

“The Treatment is More Comfortable and Less Painful”

Interview with Dr. Luis Carrière (Spain)

Within the scope of the AAO Congress, the new Carrière Self-Ligating Bracket System (SLB) was introduced. Together with the Distalizer, it is an effective overall system that can distinctively minimize the treatment time (especially in Class II cases). We spoke to Dr. Carrière, the developer of the system.

More than 2 years have gone by since our first interview and the first Distalizers were placed in patients. A great number of patients have been treated in the Carrière Clinic, as well as by a great number of orthodontists in many countries. Compared to the initial propositions that you made 2 years ago, would you now change some of your statements of 2004 and/or add suggestions because of the clinical experience over this period of time?

I would not change my original statements proposed at that time, although I would increase the range of possible clinical situations that it could be used with a great benefit for the patient and for the orthodontist. We have increased the use of the Distalizer to adult patients with an unexpected success.

Mixed dentition has become a factor in order to place the Distalizer in an early stage of the Class II tendency, maintaining at the same time the leeway space when combining the lingual arch.

The successful distal movement with the Distalizer has opened new vistas of creative and conservative treatment approaches in many traditional four bicuspid extraction cases, making it possible to end up with only one or two lower premolar extractions, as well as the improvement of facial aesthetics.

Are there any contraindications for placing a Distalizer?

The Distalizer is a powerful distalization device, however

diagnosis is primordial. Once we have decided to treat a patient with the Distalizer, we look for a source of anchorage in accordance with the neuromuscular pattern of the patient. We have to point out that a surgical case should be approached surgically.



A notable reduction of height was one of the main concerns of the Carrière-bracket developer Dr. Luis Carrière.

Age: at what age, (state of dentition), would you advise to start with the Distalizer?

The range of age for the use of the Distalizer could be for patients with mixed dentition, at approximately 8 years of age, when the first upper molars have erupted and the deciduous canines are in good position to hold the anterior part of the Distalizer. It should be used for a short period of time, like 3 to 5 months.

What is the age of the oldest patient you have treated, or you have knowledge of treating successfully with the Distalizer (CD)?

We have successfully treated a considerable number of adult patients, the oldest being 55 years of age. The CD in those cases is also giving a good response.

What is the effect of third molars for the success of the Distalizer?

I did a study on 60 consecutive treated patients with the CD, and 87 percent of them had third molar germs formed. All of them achieved Class One relationship and no one had extractions of third molars. Third molars do not seem to be a problem with the CD.

As a reference, is there any reliable correlation between age and time until a class I relationship is reached?

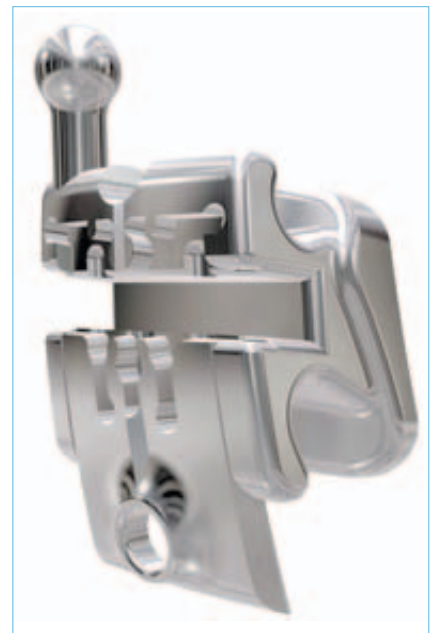
In the study of 60 consecutive cases (33 women 27 men), the range of age was from 9 to 41 years, giving an average of age of 14 years with a standard deviation of 5. Mean time for a class I relationship to develop was 4.27 months – a standard deviation of 1.58 months). The Distalizer had a significant effect on the distalization of the molars and premolars, with 3.82 mm of mean (standard deviation .72) and a range of 3 to 6 mm.

Although in all the cases we achieved the expected distalization, we found a slightly slower reaction. This was not statistically significant data. I think that further studies should be carried out with a larger population of adult patients.

