

DR. ROCKE (CENTER) WITH BRAZILIAN TIP-EDGE COURSE INSTRUCTORS, DRS. FERNANDO PEREIRA, MESSIAS RODRIGUES, ANNA NERY AND JORGE CATARCIONE, PG. 4.

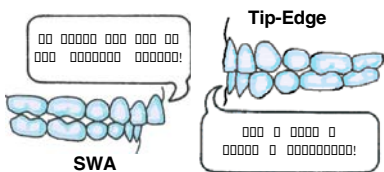


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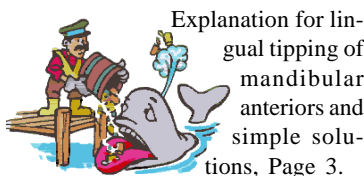
EDGE LINES

TIP-EDGE vs. STRAIGHT-WIRE

Assessment of treatment results reveals weakness in evaluation index, Cover Story.



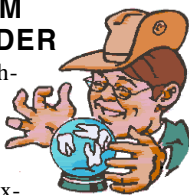
CAUSES OF LINGUAL DUMPING REVEALED



Explanation for lingual tipping of mandibular anteriors and simple solutions, Page 3.

UNIQUE TREATMENT PLAN FROM DOWN UNDER

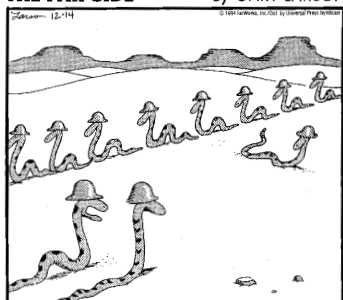
Australian orthodontist shows excellent results with delayed second molar extractions, Case Report, Page 3.



TIP-EDGE GRAPHIC

THE FAR SIDE

By GARY LARSON



"Johnson! Back in formation! . . . Dang, I hate sidewinders."

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DR. GERARD DE COSTER AND WIFE VIOLETA, DR. R. PARKHOUSE, DR. A. PUJOL AND RACHEL PARKHOUSE DURING COURSE IN BORDEAUX, FRANCE, PG. 3.

COVER STORY

PAR Excellence in Tip-Edge and Straight-Wire

By Jayne E. Harrison, BDS, FDS, MOrth, MDentSci

Research Senior Registrar, Glan Clwyd Hospital and Liverpool University Dental Hospital, UK

Excerpt from a paper presented at the European Begg Society of Orthodontics meeting in Maastricht, May 1997.

Introduction

This paper reports a study which I carried out to compare my first Tip-Edge cases, treated at Glan Clwyd Hospital, with the first cases I treated with the Straight-Wire Appliance® (SWA) at Liverpool University Dental Hospital. The severity of malocclusions treated are compared, as well as the quality of the results obtained, the length of treatment and number of appointments.



J.E. Harrison University

Method

In order to obtain cases which were as comparable as possible, I selected the first patients I treated using each appliance. This produced a sample of 26 Tip-Edge and 25 Straight-Wire Appliance cases. To avoid biasing the results all patients who started treatment were included—not just those who successfully finished. The severity of malocclusions and the results obtained were assessed from study models taken before treat-

ment and on the day appliances were removed.

Occlusal Index

The Peer Assessment Rating (PAR) Index was used to assess the severity of malocclusion and the occlusal change which occurred as a result of treatment. The occlusion is divided into five components which are scored independently. The component scores are then weighted and added together to give an overall PAR score that represents the degree to which a case deviates from normal occlusion.

Results

The mean pretreatment PAR scores of each group showed little difference, with the Straight-Wire group being slightly higher but not statistically significant, Figure 1.

FIGURE 1

The mean posttreatment PAR score for the Tip-Edge group is about half that of the Straight-Wire group which is statistically significantly different, Figure 2.

FIGURE 2

The mean absolute change in PAR score demonstrated very little difference between the two groups, Figure 3.

FIGURE 3

However, when expressed as the mean percentage reduction, the difference between the groups nears significance with the Tip-Edge group achieving about 10 percent more reduction in PAR score than the SWA group, Figure 4.

