

DR. MOYSES DIAS DE ALMEIDA (LEFT) OF SAO PAULO, BRAZIL AND DR. CHRIS KESLING CONGRATULATE EACH OTHER AT THE END OF A RECENT TIP-EDGE COURSE. DR. ALMEIDA PROVIDED SIMULTANEOUS PORTUGUESE TRANSLATION.



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(L-R) MRS. JANICE WU, DR. HUI-LIN CHEN, DR. GIN-SONG LIN AND MRS. DONNA CHANG AT THE TAIWAN ORTHODONTIC MEETING, PAGE 4.

SPRING 2001

EDGE LINES

NATURAL CHANGES PARALLEL TREATMENT GOAL

Study reveals that in untreated Hispanics with ideal occlusion and facial harmony, the lower incisor to A-Po line measurement reduces with age, Cover Story.

TORQUE FEVER—3½° PER MONTH

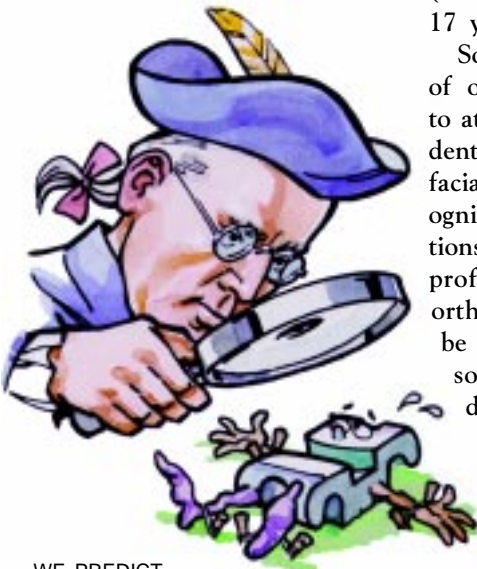
Side-Winder springs deliver 19° of torque change in 5½ months, Case Report, Page 3.



ROBOTS TO MOVE TEETH?

Miniature robots are predicted to manipulate periodontal fibers, Page 4.

TIP-EDGE GRAPHIC



WE PREDICT "GULLIVER" DR. E.H. ANGLE would take a long, close look at Lilliputian Tippy. Unlike many in the profession today, he would not be too big to recognize the advantages inherent in the Tip-Edge archwire slot, Literature Review, Page 2.

COVER STORY

Relationship of Hispanics' Mandibular Incisors to the A-Po Line

By Toshio Kubodera Ito, D.D.S., Ph.D., Chrisel Zarate Diaz, D.D.S., M.S. and Ricardo Medellin Fuentes, D.D.S., M.S., Toluca, Mexico

The purpose of this study was to evaluate the protrusion of the mandibular arch, measuring the anteroposterior position of the mandibular incisor, relative to the A-Po line, in a group of 192 Hispanic patients with ideal occlusion and facial harmony. The material was a lateral cephalometric headfilm tracing from each patient on which the horizontal distance from the incisal border of the mandibular incisor to the A-Po line was measured. The results were analyzed by three age groups (9 to 11, 12 to 14 and 15 to 17 years).

Some of the primary goals of orthodontic treatment are to attain and preserve optimal dental relationship as well as facial attractiveness. It is recognized that the incisal positions influence the soft tissue profile, their positions after orthodontic treatment should be such that a harmonious soft tissue profile is produced.¹

There are many cephalometric norms, which consider the position of the mandibular incisors. Some are based on dentocranial relations as Tweed's IMPA that relates the mandibular in-

corisor angulation to the mandibular plane. However, Williams¹ feels this is not realistic because those dentocranial relations are not always attainable and furthermore the norm proposed by Tweed, was not a common denominator in all the patients with optimum facial aesthetics. Williams recognized, as did Holdaway, Ricketts and Downs, that it is not the angular attitude but the linear anteroposterior position of the mandibular incisor that influences upper and lower lip balance. This can be identified as the distance from the mandibular incisors to the A-Po line. Williams points out that to create a harmonious lip balance at the conclusion of the treatment, the tips of the mandibular incisors must be brought to predetermined (by race and sex) positions at or near the A-Po line.

