

The Tooth Positioning Appliance has been used, and has possibilities for extensive use in the future, as an appliance to stabilize teeth of individuals who have had orthodontic treatment. It can be of equal benefit for cases that have not had treatment but which are prone to drift into traumatic malocclusion perhaps through lack of function. By using this new technique of final positioning of the teeth, it is possible to remove the conventional type of appliance from four to six months earlier than is practical under the usual form of treatment. Besides reducing the operator's chair time, the patients appreciate the shortening of treatment. When the Positioner is properly worn, each tooth is being forced toward its best possible position, not only in relation to the teeth of its own arch, but also in relation to the teeth of the opposite arch. Slight spaces are closed, moderate rotations are adjusted, maxillary and mandibular discrepancies are corrected, and proper interdigitation of the maxillary and mandibular teeth is achieved. Axial positioning is changed, not only by the pressures exerted on the buccal, lingual, and labial surfaces of the teeth, but also by the functional forces exerting pressure on the occlusal surfaces of the teeth. This is especially true of the posterior teeth.

The day of prolonged wearing of orthodontic appliances is past. The major tooth movements necessary to properly accomplish the basic treatment of most orthodontic cases can be completed in about twelve months, if the active treatment is undertaken at the most opportune time. Many cases can have the bands on and off in from six to eight months, providing that the final positioning is to be accomplished, not by bands and wires, but with the Tooth Positioning Appliance.

910 INDIANA AVENUE.

RESTORATION OF FUNCTION THROUGH EARLY CORRECTION OF MALOCCLUSION

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DURING any meeting such as the present one (devoted to the discussion of orthodontics), frequent reference is made to growth and development. Growth is generally taken to mean an increase in bulk by proliferation. Development, as defined by Conklin, is the progressive and coordinated differentiation of the organism under the influence of heredity and environment, and interplay of these factors is responsible for changes in relative proportion.

The important thing to remember in the interpretation of the following material is the division of both growth and development into prefunctional and functional stages. During prenatal life heredity is the controlling factor in

determining the pattern of growth, but function assumes an increasingly important role in subsequent growth and development. It is logical to assume, therefore, that any disturbance of function may have an adverse effect on the growth and development of jaws and should be corrected as early as possible.

With these thoughts in mind, I shall present condensed reports of four cases in which growth and development have been inhibited at a very early age due to disturbances in function. It is customary in a case report to give the history, etiology, diagnosis, prognosis, and treatment. The history in these cases is necessarily very short since they were seen so early, in one instance before all the deciduous teeth had erupted. And although we may speculate on the etiology, it is impossible to determine an etiological factor on the basis

Fig. 1.