FIGURE 4

Please see COVER STORY next page

COVER STORY**PAR Excellence . . .** *Continued from page 1***Discussion**

There was no significant difference between the Tip-Edge and Straight-Wire pretreatment PAR scores. However, there was a highly significant difference in posttreatment PAR scores and a near significant difference in the percentage change in PAR score. So why did this happen?

The features measured by the PAR Index and differences in the sequence of treatment help explain some of these outcomes. Both groups are taken from lists of patients starting treatment and therefore contain good and bad cases rather than just the successfully treated cases which are all too often reported in orthodontic studies. Therefore, this sample included some patients whose treatment was finished prematurely for one reason or another.

Considering the sequences of

treatment with Tip-Edge and Straight-Wire helps to explain the differences emerging. In Tip-Edge alignment, overjet and overbite reduction occur simultaneously and relatively early in treatment with the tip and torque control taking place in the final stage of treatment. With Straight-Wire, the reverse takes place so that tip and torque are established at the start of treatment followed by overbite control and finally overjet reduction.

This means that with Tip-Edge, even in cases which finish early, the features which carry the most weight in the PAR Index i.e. the overjet, overbite and centerlines are likely to be reduced, if not correct. However, with Straight-Wire because the overjet is the last feature to be corrected, it is the one most likely to increase the posttreat-

ment PAR score. The overjet score has a weighting of 6 which will have a marked effect on increasing the posttreatment PAR score. This will have the effect of reducing the percentage reduction in PAR score achieved.

Conversely, because tip and torque are not scored by the PAR Index, the Straight-Wire cases gain no recognition for correcting tip and torque early in treatment and the Tip-Edge cases are not penalized for not having them fully correct by the end of treatment. Perhaps the Index should be modified to take into account these two different treatment modalities.

Conclusions

This study has shown that for a group of patients, with a similar severity of malocclusions before treatment, there was a significant difference in the oc-

clusal result obtained as assessed by the PAR Index when treated by the same operator using the Tip-Edge and Straight-Wire appliances. At the end of active treatment, the patients treated with Tip-Edge achieved a significantly lower posttreatment PAR score and about ten percent more reduction in PAR score than the SWA group. However, this may be a reflection of the scoring system of the Index rather than a true difference between the appliance systems. Attempts have been made to modify the PAR Index to make it more sensitive to these other outcomes and thus more able to detect differences between treatment modalities.

Acknowledgments

I would like to thank Richard Parkhouse for introducing me to the Tip-Edge appliance, and my husband for his encouragement. 📌

Q's and A's

Q. Approximately two years ago I switched my practice to Tip-Edge. I am now beginning to finish some cases but find the upper cuspids are not uprighting. On one patient I was so frustrated I removed the Tip-Edge brackets, bonded conventional preadjusted brackets on the canines and placed a nickel titanium archwire. The cuspids then uprighted to the final crown tip angles. Why am I having this problem when others don't seem to experience it?

Toronto, Ontario

A. Upon receiving the above question it was discovered during a phone conversation that the orthodontist was using steel ligatures to ligate the archwire to the brackets before placing Side-Winder springs. Obviously the teeth could not upright because of the restrictive hammock effect of steel ligatures, which tends to freeze the teeth in their current tip positions. The solution, of course, is to use elastomeric ligatures on all teeth that require mesial or distal uprighting.

Q. Why is it maxillary lateral incisors often seem to stop uprighting during Stage III, before their crowns have achieved the desired nine degrees of tip?

Thun, Switzerland

A. Quite often such teeth were originally rotated and/or have false incisal edge angles due to abnormal wear. This makes it difficult to visualize the correct long axis of such teeth during bonding. As a solution, some operators refer to panoramic X-rays at the time of bonding to ensure the brackets are placed properly to automatically stop uprighting at the desired crown tip angles.

Number of North American Universities Teaching Tip-Edge Continues to Grow

All of the graduate orthodontic programs in the United States, Canada and Mexico were recently contacted to accurately determine which are teaching Tip-Edge. Below is an updated list including the length of each training program. All schools with the exception of Howard University include both clinical and lecture instruction.

