

## CASE REPORT\_1

**DDS Filippo Cardarelli • Dentist  
Specialist in Orthodontics**



*Dr. Filippo Cardarelli. Graduated with honours in Dentistry and Dental Prosthetics. Specialized with honours in Orthodontics at the University of Milan. A specialist in paediatric dentistry at the University of Milan. He holds courses and conferences in Italy and abroad where he presents his working method. Author of a new orthodontic technique in evolutionary age: Elastodontic Therapy. Freelancer in Isernia, Florence, Bologna, Milan and Chiasso (CH). He deals exclusively with Orthodontics and Aesthetic Dentistry. He collaborates with Dr. Lorenzo Vanini in the resolution of particularly complex orthodontic cases to be treated with Elastodontic Therapy.*

**M.D.E. female, age 2, has an open bite anterior malocclusion, prolonged finger sucking, anterior bite, atypical swallowing, upper arch contraction.**



Elastodontic therapy with A.M.C.O.P. devices is innovative because it gives the clinician the opportunity to treat functional malocclusions as soon as they appear in the first years of growth as the case in question. The aim of the work is to evaluate the importance of skeletal and dental changes induced by functional orthodontic therapy undertaken at an early age, during the most active stages of skeletal and dental growth with a new pacifier-shaped A.M.C.O.P. DC elastodontic device.

The therapy examined was performed at the age of 2 years with the use of the device exclusively at night, through the **A.M.C.O.P. DC** we saw how in just 5 months they had the resolution of the open bite and the right expansion of the upper arch; a liberating, stimulating and guiding effect was obtained, recreating a correct relationship between the arches, creating the premises for an ideal skeletal growth.

The therapeutic protocol demonstrates how the treatments must be precocious and it is therefore an absurdity to wait for the escape of the permanent teeth.



A very important factor to consider is the Timing in fact the best results are obtained precisely during the most active phases of skeletal growth and above all when the malocclusion still appears in a "miniaturized" version.

### Materials and methods

Parents report difficulty in breathing and recurrent colds. The treatment plan involves the use of an A.M.C.O.P. DC pacifier-shaped elastodontic device, which does not require taking the impression and is ideal for patients of 2-3 years with obvious malocclusions. The particular device is carried passively every night and about 1 hour during the day for about 6 months in order to restore a bilateral molar and canine Class I relationship and the correct maxillary and mandibular development with the correction of open bite. Once the correction of the molar ratio is obtained, the closure of the anterior open bite the device will be taken by the patient for another 6 months in order to continue lingual re-education and stabilize the result obtained.

### Results

The results obtained show the great importance of elastodontic therapy for the purpose of restoring normal occlusion in a very short time given the plasticity of skeletal structures at the age of 2 years. The A.M.C.O.P. DC device can be used effectively for malocclusion of I, II and III dental and skeletal classes, as long as there is sufficient skeletal growth in the same direction.

Early treatment of these malocclusions is of primary importance as it prevents the formation of irreversible or true and appropriate third-class bone atrophies and it is easier to obtain orthopedic effects when the sutures are in an active proliferation phase.

The optimal period to start therapy is before the eruption of permanent dental elements, as soon as malocclusion occurs and it is therefore very important to monitor the case, so as to be able to counteract any future skeletal alterations always with elastodontic devices in order to accompany the growth and drive eruption of permanent teeth.

### Conclusions

Preventive orthodontics using elastodontic devices represents an important step forward in the field of orthodontics in the developmental age since it is able to solve most orthodontic problems by transforming many of these cases into ideal occlusions from an aesthetic and functional point of view. This case demonstrates how the correction of functional malocclusion, frequent in children at this age, is our first therapeutic goal



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## CASE REPORT\_2

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**B. P, female, age 3, presents a malocclusion of class III skeletal, III molar class and canine Dx and Sx, anterior inverse bite.**



Orthopedic-orthodontic therapy in the first dentition plays a role of primary importance in the context of today's dentistry; its purpose is the removal of the factors considered responsible for dental malocclusions, the restoration of normal dento-skeletal growth thus making a correct and functional dental alignment possible.

The therapy involves the use of the **A.M.C.O.P. TC** which is an elastodontic device expressly dedicated to the treatment of Class III malocclusions in deciduous, mixed and permanent dentition, in an age between 3 and 12 years and therefore has the purpose of avoiding mandibular sliding and freeing the premaxilla to obtain a correct anterior ratio, thus creating a Class I occlusion such as to prevent overjet recurrence and overbite. Another function is to act by stimulating maxillary growth and inhibiting the mandibular growth, modifying the overjet; it is therefore a myofunctional regulator that tends to correctly rebalance the muscular forces: it rehabilitates the posture of the tongue, rehabilitates swallowing and stimulates proper breathing.