I would like to point out that distalization was “stopped” when the patient achieved a class I relationship. In this respect, we have to consider that the study demonstrated that the Distalizer worked successfully. However, in reference to the “possible” distalization that we may actually achieve, it cannot be determined for that particular reason.

In your manual, you state that class II elastics to be used 6 1/2 oz 1/4 inches. Is this a dogma or do you advise to change the forces depending on the needs of the individual patient?

This of course has to be individualized. In adult brachyfacial patients with strong neuromuscular pattern, we propose class II elastics with a force of 8 oz, 24/7 except eating time to prevent extrusion of the canines. In extreme cases, I would recommend 8 oz daytime and double elastics of 6 1/2 oz,



Dr. Luis Carrière developed a self-ligating bracket system (SLB) as completion of the Distalizer, which supports the second part of the treatment after a successful distalization.

1/4” nighttime. The rest would remain as the original prescription I proposed.

Now that you have treated many patients in the Carrière Clinic, you surely have done a survey on a larger number of cases. If so, what are the results from this survey that you can pass on to doctors who want to start with your treatment system?

Since we cannot go over the entire study that I have conducted on an N=60 consecutive cases, some of the conclusions suggest that the Distalizer is a small device affecting circumscribed structures. The effect of the Distalizer is limited to dental and dento-alveolar structures.

Do you use removable appliances prior to placing a Distalizer?

No.

What steps are you selecting for class II division 1 patients, and how do the steps change for a class II division 2 patients?

Class II division 2 patients are treated as prescribed. In class II division 1 cases with a divergent component, class II elastics are recommended to be used at night time when they express a more horizontal vector of traction, plus in the daytime while at home when the vertical component of traction, when opening the mouth is minimal, i.e. while doing home work, studying or at leisure, for a total of 14 hours.

Do you generally advise using the Distalizer for unilateral class II cases?

The CD is an appliance with a full independence of action in the right and in the left sides. This makes this device the one of preference for treating unilateral class II cases.

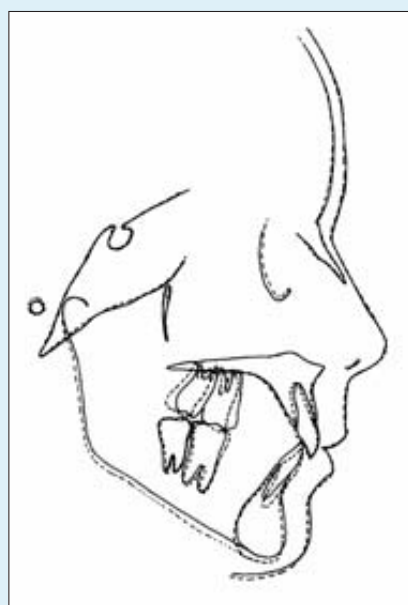
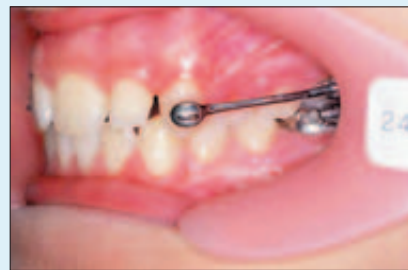
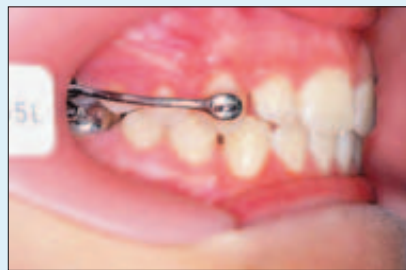


The Distalizer is a completely passive device. It becomes active by the use of elastics.

Girl, 12 years old, Class II/2



Class I, achieved after 3 months



The Distalizer obviously shortens the treatment time of one segment of the treatment considerably. Has the SLB system had a similar effect? What would you estimate as an average treatment time for a class II, division 1 with premolar width distal bite and deep bite, for the average young female or male patient, including finishing with the SLB?

The SLB has a complementary effect to the use of the Carriere Distalizer in the treatment shortening. When coupling their use, the treatment can be shortened by 50 percent. In the case that you mentioned, treatment of this kind could be finished in 12 to 15 months.

Like other self-ligating systems, do you have a wire sequence recommendation for different treatments, available by the companies, selling the SLB system?