Both ends of this line can migrate during treatment to new positions, point A by the relocation of maxillary incisors and Po by growth. Other applications of this measurement, according to Williams is for diagnosis. He states that the amount of dental and skeletal change required to place the incisal edge of the mandibular incisor on or near the A-Po

line will dictate whether and/or which teeth are to be extracted.

Material And Methods

Sample population

Thirty-two hundred students who lived in Toluca, Mexico and in the suburbs were examined. To be included in this study they needed to fulfill the following criteria: Angle Class I (normal occlusion), no anterior crowding, good facial profile, no missing teeth and no previous orthodontic treatment.²

One hundred ninety-two subjects satisfied the inclusion criteria and were included in one of three groups of age 9 to 11 years (38 male and 32 female), 12 to 14 years (36 male and 34 female) and 15 to 17 years (18 male and 34 female).

Data Acquisition

A cephalometric lateral headfilm was taken of each subject. The tracings included the mandibular incisor contour and the A-Po line. This is referred to as the denture plane⁴ and was used as a reference to measure the position of the anterior teeth and define the protrusion of the mandibular arch. The horizontal distance from the incisal edge of the

Please see COVER STORY next page

COVER STORY**Relationship of Hispanics'...** *Continued from page 1*

mandibular incisor to the A-Po line was measured for each subject.

Results

It was observed that the protrusion of the mandibular incisor to A-Po line is reduced as the age increases—see Table 1.

With statistical analysis, no significant difference was found among the groups.

	9 to 11 Years (n=70)	12 to 14 Years (n=70)	15 to 17 Years (n=52)	Mean
Mean	+3.67 mm	+3.13 mm	+2.76 mm	+3.1 mm
Standard Deviation	+1.74 mm	+2.13 mm	+2.01 mm	

Table 1. Distance from the mandibular incisor to the A-Po line (mm).

Discussion

It could be determined with different cephalometric values measured in this study that in Hispanic children and adolescents the mandibular incisor retroclines as the age increases. This could be the explanation for the reduction of the distance from mandibular incisor to A-Po line. The mean of +2.76 mm is similar to the norm proposed by McNamara⁴ (+2 to 3 mm), and, of course, coincides with the Hispanic norm of +3 to 4 mm that is used by the Kesling and Rocke Orthodontic Group (Westville, Indiana).⁵

Conclusion

It was determined that in untreated Hispanic children and adolescents with ideal occlusions and facial harmony, the mandibular incisor position as related to the denture line (A-Po) is reduced with age due partly to the retroinclination of the mandibular incisors, having an overall terminal mean of +3.1 mm. 📌

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Viva La Differenza Tooth Movement

Some exciting Tip-Edge news from Italy from Massimiliano Viotti of TP Italia.

Dr. Achille Farina is now teaching the Differential Straight-Arch Technique using Tip-Edge brackets at the University of Cagliari. Dr. Farina also recently finished an Italian version of the popular TP Tip-Edge video, which he complemented with his own treated cases. The audio is Italian, of course, but the video portion is universal in its demonstration of the versatility, efficiency and perfection possible with Tip-Edge brackets.

The University of Brescia also recently reported at the Italian Society of Orthodontists on a study of anchorage. The results achieved on typodonts indicate that the Tip-Edge archwire slot is 3 to 4 times lighter on anchorage during canine retraction than the conventional straight-wire slot. (We hope to include an abstract of this study in a future issue of TIP-EDGE TODAY). 📌

