

REPORT OF TWO CASES

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Brief reports are presented of two cases where controlled tooth movements of a different nature were required for successful correction.

In each case bands were placed on the teeth with edgewise arch attachments for .021 x .025 rectangular archwires. In the first case however, most of the treatment changes were effected with round arches, while in the second instance rigid anchorage control of the mandibular arch was demanded of the edgewise arch appliance.

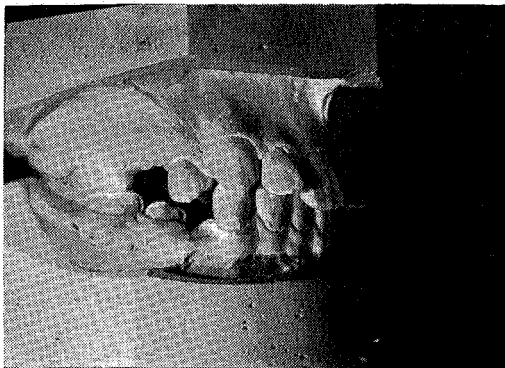


Figure 1 — Case 1
Study casts of patient with $\frac{4}{4}$ extracted and $\frac{5}{5}$ unerupted.

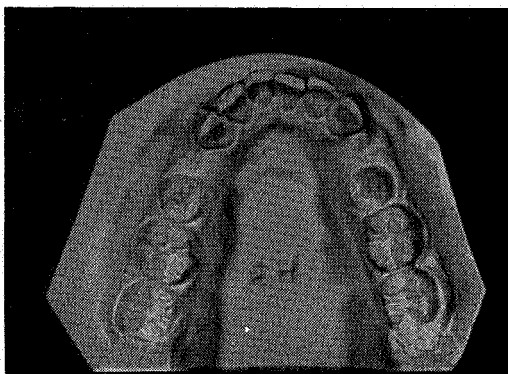


Figure 2 — Case 1
Mandibular study cast prior to treatment.

CASE 1—

A.H. — female aged 11 years

Clinical examination of the patient and a study of the casts indicated a Class 1 (Angle) bi-maxillary protrusion with an excessive anterior overbite, and a slight discrepancy of arch centre lines, with no detectable mandibular deviation from a normal path of closure.

Radiographs confirmed the presence of all third molars and the extraction of $\frac{4}{4}$ and $\frac{4}{4}$ was recommended.

Jan. 1965—All first bicusps were extracted and it was decided to retract $\frac{3}{3}$ with a maxillary plate while awaiting the eruption of $\frac{5}{5}$.

Jan. 1965—Bands were placed on the mandibular teeth and $\frac{3}{3}$ were retracted to a vertical position with coil springs compressed along the archwire.

June 1966—A mandibular round arch with two vertical spring loops was ligated and activated to move $\frac{21}{12}$ lingually.

Nov. 1966—An edgewise lower archwire was ligated, and the maxillary teeth were banded. Intermaxillary elastic traction was commenced, initially using a round maxillary archwire to retract $\frac{21}{12}$. Distal tip bends were incorporated into the mandibular arch, and these were gradually increased.

Nov. 1966—Mandibular bands were removed.

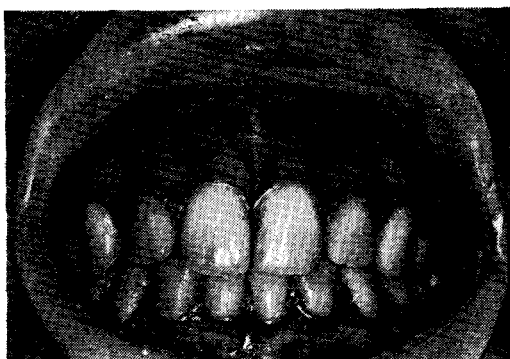
Jan. 1967—Maxillary bands were removed.

Overall time of treatment — 2 years.

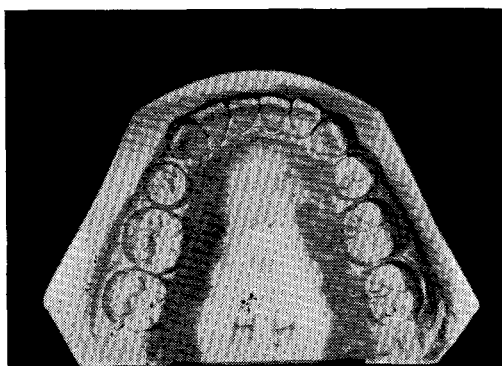
Number of visits throughout active treatment — 25.

The treatment objectives in this case were the reduction of the axial inclination of the incisor teeth by tipping these teeth lingually, and a reduction of the anterior overbite.

Spaces in the extraction sites which remained after the retraction of the cuspids, were closed by the reciprocal action of intermaxillary elastics and also horizontal elastics on the maxillary archwire.



Case 1 — Figure 3
Intra-oral photograph after treatment showing improvement in overbite and cuspid interdigitation.



Case 1 — Figure 4
Mandibular study cast after treatment.

Measurements from cephalometric tracings indicate the changes which occurred during the treatment phase.

