

# Case Report

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## INTRODUCTION

This case is reported because the results obtained proved to us that it could not have been treated successfully without the extraction of the four first bicuspid.

## HISTORY

The patient, a boy of 12 years of age, was in good health. He had a normal delivery. Childhood diseases were chicken-pox and mumps. He was operated for a double hernia at 2 years of age. Tonsils and adenoids were removed at 4 years of age. The patient had an excellent diet and did not like sweets. He was of a nervous temperament and very tense, alert, and cooperative, with the exception of having poor dental hygiene. He ate rapidly and did not chew his food thoroughly. The etiology of the malocclusion was not determined.

## DENTAL EXAMINATION

The examination of the teeth revealed a Class II relationship with an extreme overbite. Although no cephalogram was taken at the beginning of treatment, the lower anterior teeth seemed upright over basal bone with slight spacing between the upper and lower bicuspid. The Frankfort mandibular angle was 21 degrees. A set-up was made, indicating that the case could presumably be treated as a non-extraction. The arches were fairly well developed. The x-ray examination revealed that the roots of the teeth were normal with third molars present. No teeth were missing and no supernumerary teeth present. The incisal teeth were slightly crowded.

The musculature had a tremendously high tonicity, particularly the mentalis and orbicularis oris muscles. The mouth was very small, which made treatment a strenuous task for the operator, making it difficult to reach the second molar areas.

## TREATMENT

The patient was first hooked up with bands on the lower first molars and a lingual arch placed, waiting for the eruption of the lower second bicuspid and cuspids. On the upper arch, a bite plane was inserted to open the bite and prevent further traumatizing of the upper lingual gingival tissues by the lower incisors. This was continued for 8 months. At this time it was decided to extract the upper and lower first bicuspid, realizing that pulling on the lower arch with elastics would endanger the success of the treatment.

All posterior teeth and cuspids were banded on the upper and lower arches, and sectional Bull loops arches were placed. The lower lingual arch was removed to allow the lip action to work on the lower anterior teeth. Arches were activated every 3 weeks. This phase of treatment lasted 8 months. Upper and lower continuous arches with Bull loops distal to the cuspids were then placed to close the anterior spaces with Class 2 elastics. These were also activated every 3 weeks. The time for this procedure was 11 months.

Upper and lower finishing arches were placed for one month, then all bands removed and a positioner placed. It was worn for one month 14 hours a day. Upper and lower Carey-type retainers, with a bite plane on the

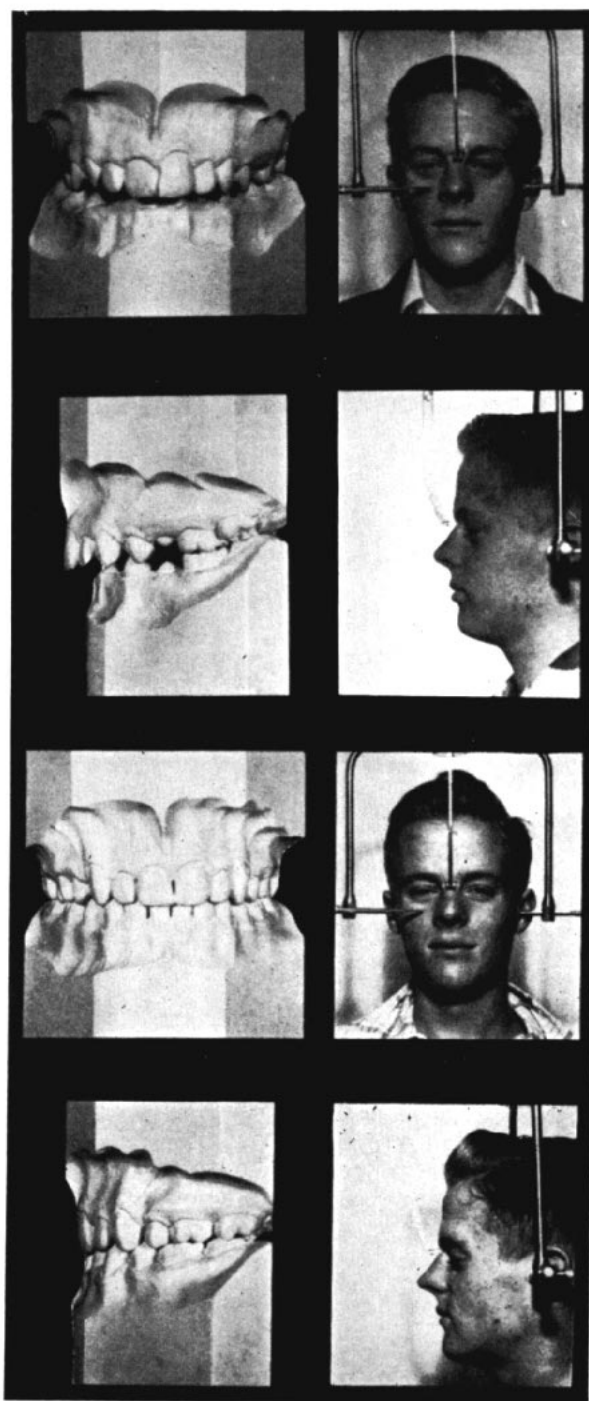


Fig. 1 Models and photographs before and after treatment.

upper, were then placed and worn continuously for 6 months, at which time they were only worn at night. The case was spot ground 10 months after the removal of the bands.

The total treatment time was 29 months and the time of active treatment 20 months.

#### RESULTS

The results obtained, as shown by the models, photographs and x-rays, were good. A cephalometric study of the finished case showed good results according to the Tweed triangle and Steiner's analysis. The Frankfort mandibular angle was 20 degrees, the mandibular incisal angle was 90 degrees,

and the Frankfort incisal angle was 70 degrees. SNA was 80 degrees and SNB 78 degrees. X-ray examination showed slight resorption of the anterior roots with normal condition of the bone tissue. The gingiva was normal with good tone and color.

#### POST-TREATMENT FINDINGS

At the present time, 14 months after the removal of bands, the case has been completely stable, occlusion is well balanced, and the chewing pattern is greatly improved. The face has improved slightly although it was good to begin with. The musculature around the mouth is less tense.

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