliances

Over the years several appliances have been developed in attempts to minimize or eliminate the need for patient compliance to correct Class I and II malocclusions. Appliances such as the Eureka Spring®, Saif Springs®, Jasper Jumper®, the Pendulum and the Herbst® appliance were all developed to produce the desired sagittal correction with little or no dependence on patient cooperation. Virtually all of these appliances require the orthodontists to modify their treatment mechanics with some requiring time-consuming impressions and laboratory fabrication.

Appliances designed to protract the mandible and/or mandibular dentition such as the Jasper Jumper, Eureka Spring and the Herbst appliance deliver relatively heavy forces to the mandibular incisors that can rapidly produce proclination of the entire mandibular anterior segment. Many orthodontists have found that

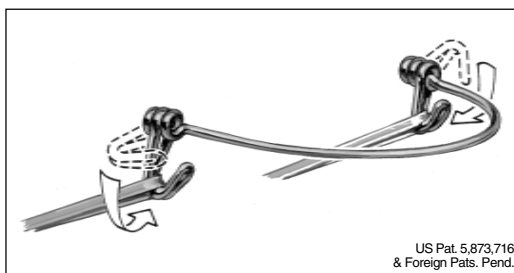


Figure 1. The Outrigger appliance features coiled ends with hooks for elastic engagement. This auxiliary ensures patient cooperation with the wearing of Class II elastics.

they must change the torque values of the mandibular incisor brackets to better control the tendency for this labial flaring of these teeth. Treatment mechanics must also be modified to ensure that intrusion and buccal rolling of the maxillary first molars do not occur. Special molar tubes and other auxiliaries are also often required to properly engage these appliances.

The Herbst and Pendulum appliances must be fabricated in orthodontic laboratories, which incurs significant expense, not to mention the additional chairside time required for the initial impressions, delivery and periodic adjustments of these devices.

### The Outrigger Appliance

The Outrigger, Figure 1, is a new maxillary auxiliary that presents a simple and relatively inexpensive means of eliminating the problem of patient cooperation in Class I and II malocclusions and can be used without modifying the treatment mechanics used by most orthodontists. Each end of this auxiliary features a hook for elastic engagement and a coiled eyelet through which the base archwire

Please see COVER STORY next page

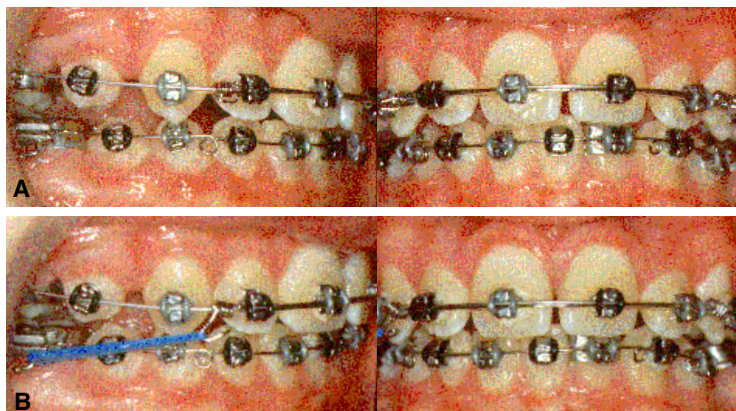


Figure 2 A&B. A) Outrigger in place around .020" main archwire. Intermaxillary hooks lie in horizontal, uncomfortable positions. B) Class II intermaxillary elastics move hooks to vertical, comfortable positions. Like American Express® cards—they won't go anywhere without them!

## COVER STORY

**Outriggers** . . . *Continued from page 1*

is threaded prior to its engagement in the mouth. When in place, the Outrigger hooks extend labially in an uncomfortable position, Figure 2A. However, when elastics are worn and engaged on the Outrigger hooks, they swing down incisally into an unobtrusive position that is much more comfortable for the patient, Figure 2B. Consequently, the patient is presented with an uncomfortable, but not painful, reminder whenever the elastics are not engaged.

**Advantages**

The Outrigger offers several significant advantages over the use of other noncompliant appliances. Most importantly, they do not require the orthodontist to change or modify his/her treatment mechanics. The Outrigger also reduces the adverse vertical component of force delivered by Class II elastics when they are engaged to the hooks of this appliance, Figure 2B. There are no lab fees incurred with the use of the Outrigger, and placement is extremely easy. The proper size Outrigger is chosen and threaded over the main archwire, round or rectangular, and tied back into place. Consequently, the place-

ment and removal of Outriggers is easily delegated.