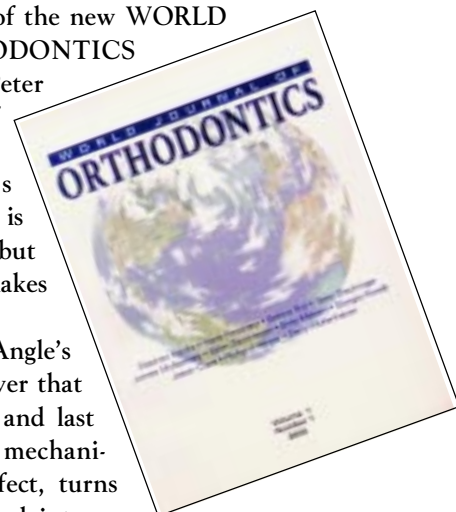
**Dr. P. C. Kesling Authors
A Thought-Provoking Article**

The most recent issue of the new WORLD JOURNAL OF ORTHODONTICS

contains an article by Peter Kesling—the father of Tip-Edge. The title: “The Edgewise Slot: Angle’s Orthodontic Albatross,”* is perhaps a bit provocative but readers will find Kesling makes his point.

He has reviewed E. H. Angle’s articles and texts to discover that both Angle’s first (1887) and last (1925) appliances were mechanically flawed. Each, in effect, turns the very teeth to be moved into anchor teeth. Of course, the 1925 appliance is the edgewise mechanism with brackets having horizontal archwire slots.

Also Kesling discovered that Angle (accidentally or otherwise) misled the readers of his 1900 Sixth Edition textbook. The facial photos associated with the only before and after treatment models are of two different women. Kesling suggests this may be why Angle ordered all copies returned and destroyed.



Facial photographs above were associated with E.H. Angle’s *only* before and after records of an extraction case in his Sixth Edition of 1900.

The article ends with the solution to (lifting of) the Albatross by the creation of the Tip-Edge archwire slot which permits the teeth to easily move in the desired direction but resist as anchorage units in the other.

A four premolar extraction case treated in twelve months with only four archwires and seven adjustments is presented as evidence of the efficiency provided by the Tip-Edge archwire slot.

The entire article can be accessed on www.tip-edge.com. 📌

*Kesling, PC. The edgewise slot: Angle’s orthodontic albatross. *W J Orthod* 2000;1:142-151.

Nanorobots To Move Teeth In a Matter of Hours

The lead article "Nanodentistry" in the November 2000 issue of the JOURNAL OF THE AMERICAN DENTAL ASSOCIATION contemplates the effects robotic miniaturization could have on all of dentistry, including orthodontics. The author, Robert A. Freitas, Jr., predicts that within 20 years orthodontic nanorobots may be rotating, uprighting and vertically repositioning molars.

This would be done by these tiny robots directly manipulating the periodontal ligaments, gingival fibers, cementum and alveolar bone. The result would be painless tooth movement within hours—even minutes in contrast to what presently requires weeks or months.

It is hard to imagine how these nanorobots would be attached to each fiber and ligament. Subsequently, how would they be controlled, activated, deactivated and removed? It seems at this time that such activity would be classified as a rampant periodontal infection and the resulting movement related to loss of the tooth itself!

EDITOR'S NOTE: *Meanwhile, the most physiologic method of tooth movement is differential and from light forces. It has been proven and is possible with Tip-Edge brackets—today.*

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Tip-Edge In Taiwan

The Tip-Edge Study Club of Taiwan presented a table clinic at the Taiwan Association of Orthodontics conference in December of 2000. They displayed before and after treatment records of sixteen patients treated with Tip-Edge brackets. The techniques, however, were varied. Some cases were treated in the traditional manner with the Differential Straight-Arch Technique and others with MEAW (Multiloop Edgewise Arch Wire).



Members of Taiwan Tip-Edge Study Club at recent orthodontic meeting in Taipei. Dr. Hui-Lin Chen (President of the Club) is second from right.



Many of the cases shown were also included in the December issue of the THE JOURNAL OF TAIWAN ASSOCIATION OF ORTHODONTISTS. Of the seven articles in the journal, five were related to Tip-Edge.

The above report and photo were sent to TIP-EDGE TODAY by Oscar Kuo of Chiau Fong Enterprise Co., the distributor of TP products in Taiwan, R.O.C.

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