As I previously mentioned, the Carriere SLB is a universal and "passive" system, which can be "activated" at will, in terms of techniques or treatment philosophies. In our particular case, we have designed a sequence of wires changes and a treatment protocol, which gives control of the entire treatment process in a quantitatively objectified process. This is the ORTHODONTIC POSITIONING SYSTEM, (OPS). This system defines the cartography of the treatment transition in an evident manner, and it works exactly as the Global Positioning System works for cars and boats. **OT**

You advise in your brochure four types of anchorage for the mandibular arch. What do you use mostly (percentage) in your clinic?

The most frequent procedure is to start with a lingual arch at the beginning. After the achievement of the class I relationship, we place brackets in the mandibular arch to control vertical and axial position of the arch.

Dr. Carrière, you now have added to the Distalizer a new design of self-ligating brackets, the Carrière SLB. Do you consider the combination of Distalizer and self-ligating brackets to be a good match?

The working hypothesis in the development of the CD was the development of a biologic, friendly appliance to the periodontal structures of the patient. It was oriented with the design of a device that should deliver a "loose but controlled" orthodontic impulse on the posterior segments as a block.

The Carriere SLB design has followed the same approach. The main idea has been to avoid the competing forces that appear in the periodontal surface, and that induced the "binding to the arch" with the traditional ligature to the brackets.

Both devices are congruent with the philosophy of maximum respect to physiology of the periodontal structures. In correspondence, the minimization of cellular involvement in the process has resulted in a natural acceleration of the process, a shortening in the treatment time, better

comfort to the patient and avoidance of pain—the last of which has been most evident in adult patients.

What treatment philosophies and what slot sizes are currently available, and what is planned to be integrated in the near future?

The design of the bracket can have a universal application. Fundamentally it is of a "passive" type, which can be "activated" when deemed necessary, but it can be used in all edge-wise-oriented treatment philosophies, taking advantage of the low friction.

In our particular case, we have a protocol of treatment which is objectified: the Orthodontic Positioning System "OPS," which is used with a .022 x.028 slot. Currently, the brackets are manufactured with the MBT prescription. The Roth prescription will very soon be incorporated in the new series. The next step is the series of .018 x .025 slot to be produced with the same prescriptions incorporated.

The bracket system has clearly minor dimensions in bracket height as comparable self-ligating systems. Was a special emphasis put on that point?

The reduction in dimensions has been the major concern in the design. This has been the result of three and one-half years of refinement of the model.

Why do you prefer the system of a passive self-ligating bracket?

"Passive" means a soft and respectful approach to the treatment; this is the main reason of our

preference, plus the precision and control that it can offer. This is accomplished with the ultra-light forces provided of the super elastic wires in a four-wall bracket tube. This provides a space of tolerance for maximum sliding efficiency. After levelling and major movements, the case can be "activated" for finishing, changing the size and shape of the wires and placing O rings strategically on the tie wings of the bracket.

The mechanism of the brackets is built around on a movable valve/lid with a snapping lock. Are problems with the mechanism, caused by salivary stone or contamination, detectable – as they occur occasionally in other systems?

This inconvenience cannot happen. The slide is placed in the face of the bracket; it is very accessible, and toothbrush bristles can remove any debris present obviating this problem.

What buccal tubes do you advise using on the first and second molars, and what combinations (single/double/combinations)?

We place single bondable .022 x.028 rectangular tubes.

OT Author Info



Dr. Luis Carrière

- 1991 DDS/Universidad Complutense de Madrid
- 1994 MSD/Master in Orthodontics and Dentofacial Orthopedics in Adults and Children School of Dentistry, University of Barcelona
- Member of several organizations, such as the European Orthodontic Society and the American Association of Orthodontists
- Being Guest Professor at several Orthodontic Departments in USA and Europe.
- Member of the Editorial Review Board of the American Journal of Orthodontics and Dentofacial Orthopedics
- Member of the External Examination Committee of the General Council of the Universities (Ministry of Education, Culture and Sports of Spain)
- Winner of the Joseph E. Johnson Awards (AAO, 1995) and the Milia D'or (Festival Milia, 1996)

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