**Indications**

The Outrigger is designed and best used for those patients who are well intentioned but just forgetful when it comes to the routine wearing of their elastics. It is not indicated for those patients who routinely experience excessive damage to their appliances.

If breakage of the Outrigger occurs, the elastics can still be worn, as both hooks remain attached to the archwire. The patient is informed that as long as he or she can hook their elastics and nothing sharp is causing discomfort, there is no need for making a special appointment to replace the Outrigger. Although breakage may occur, the cost and chairside time involved in the replacement of the Outrigger is far less than that incurred when changing other noncompliant appliances.

**Selection and Placement**

Ideally, the Outrigger is used from the beginning of treatment on all patients with any significant overbite or overjet. If, however, significant anterior spacing or crowding is present, the Outrigger is not placed until these

aspects of the malocclusion are corrected—usually after the first 2 to 3 appointments for non-compliant patients. To determine which of the seven available Outrigger sizes is to be used, the distance from the distal of the maxillary right lateral incisor bracket to the distal of the maxillary left lateral incisor bracket is measured and the appropriate Outrigger is selected. Sizes 34, 36, and 38 tend to be the most commonly used sizes, while slightly larger and smaller sizes are sometimes required depending on the interbracket distance which, of course, varies with tooth size and bracket width. To ensure proper operation of the Outrigger, it is important that the coiled ends do not contact the mesial or distal surfaces of adjacent brackets. The force required to pull the Outrigger hooks into their incisal positions can be adjusted by decreasing or increasing the curvature of this appliance. If the curvature is reduced, the hooks will swing down more easily. If it is increased, it will require more Class II elastic force to move the hooks into the incisal positions.

For proper orientation and action, the end of the Outrigger that is marked in colored ink

should be placed on the patient's right side. Any base archwire can be used all the way up to full size, .0215" x .028" rectangular archwires. The base archwire is threaded through the coiled ends of the Outrigger prior to engagement, Figure 3A. Both the auxiliary and archwire are then ligated into the archwire slots of the central and lateral incisor brackets using either elastomeric or steel ligature ties, Figure 3B. The Outrigger will work with any archwire as long as it is possible to slide it over one end of the archwire. The base archwires used with the Outrigger cannot have circles or posts. Therefore, there is no need to carry a kit of different archwire sizes when using these auxiliaries. Some means should be taken to ensure that the base archwire does not slide mesiodistally, such as bending the ends of the archwire distal to the molar tubes or placing a small "V"-bend at the midline before sliding the Outrigger over the archwire.

**Use With Anterior Spacing**

If minor anterior spaces are present, the Outrigger can be placed in addition to an E-Link®. In this situation the E-Link is

*Please see COVER STORY next page*

**Q's and A's**

**Q.** *When finishing with rectangular archwires, is it necessary to place Side-Winder springs on all teeth?*

*Lancaster, CALIFORNIA*

**A.** Absolutely not. The only teeth that require springs are those that require changes in tip or torque. In an extraction case, this may mean all teeth except the mandibular central incisors. In nonextraction cases, usually only the canines and lateral incisors need Side-Winder springs. Quite often, the lateral incisors need both tip and torque correction.

**Q.** *I recently tipped and erupted the crown of an impacted maxillary right canine distally toward its normal position in the dental arch. Because of the canine's former position, the root of the lateral incisor is displaced palatally. How can I torque it palatally?*

*Orland Park, ILLINOIS*


**A.** As soon as you can, move into a .022" main, maxillary archwire—an IRT (Individual Root Torquing Auxiliary) would be the auxiliary of choice. The torque force delivered to the lateral incisor

would be light, yet long lasting and the adjacent teeth would not feel a thing! Remember, the incisal edge of the lateral may need space to move lingually between the canine and central incisors. Also make a note on the patient's record card to remind you the IRT is in place. They are nearly invisible and can overtorque if left unattended.