## Materials and methods

This type of malocclusion in parents is present in the family. The treatment plan involves the use of an A.M.C.O.P. TC elastodontic device, to be worn passively for 1 hour during the day and every night for the first 6 months and then for another 10 months only at night in order to restore a relationship bilateral I-class molar and canine and the correct maxillary advance and inhibit excessive mandibular growth. In a second step, the resolution of the skeletal problem is monitored with six-monthly visits so as to re-intervene should the problem arise again. Once the correction of the molar ratio is obtained, and the anterior one the device will be brought by the patient only during the night to stabilize the result obtained and guide the eruption of the permanent dental elements

## Results

The results obtained highlight the great importance of elastodontic therapy for the purpose of restoring normal occlusion in a very short time given the plasticity of skeletal structures at the age of 3 years. The A.M.C.O.P. TC device can be used effectively for dental and skeletal class III malocclusions, provided there is sufficient skeletal growth in the same direction.

Early treatment of these malocclusions is of primary importance as it prevents the formation of irreversible or true and appropriate third-class bone atrophies and it is easier to obtain orthopedic effects when the sutures are in an active proliferation phase.

The optimal period to start therapy is before the eruption of permanent dental elements, as soon as malocclusion occurs and it is therefore very important to monitor the case so as to be able to counteract any future skeletal alterations always with elastodontic devices in order to accompany growth and guide the eruption of permanent teeth.

## Conclusions

Preventive orthodontics using elastodontic devices represents an important step forward in the field of orthodontics in the developmental age since it is able to solve most orthodontic problems by transforming many of these cases in to ideal occlusions from an aesthetic and functional point of view.



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## CASE REPORT\_3

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**R. G. female, 9 years of age, has malocclusion of the upper arch contraction type with slight SX cross bite and absence of space for the 12 and 22 eruption, mandibular contention with no space for 33-43, toothless dislocation, atypical swallowing.**



The A.M.C.O.P. Bio-Activators they are the synthesis of all existing functional activators and are suitable for functional and personalized rehabilitation of the patient. They provide a broader and more correct view of the treatment, since the device acts as a harmonious growth of the dentocranio-facial system and stabilizes the result obtained. The A.M.C.O.P. are made with a thermoplastic material able to interact actively with the occlusion, the muscles of the tongue, the orbicular muscle but at the same time they are able to create a so-called elastodontic space which represents the ideal space between the musculature of the tongue (**germinating force**) and those of the lips (**centripetal force**) within which the displacement of the dental elements takes place; therefore it is not the device itself that determines the tooth movement but it is the balance that is established between the musculature of the lips and that of the tongue that creates a neutral space within which the dental elements themselves are positioned. The rehabilitative action of the Bio-Activator is reflected on the whole stomatognathic system: teeth, alveoli, masticatory muscles, TMJ, cheeks, lips, tongue, soft tissues, salivary glands, mandibular and maxillary bones, innervation and vascularization and therefore the dento system -craniofacial and cervico-postural. It therefore corrects spoiled habits and cranio-facial dysmorphisms, true causes of malocclusions.

### Materials and methods

Parents report difficulty in breathing and recurring colds. The treatment plan involves the use of an AMCOP S Integral elastodontic device, which allows the correct development of the arches, their coordination and the correct lingual function. The device is worn every night in a passive way and about 1 hour during the day for about 8 months in order to restore a bilateral first class molar and canine relationship and the correct maxillary and mandibular development with the correction of the posterior cross bite and the creation of the correct space for the 12 and 22 eruptions. Once the correction of the molar ratio is obtained, the resolution of the cross bite and after the leakage of 12 and 22 the device will be brought by the patient for another 8 months or so to continue lingual re-education and stabilize the result obtained.

## Results

The results obtained highlight the great importance of elastodontic therapy for the purpose of restoring normal occlusion very quickly, given the plasticity of skeletal structures during the peak of growth. The A.M.C.O.P. Integral device is also used as a neuromuscular re-educator in order to obtain a dental and at the same time muscular result so that the case remains stable over time. Early treatment of these malocclusions is of primary importance as it prevents the formation of skeletal and muscular pathologies and it is easier to obtain orthopedic effects when the sutures are in an active proliferation phase. The optimal period to start therapy is before the eruption of permanent dental elements, as soon as malocclusion occurs, but in the case of 9-year-old patients it is still possible, given the skeletal growth in progress, to obtain skeletal and dental results at the same time, what changes with respect to a 2-year therapy is therapeutic speed and it is also necessary to analyze the lingual and / or postural component that are often associated with malocclusions.