- ◆ Boston University—2 year
- ◆ Case Western Reserve—2 year
- ◆ Columbia University—2 year
- ◆ Harvard University—3 year
- ◆ Howard University (Lecture Only)—2 year
- ◆ University of Juarez (Mexico)—3 year
- ◆ University of Mexico (Mexico City)—3 year
- ◆ University of Missouri at Kansas City—2 year
- ◆ Montefiore Medical Center—3 year
- ◆ New York University (Buffalo)—2 year
- ◆ New York University (Stony Brook)—2 year
- ◆ Saint Louis University—30 months
- ◆ Temple University—2 year
- ◆ University of Toronto—2 year
- ◆ Tufts University—2 year
- ◆ University of Western Ontario—3 year

Lingual Dumping of Lower Anteriors Reversed

Occasionally during stage one the mandibular anterior teeth will become lingually inclined and the canines distally tipped. Quite often such movement is found in deep bite, first premolar extraction cases in the presence of lip biting or anterior tongue thrusting habits.

When canines with nonrestrictive brackets intrude under the bite opening forces from archwires, their roots tend to move mesially and their crowns distally. If the first premolars are extracted, such movement can occur unimpeded. Mild lingually directed forces from the tongue or a lower lip biting habit can also easily urge the mandibular central and lateral incisors into lingual crown inclinations, Figure 5.

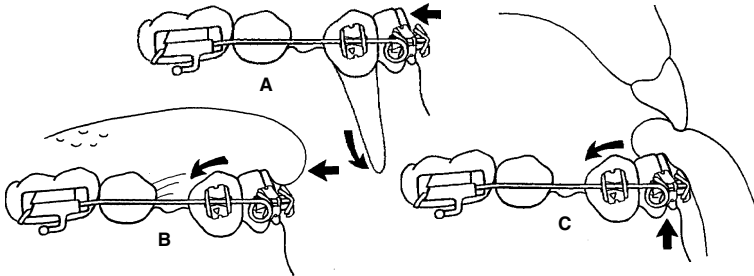


Figure 5 A-C. **A**, Intrusion of vertically positioned canines often causes their roots to move mesially and the incisor crowns to tip lingually. **B**, Anterior tongue thrust (which may have been present before treatment) can result in lingually directed pressure on the incisors. **C**, Lip biting habit with spaces distal to canines can tip mandibular anteriors lingually.

Such lingual/distal tipping of the six mandibular anteriors can be prevented or even reversed by the application of Side-Winder springs to the canines, Figure 6.

Usually two to three months of uprighting force will result in the crowns of the canines and the central incisors moving labially. Once the overjet has been reduced, lip or tongue habits will usually be corrected.

However, if lingual crown inclinations of the four incisors persist, it may be necessary to place a rectangular archwire and Side-Winder springs on all six anterior teeth to achieve labial crown torque.

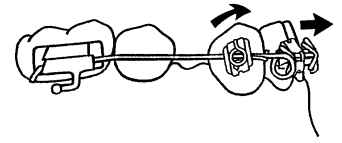


Figure 6. Side-Winder springs applied to the mandibular canines can correct lingual dumping of anterior teeth.

Tip-Edge in Colombia and France

Richard Parkhouse undertook ten flights and stayed in five hotels within the space of seven days! First on the list was the Colombian Society of Orthodontics' Congress, held outside the mountain city of Bucaramanga in the Andes, October 9 and 10, 1997. Never has there been a more scenic venue for a three day lecture course and over two hundred participants showed keen interest in the Tip-Edge concept.

Then to Bordeaux, in southwest France, where a one-day lecture course on October 13 was well received by postgraduate students from Bordeaux University, attended also by several Tip-Edge practitioners and visiting professors, hosted by Professor Andre Pujol, with translation into

French by Dr. Gerard De Coster. The social life, on top of jet lag, proved a bit of a "bender," as only the French can manage.

As Richard said afterwards, "Amazing the places you can get to, just on one small bracket. . . ."

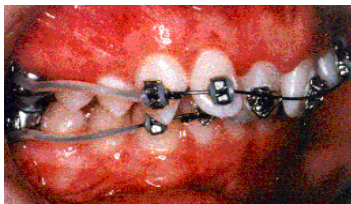


Dr. R.C. Parkhouse with members of the Organizing Committee of the "Sociedad Colombiana de Ortodoncia."