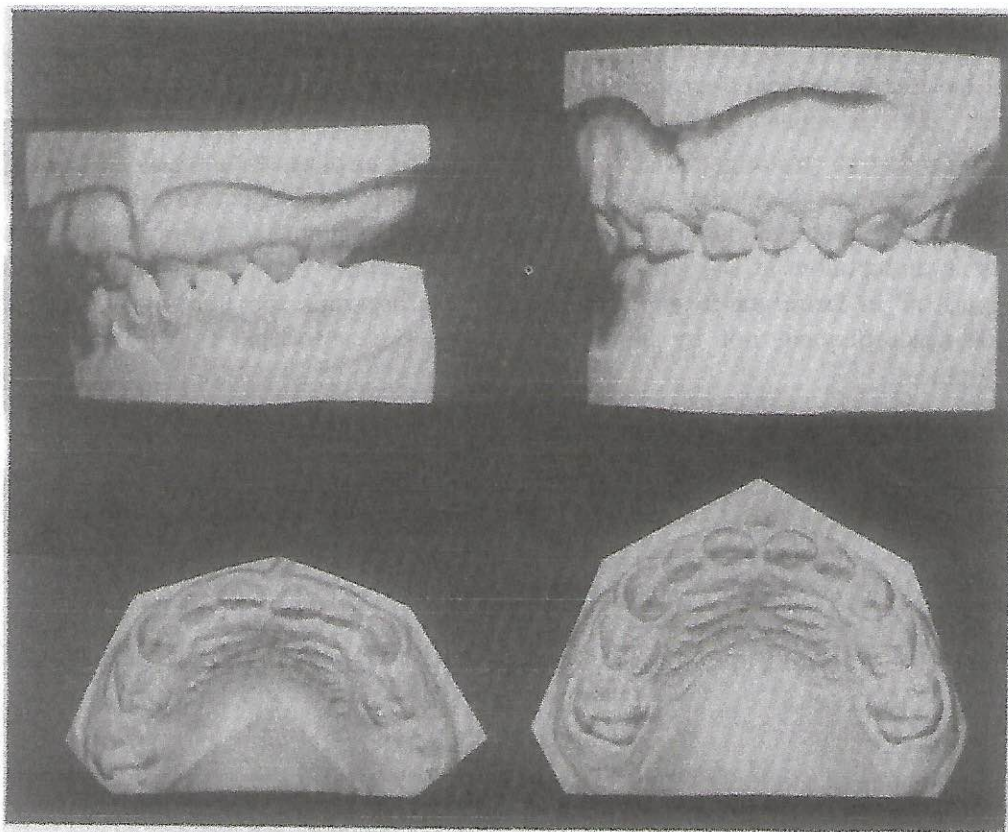


Fig. 2.

of actual cause and effect. It seems necessary, then, to classify them as true anomalies of either hereditary or congenital origin. The prognosis is good if we define as our objective an occlusion which is normal for the age of the patient, bearing in mind that final results depend upon such factors as continued normal function, nutrition, and general health. Treatment consists of two parts: the mechanical, using the simplest type of appliance of very light construction, and the myofunctional, both during treatment and later through transitional stages.

The first case (Fig. 1) is of a little girl, 2 years and 9 months of age, in apparent good health, whose history seems negative as far as any causative factor is concerned. There seems to be some original deviation from the normal in the form of the maxilla, which caused the incisors to assume this relation. Classified as Angle Class I with retruding incisors, it is a simple procedure with a plain labial wire of light gauge to correct the arch form and allow the incisors to assume a relation in which they may function normally. Active treatment was postponed until the fourth year owing to delayed eruption of the second deciduous molars, and correction was completed in three months. (Fig. 2.)