	NORMAL	BEFORE	AFTER
SNA	82°	80°	80.5°
SNB	80°	75°	78°
ANB	2°	5°	2.5°
$\overline{I} / MP$	90°	98°	90°
Occ. PL	14°	17°	16°
Mand. PL			
$\overline{I} / \underline{1}$	131°	119°	136°
$\overline{I} / NB$	22°	30°	22°
$\overline{I} \cdot NB$	4mm.	7.5mm.	4mm.
Ratio $\frac{\overline{1}-NB}{PO-NB}$	$\frac{1}{1}$	$\frac{7.5}{0}$	$\frac{4}{2}$



Figure 5—Pre-treatment cephalometric x-ray

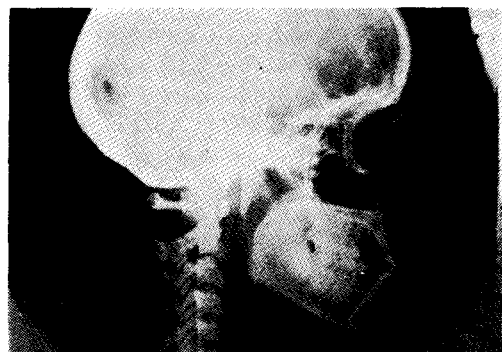
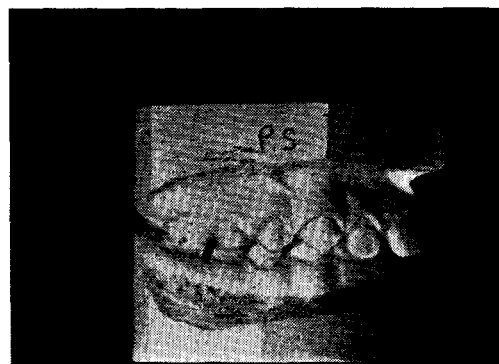


Figure 6—Post-treatment cephalometric x-ray

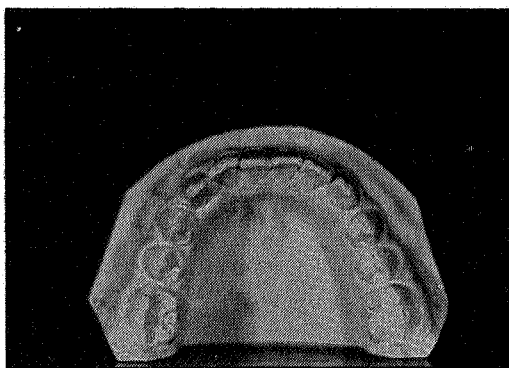
CASE 2—

P.S. — male aged 12 years

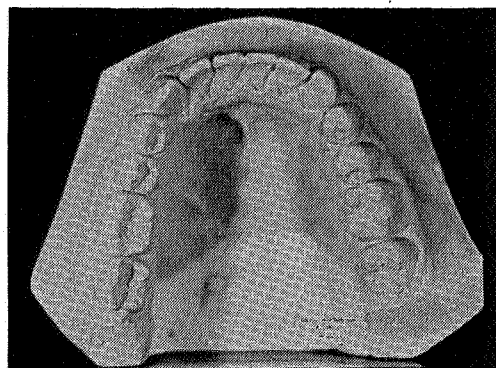
A Class II, Division I malocclusion with an excessive anterior overbite. Radiographs confirmed the presence of all third molars, but 8/8 were not in positions favourable for eventual eruption.



Case 2 — Figure 7
Treatment study casts



Case 2 — Figure 8
Treatment mandibular arch



Case 2 — Figure 10
Cast of mandibular arch after treatment

It was decided therefore to extract only in the maxillary arch as the extraction of $\frac{8}{8}$ may be required at a later stage.

Banding was commenced in April 1963.

July 1963—Following the progressive use of round archwires, an .021 x .025 rectangular wire was ligated in the mandibular arch, and a head gear was adapted to the arch for development of "stationary" anchorage.

Nov. 1963— $\frac{6}{6}$ were extracted.

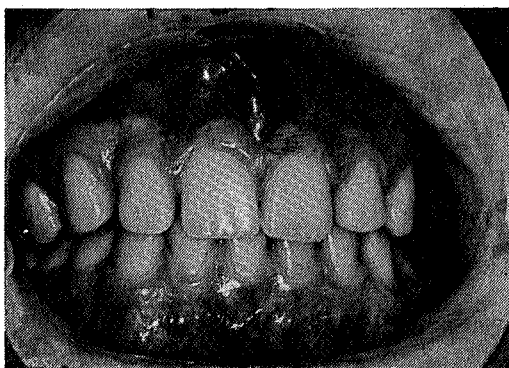
Dec. 1963—An .021 x .025 rectangular maxillary archwire was ligated. Class II intermaxillary elastics were commenced to retract $\frac{5-1}{1-5}$ as one unit.

Oct. 1965—The bands were removed. The overall time was in excess of average treatment period.

Selected measurements from cephalometric tracings indicate the changes which occurred during the treatment phase.

	BEFORE	AFTER
Occ. PL		
Mand. PL	14°	10°
SNA	82°	83°
SNB	75°	79°
ANB	7°	4°
$\frac{1}{1}$ to NB	12mm.	6.5mm.
$\frac{1}{1}$ to NB	3.5mm.	3.5mm.
PG to NB	3.5mm.	5.0mm.
$\frac{1}{1}$ to $\frac{1}{1}$	147°	135°

Anchorage of the mandibular arch was effectively controlled as indicated by the $\frac{1}{1}$ to NB measurement. In fact on the basis of Steiner's recommendation of a 1 : 1 ratio of $\frac{1}{1}$ — NB with Pg to NB, some relaxation of anchorage control could perhaps have been permitted.



Case 2 — Figure 9
Post-treatment photograph which reveals a slight discrepancy of centre-lines

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