## Conclusions

Through the use of the A.M.C.O.P. it was possible to solve the skeletal and dental malocclusion, to restore the correct growth, to align the upper and lower median with an aesthetic but above all functional result since the muscles of the lips and those of the language contextually.



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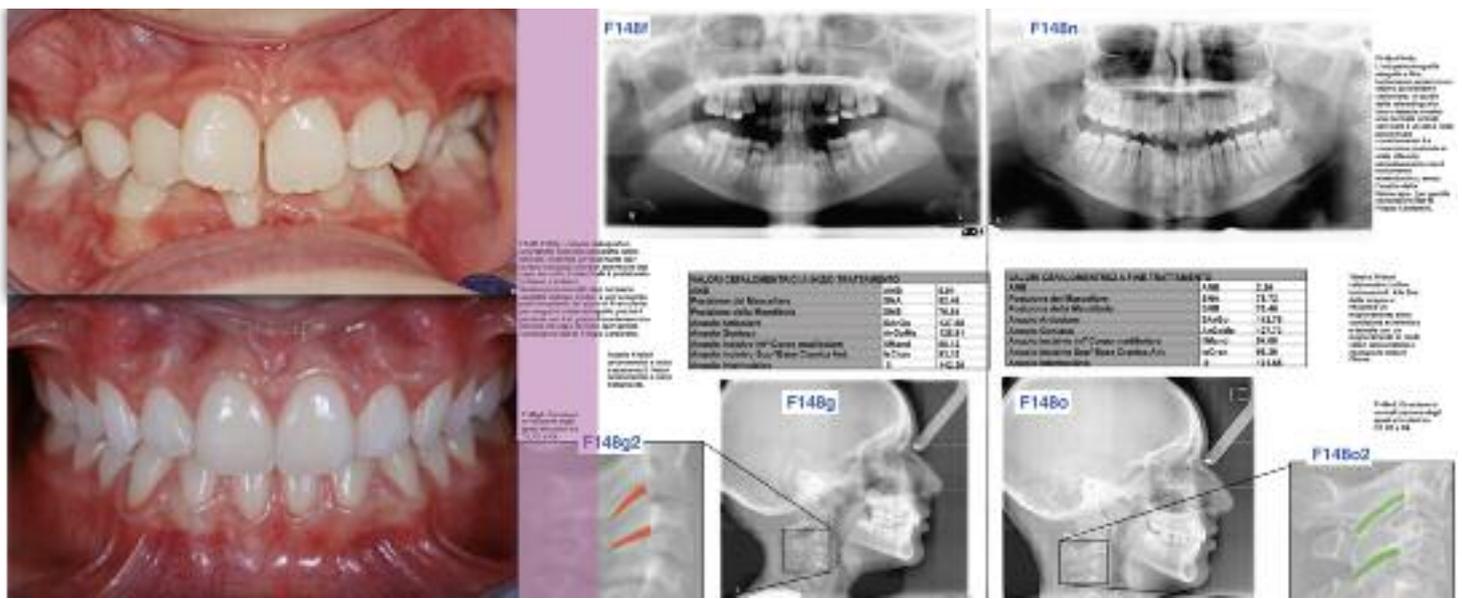
## CASE REPORT\_4

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**D.E female, age 9.5, has a malocclusion of Class II skeletal, II Class molar and canine Dx and Sx, deep bite.**



Malocclusion is the cause of the periodontal problem at the rate of 41. Skeletal and dental malocclusion is also associated with the postural problem as evidenced by teleradiography which shows compression of the first cervical vertebrae with an increase in the cervical curve created by the posterior sliding of the mandible. The therapy through elastodontic devices allows the recovery of the vertical dimension and the restoration of the correct arch shapes; the duration of the therapy is about 18 months with restraint that always takes place with the same device for another 7-8 months. Currently 10 years after therapy, great occlusal stability is found. The resolution of the skeletal and dental malocclusion is associated with a clear recovery of the posture with consequent improvement of the cervical curve, as can be read in the final teleradiography. Once the correction of the molar ratio has been obtained, and the anterior fixture will be carried by the patient only during the night to stabilize the result obtained and guide the eruption of permanent dental elements.