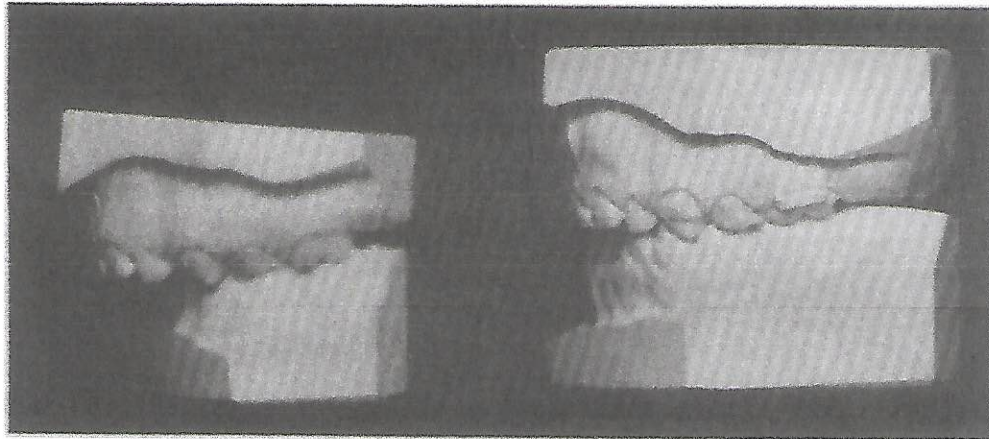
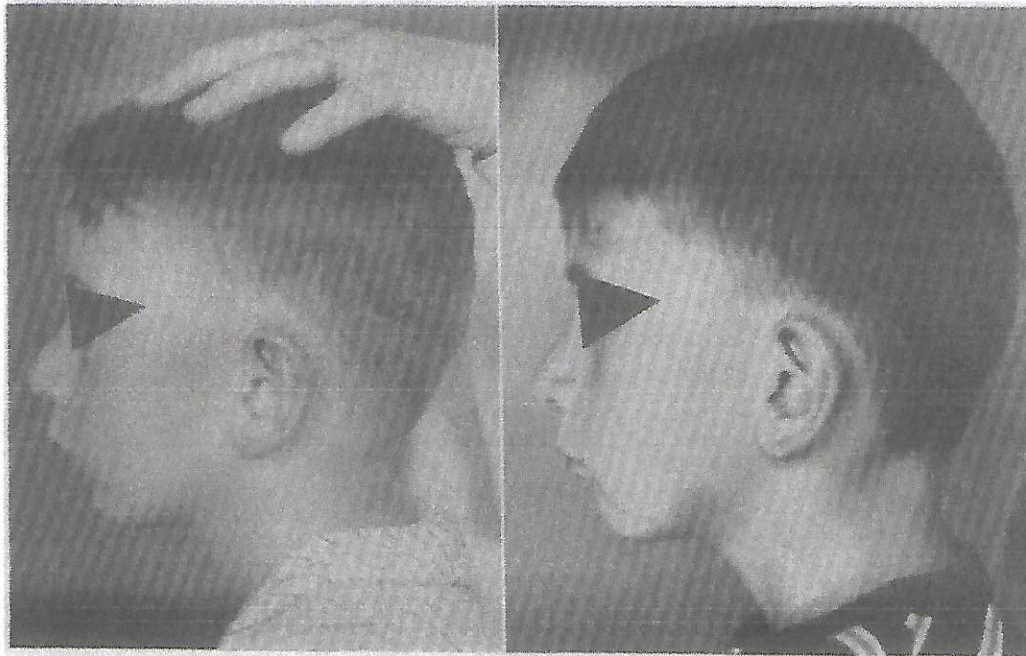


Fig. 3.



A.

Fig. 4

B.

This allows the jaws to develop for three or four years under the influence of a normal function before the deciduous incisors are lost. To be sure, a normal deciduous denture does not insure a normal permanent one, but the chances are better than for one which is in abnormal function for several years of active growth.

The next case (Fig. 3), one of the opposite extreme, is of a boy 4 years of age. This patient had been under observation for several months with the condition becoming more

Fig. 5.