**Q.** *If the skeletal discrepancy is significant—say a Wits of plus or minus 5 millimeters, would/could rectangular wire be used in stage three?*

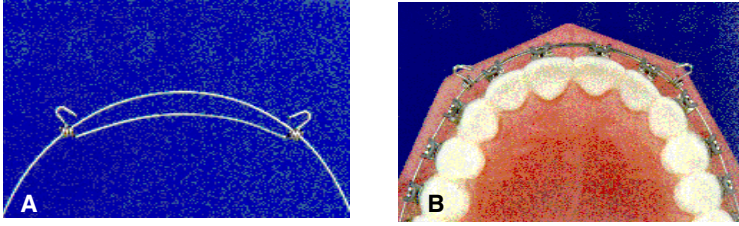
*Philadelphia, PENNSYLVANIA*

**A.** It would be far simpler in cases such as this to use .022" round archwires for stage three. Side-Winder springs could then be used to upright the incisors without inadvertently torquing their roots lingually or labially. Such torque could change their compensating inclinations and cause a return of overjet or anterior crossbite.

Nonsurgical skeletal Class II occlusions can be finished with flat, rectangular archwires in the maxillary arch by using the high torque RX-III brackets on the incisors. Those with more experience can use the pretorqued rectangular archwires developed by Dr. Parkhouse (5 degrees and 8 degrees) and flip-flop them for use in either skeletal II or III cases. 

## COVER STORY

## Outriggers . . . . Continued from page 2



**Figure 3 A&B.** A) Outrigger is threaded over main archwire before placing, with hooks marked in colored ink on patient's right side. B) After archwire is ligated into archwire slots, Outrigger hooks extend labially until Class II elastics are engaged.

engaged from canine to canine before the archwire is engaged.

The archwire with the attached Outrigger is then tied into the archwire slot over the elastomeric chain or module. This arrangement can be left in place if anterior spaces tend to reopen during treatment.

## Positive Presentation

The Outrigger should be presented in a positive manner—not as a means of punishment. We have found several different ways to explain its action to the patients that help to avoid any negative association with the appliance. It can be pointed out that the Outrigger will make it easier for

them to hook their elastics. Other patients have responded positively when they were told that the Outrigger provides additional “spring” that will make their teeth move faster.

When the Outrigger is first placed, the patient's parents are brought into the clinic and told that in addition to making it easier to hook the elastics, the Outrigger also serves as a reminder when the elastics are not worn to encourage patient cooperation. Invariably, the parents are relieved and appreciate the fact that the Outrigger frees them from continuous monitoring of the child to make sure the elastics are in place.

The parents and patients are also advised to make sure they always have an extra supply of elastics in their locker or car in case an elastic is broken or lost when not at home. Both the parents and patient are told to call the office if an edge-to-edge incisal relationship is achieved, since the Outrigger must be removed at that point to prevent the development of an anterior crossbite.

Through extensive clinical testing, the Outrigger has proven to be a successful means of enhancing patient cooperation with the wearing of Class II elastics. Since the placement and removal of the Outrigger can easily be delegated to office staff, it saves significant chairside time for the orthodontist in day-to-day clinical use. In addition to this cost savings, the lack of laboratory fees, along with impressions and special placement appointments, provides additional savings in time and fees. For all these reasons, the Outrigger has proven to be the most cost-effective means of ensuring the successful correction of overbite and/or overjet for noncompliant pa-

tients exhibiting both Class I and II malocclusions.

**226-100 Outrigger Kit**—Contains 3 of size 32mm, 6 of size 34mm, 6 of size 36mm, 6 of size 38mm, 3 of size 40mm, 3 of size 42mm, and 3 of size 44mm.

## Self-Ligation

Ceramic MXi® Tip-Edge brackets are gaining in popularity. Not only do they provide all the advantages of Tip-Edge archwire slots, but they are the strongest, smoothest and safest ceramic brackets available.

This increase in use has heightened the problem of elastomeric ties becoming stained from food and drink. Conventional solutions have included the use of steel ligature ties. However, steel ties can interfere with both initial free crown tipping and final mesial or distal root uprighting. Otherwise, patients visit the office between regular appointments to have the elastomeric ties changed.

The Kesling and Rocke Group has come up with a unique solution that permits the use of elasto-

*Please see next page*

## CASE REPORT

By: Dr. Bernard Guilhem  
Cuxac d'Aude, France

A 12-year-old female presented with a Class II Division 2 malocclusion. The anterior overbite was severe with recession of the mandibular gingiva. The maxillary left first molar was in lingual crossbite. There was no room in the dental arches for the maxillary canines or the mandibular second premolars. She had a low mandibular angle and the mandibular incisors were 7 mm behind the A-Po. Therefore, a nonextraction Tip-Edge treatment plan was selected.