## Materials and methods

Malocclusion is the cause of the periodontal problem at the rate of 41. Skeletal and dental malocclusion is also associated with the postural problem as evidenced by teleradiography which shows compression of the first cervical vertebrae with an increase in the cervical curve created by the posterior sliding of the mandible. The therapy through elastodontic devices allows the recovery of the vertical dimension and the restoration of the correct arch shapes; the duration of the therapy is about 18 months with restraint that always takes place with the same device for another 7-8 months. Currently 10 years after therapy, great occlusal stability is found. The resolution of the skeletal and dental malocclusion is associated with a clear recovery of the posture with consequent improvement of the cervical curve, as can be read in the final teleradiography. Once the correction of the molar ratio has been obtained, and the anterior fixture will be carried by the patient only during the night to stabilize the result obtained and guide the eruption of permanent dental elements.

## Results

The results obtained show the bilateral first molar and canine class and an excellent intercuspitation, the centering of the median line and of the frenuli. Elastodontic therapy was instrumental in resolving the second skeletal class as well as the excess of overbite and overjet.

The examination of the initial lateral-lateral teleradiography shows the cervical hyperlordosis with hyperextension of the head on the neck, the hyoid bone is positioned down and back, to note the reduction of the joint spaces C2 C3 C4.

The latero-lateral teradiography performed at the end of treatment shows a normal cervical lordosis and a correct position of the hyoid bone and therefore normalization of the articular spaces between C2 C3 C4

Correct posture was achieved with only elastodontic treatment.

## Conclusions

Preventive orthodontics using elastodontic devices therefore represents an important step forward in the field of orthodontics in the developmental age since it is able to solve most orthodontic problems by transforming many of these cases into ideal occlusions from an aesthetic and functional point of view. Through the elastodontic devices it is possible to correct the malocclusions and at the same time solve the postural problems related to it.



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## CASE REPORT\_5

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**P.B. female, age 9.5, presents a malocclusion of Class II skeletal, II Class molar and canine Dx and Sx, midline Sstata Sx, altered inclination of 11 and 21, lower crowding with lingualization of 32**



The A.M.C.O.P. Bio-Activators they are the synthesis of all existing functional activators and are suitable for functional and personalized rehabilitation of the patient. They provide a broader and more correct view of the treatment, since the device acts as a harmonious growth of the dentocranio-facial system and stabilizes the result obtained.

Elastodontic appliances are made with a thermoplastic material capable of actively interacting with the occlusion, the muscles of the tongue, the orbicular muscle but at the same time are able to create a so-called elastodontic space which represents the ideal space between the musculature of the tongue (**germinating force**) and those of the lips (**centripetal force**) within which the displacement of the dental elements takes place; therefore it is not the apparatus itself that determines the dental movement but it is the balance that is established between the musculature of the lips and that of the tongue that creates a neutral space within which the dental elements themselves are positioned.

Hence the importance of the therapeutic plan and of the adequate choice of the device in such a way as to avoid inconveniences very often linked to the inadequacy of the same or even to the wrong choice between a standard commercial appliance and an individualized appliance.

These devices have the ability to simulate the correct ratios of modified and correct class I arches and thus induce propulsive, retropulsive or expansive effects for different thicknesses of the elastodontic.

The working mechanism of elastodontic devices is such that through the more or less elevated elasticity of the material it is possible to intervene in a three-dimensional manner inside a three-dimensional reality also which is the oral cavity; unlike the common standard functional devices able to work two-dimensionally due to an occlusal relationship often altered by the presence of plaques or showers that make the therapy less biological preventing the achievement of intercuspitation during the therapy itself.

## Materials and methods

The therapy through elastodontic devices allows the recovery of the vertical dimension and the restoration of the correct arch shapes; the duration of the therapy is about 18 months with restraint that always takes place with the same apparatus for another 7-8 months. Currently at 9 years of age there is great occlusal stability. The resolution of the skeletal and dental malocclusion is associated with a clear recovery of the posture with consequent improvement of the cervical curve. Once the correction of the molar ratio has been obtained, and the anterior fixture will be carried by the patient only during the night to stabilize the result obtained and guide the eruption of permanent dental elements.

## Results

The results obtained show the bilateral first molar and canine class and an excellent intercuspitation, the centering of the median line and of the frenuli, the correction of the axes of 11 and 21. Elastodontic therapy was determined to solve the second skeletal class as well as the excess of overbite and overjet. Correct posture was achieved with only elastodontic treatment.

## Conclusions

Preventive orthodontics using elastodontic devices therefore represents an important step forward in the field of orthodontics in the developmental age since it is able to solve most orthodontic problems by transforming many of these cases into ideal occlusions from an aesthetic and functional point of view. Through the elastodontic devices it is possible to correct the malocclusions and at the same time solve the postural problems related to it.

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