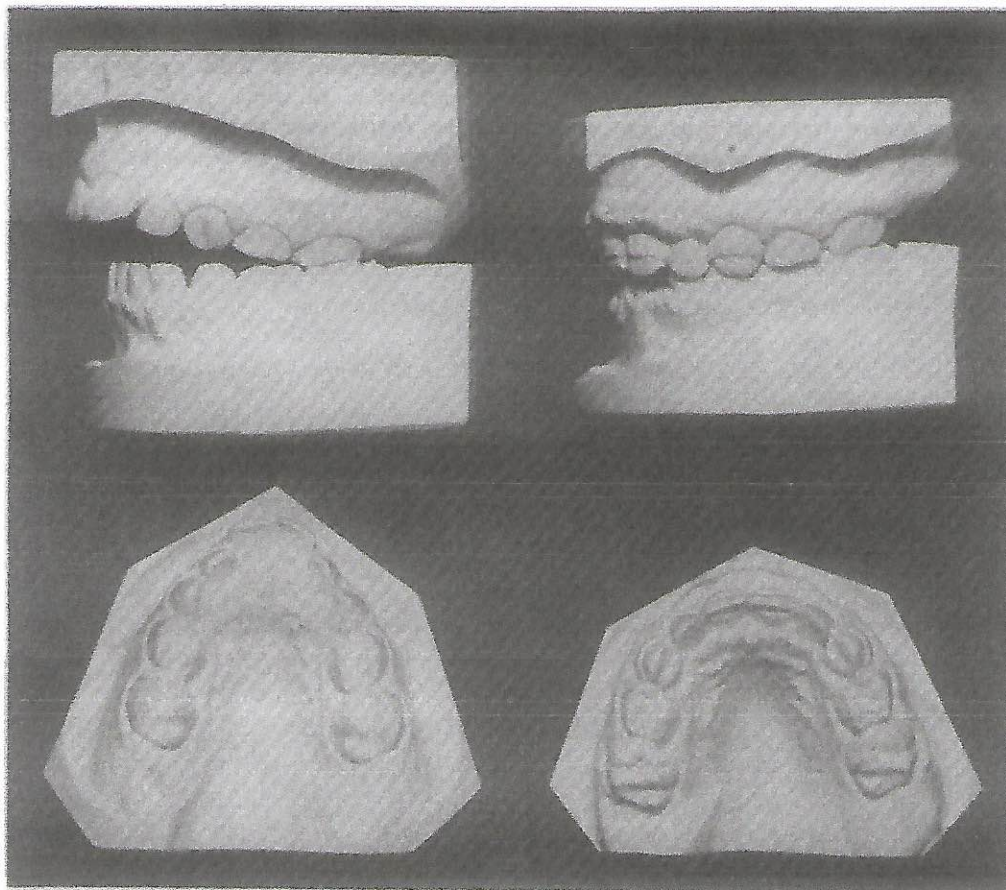
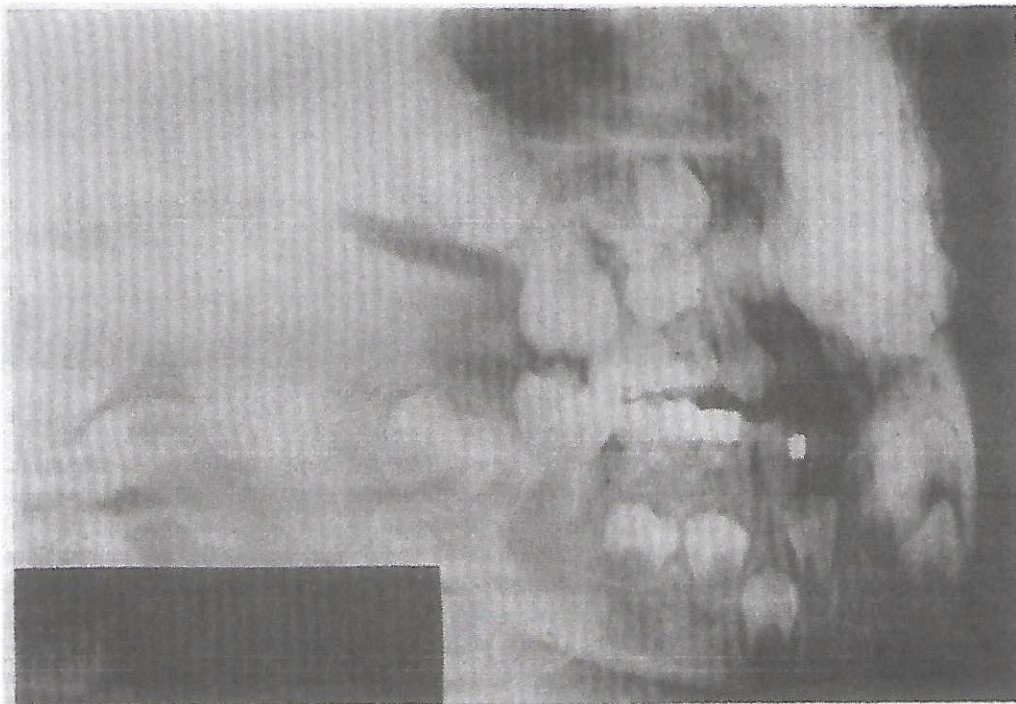
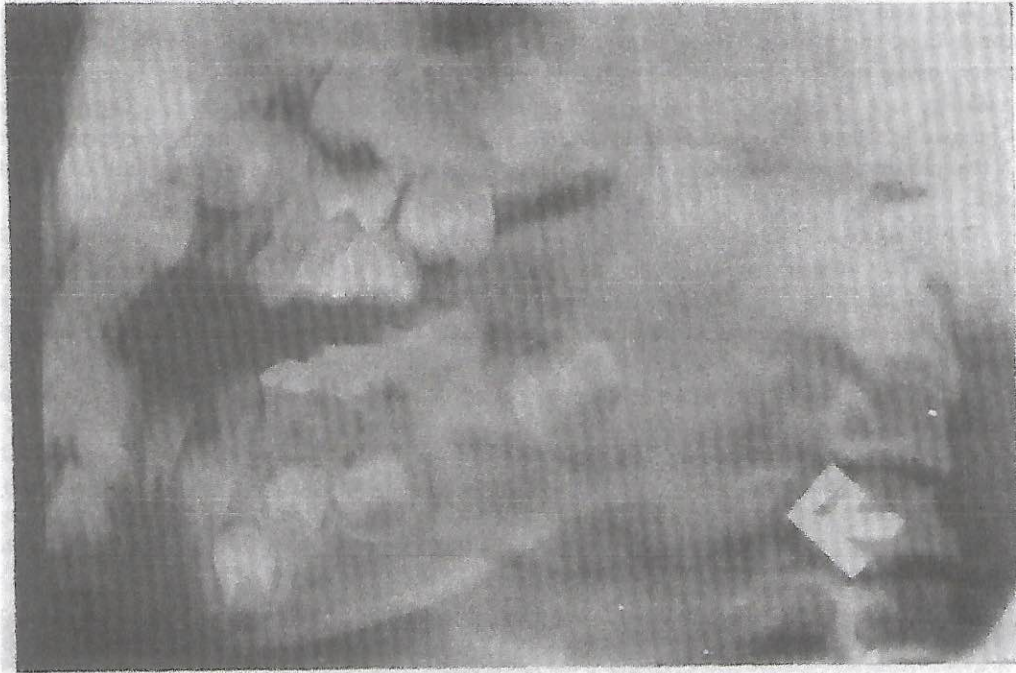