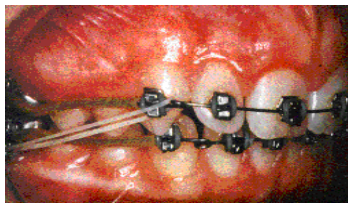
CASE REPORT

By: Dr. Colin C. Twelftree
Warradale, South Australia

The patient presented at fourteen years of age with a Class II Division 2 malocclusion and 100 percent overbite. The profile was recessive with a relatively large lower face height and an obtuse nasolabial angle. A cephalometric analysis confirmed the presence of a Class II skeletal relationship (Wits=9 mm) with retroclined maxillary incisors at 87 degrees to SN and the mandibular incisors 3 mm behind the A-Pogonion line. To maintain profile control, treatment was initiated nonextraction. The aim was to utilize expected normal growth to rearrange the dentition within the skeletal framework.



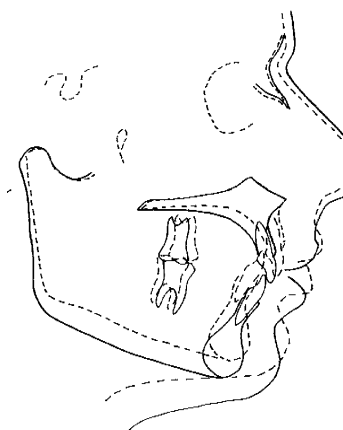
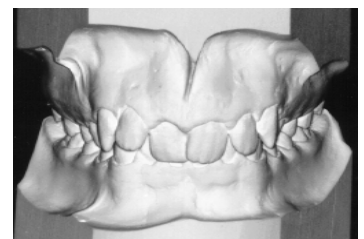
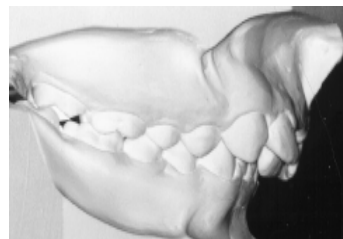
Plain .016" Pulse-straightened Premium Plus Wilcock archwires were placed with Bump-R-Sleeve®. Class II elastics pulling less than two ounces were worn full-time.



After six months of treatment the four second permanent molars were extracted to relieve the slight crowding and allow some spontaneous distalization of the arches.



Stage three began six months later with .022" round archwires and a two spur torquing auxiliary. Side-Winder springs were placed on maxillary canines and mandibular lateral incisors.



A.M. Male, 14 Years
Class II, Division 2
Extractions U77, L77
Archwires Used 5 (2U, 3L)
Treatment Time 24 Months
Retention U & L Trutains, 12 Months

Cephalometric Changes:

	Start-Dotted	Finish-Solid
1-AP	-3.0 mm	+1.5 mm
Wits	+9.0 mm	0 mm
SN-MP	30.0°	29.0°
SNA	85.0°	82.0°
SNB	77.0°	77.0°
ANB	8.0°	5.0°
1-SN	87.0°	92.0°

United Kingdom Course and Lecture

Dr. Richard Parkhouse and Professor Andrew Richardson conducted another successful Tip-Edge Course in the UK in September, 1997. Immediately following, Richard Parkhouse and Pam Sheridan



Dr. Parkhouse explains the subtleties of pre-torqued rectangular archwires during the Harrogate course.

gave a lecture on the Assistants Program at the British Orthodontic Conference at Harrogate. This was unexpectedly so successful that it attracted large numbers of orthodontists away from the professional program. On a show of hands, over half the audience were using Tip-Edge, and it is estimated that four-fifths of orthodontists in the UK have now attended Tip-Edge courses.



Staff and participants of Tip-Edge course held at the Crown Hotel in Harrogate, England.

Dr. Rocke Teaches Tip-Edge in Brazil



In November, 1997, Dr. Thomas Rocke presented a three-day Tip-Edge typodont course to 48 participants in Rio De Janeiro followed by a three-day course to 53 participants in Piracicaba, Brazil. He was assisted by several doctors (see page 1) who are presently teaching Tip-Edge in Brazil, as well as Dr. Ruy Rodrigues, Evandro Coelho and Rodolfo Machado, not pictured. Margaret Durighetto was the interpreter during the course. Tip-Edge appears to be in good hands in Brazil.



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