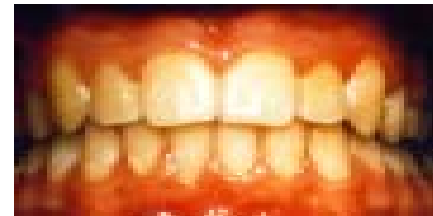
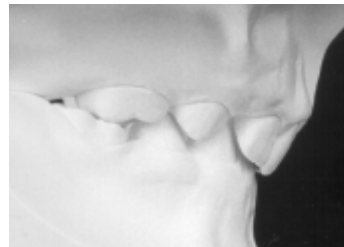
High tensile, .016" archwires in place at start of treatment with steep (45 to 50 degree) bite opening bends and light, Class II elastics. Maxillary canines bypassed to aid incisor intrusion. Coil springs to open space for impacted mandibular premolars.



Maxillary canines and mandibular premolars bracketed. E-Link in place across maxillary incisors. Bite opening bends act as stops against mesial ends of maxillary molar tubes. Continued wearing of light Class II elastics.



Nearing the end of stage three with .022" round archwires. No torquing auxiliaries were needed as the labial movement of the incisor crowns resulted in the desired torque angles of the anterior teeth. Side-Winder springs were used as needed for mesiodistal uprighting.



D.A. .... Female, 12 Years  
Nonextraction  
Archwires Used ..... 9 (6U, 3L)  
Treatment Time ..... 17 Months  
Retention ..... Tooth Positioner

## Cephalometric Changes:

	Start-Dotted	Finish-Solid
∑ A-Po	-7.0 mm	0.0 mm
SN-MP	23.0°	23.0°
SNA	79.0°	79.0°
SNB	74.0°	76.0°
ANB	-5.0°	-3.0°
I-SN	72.0°	104.0°

### Self-Ligation . . . *Continued from page 3*

meric ties but eliminates unnecessary trips to their offices. The answer is self-ligation. Patients subject to excessive and/or rapid staining are given a Straight Shooter® and a supply of ties for use at home.

The patient is instructed how to remove the stained ties with a toothpick or scaler. Then they practice placing ties in the office with a Straight Shooter until they feel confident in its use. If appropriate, the cost of the Straight Shooter can be charged to the patient and credit given upon its safe return.

### Dr. Medellin Qualifies as Instructor

In February of this year Dr. Ricardo Medellin of Naucalpan, Mexico made a prearranged visit to the Orthodontic Center, Westville, Indiana.

He showed patients' before and after treatment models, cephalometric tracings, intraoral photographs and soft tissue profiles. Also he included many intraoral photographs taken during treatment which enabled the K&R Group to assess his technique including bonding, wire bending and the appreciation for the objectives of each stage.

His treatment planning skills—extraction or nonextraction, appliance simplicity (avoidance of unnecessary rapid maxillary expansion, functional appliances and extraoral anchorage) as well as detail of finishing were evaluated.

Based on his overall knowledge of the Tip-Edge appliance and the Differential Straight-Arch Technique and the cases shown, the Kesling and Rocke Group endorsed Dr. Medellin as one qualified to teach courses in his country of Mexico.



### Tip-Edge Master Class

The first Tip-Edge Master Class was held February 13th at the Postgraduate Medical Centre in Guildford, England. Over eighty participants attended from all parts of the UK and Europe. A broad variety of speakers provided an interesting format for this one-day program.

A panel of doctors spoke on the Tip-Edge appliance and its use in a district general hospital and in a specialist private practice. They also discussed the evolution of the Tip-Edge bracket and compared results to that attained with conventional edgewise treatment.



Seated in the first row are the panel of speakers for the Master Class program from left to right: Dr. Nigel Taylor, Dr. Craig Harper, Dr. Keith Underwood, Prof. Andrew Richardson, Dr. R. Parkhouse, Dr. Julian O'Neill, Dr. Chris Kettler and Dr. Giles Kidnar.

### Parkhouse Acts As Packing House

During a recent meeting of the British Orthodontic Society entitled "100 Clinical Tips," Dr. Richard Parkhouse "packed them in like sardines." He was one of five speakers and gave two sessions on Tip-Edge tips. The lecture theater held 200 but over 300 had signed up for his lectures. Other speakers covered tips on twin blocks, bonding, mandibular incisor extractions and straight wire.

PRESORTED  
STANDARD  
US POSTAGE PAID  
LA PORTE IN  
PERMIT NO 79

For Subscription  
Call  
1-800-TIP-EDGE  
219-785-2591  
Fax 219-324-3029

100 Center Plaza  
LaPorte, Indiana 46350  
©Two Swan Advertising