Fig. 6.



Fig. 7.

A.



B.

Fig. 8.

pronounced, until it was decided to start treatment. It appears that the habit of lip-sucking had aggravated an already serious Class II condition, causing further recession of the mandible and flattening of the lower anteriors as well as changes in the soft tissue of the lips. (Fig. 4, *A* and *B*.) The case responded quickly to simple therapy, and normal function was restored in a short time. It is important to follow up cases of this type for some time, however, using myofunctional therapy to overcome the distortion of the soft tissue due to lip-sucking, and to retrain the muscles to conform to the corrected occlusion. The progressive nature of these cases makes it more important that correction be made early, in order that the jaws may develop under the influence of normal function during the years of rapid growth.

The third case (Fig. 5), is of a girl of 4 years, small for her age but in good physical condition. The arches are extremely narrow, the maxillary arch being contracted in the molar region so that the maxillary molars occluded in palatal relation to the mandibular molars. The classification was distocclusion with open-bite. Her parents reported a finger-sucking habit, but the frequency and the force exerted did not seem to indicate that this was the principal causative factor. The patient also breathed through the mouth and this may have been the effect rather than the cause of the contraction. A few months of treatment with a junior appliance was sufficient to close the bite and develop the arches so that normal function was possible. One important reason for treating this type of case as early as possible is the tendency to develop secondary habits of lip and tongue, which aggravate the condition and are most difficult to break when they become confirmed at an early age. (Fig. 6.)

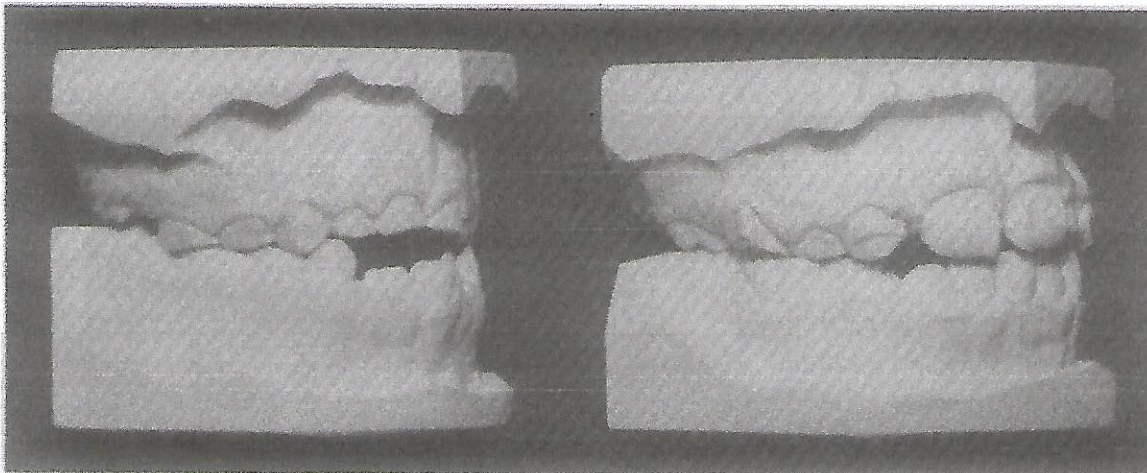


Fig. 9.

In the fourth case it appears that the growth has not kept pace with development. The patient is a boy slightly overweight and subject to almost continued colds. The permanent teeth are quite large (incisors), and there seems to be considerable discrepancy between tooth material and bone structure. This lack of space had caused the six-year molars to become impacted behind the second deciduous molars in a manner that made it impossible for them to erupt. (Fig. 7.) The importance of the six-year molars in the developing arch made it necessary to treat this condition and bring the molars into a functional occlusion. This was accomplished by means of a lingual wire and finger springs. Further treatment will be necessary as other teeth develop; but the objective of a functional occlusion has been accomplished at this stage. Incidentally it has been stated that basal bone is not affected by function. (Fig. 8.) This may be true in older patients, but in younger children, such as seen in the x-ray, there seems to be little of the bone which is not actively growing and, therefore, under the influence of function. (Fig. 9.)

SUMMARY

It is not necessary or desirable to treat every case of malocclusion that is presented. Many, if not most, of these children of 3 to 6 years can be safely put under observation in order that the tendency of growth can be noted. A fair percentage will be seen to improve as Nature seeks to correct some earlier period of retarded growth. Others may require the correction of a habit which is obstructing the normal course of development. Still others, such as the cases shown here, require slight mechanical corrections before normal function can be established and the forces of normal occlusion can exert their influence. Practically all of these cases suffer from low and improperly balanced muscle tone, and myofunctional therapy is used both during treatment and afterward to overcome this deficiency. As the span of attention is short in these younger cases, appointments must be kept brief and appliances simple; however, if these conditions are observed, the preschool children will be found to be among our most cooperative patients.

60 CHARLESGATE WEST

CORRECTION OF MALUNION OF A MANDIBULAR FRACTURE WITH
DISFIGURING MALOCCLUSION

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RECOVERY from a mandibular fracture is generally uneventful. There are, however, instances in which the broken fragments knit in malunion. In such a situation there is an unfavorable realignment in the structural relationship of the bony fragments. As a consequence, the conformation of the mended mandible differs substantially from its "prefracture" contour. Its relationship to the temporomandibular articulation, to the maxilla, and to the face also is changed. Obviously, a functional disturbance and a facial deformity of varying severity must occur. Thus, it is inevitable that there would be disappointment with the outcome of the treatment for the fractured mandible.

CASE REPORT

R. R., a woman, aged 28 years, was referred to us. She sought relief from the mutilation of the lower part of her face, especially the chin disfigurement (Fig. 1, A). She sought correction of her altered occlusion (Fig. 1, B) with its masticatory malfunction and the restricted mandibular movements. She complained of the difficulty she experienced in enunciating distinctly. Her general health apparently was good. Six months previously, in an automobile accident, she sustained "mandibular fractures, both on the left side—one in the ramus, the other in the body near the mental foramen; and as far as could be ascertained a horizontal fracture in the maxilla at the base of the nasal spine."

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