

# A Technique For The Correction Of A Unilateral Distocclusion

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It is essential that the case is thoroughly evaluated and established that the malocclusion is definitely a unilateral distocclusion. Furthermore, the technique to be demonstrated should be confined to those cases which the operator feels will respond without the removal of any dental units. Stainless steel is the basic material used in the construction of the appliances. Initially bands with tie brackets are constructed for the four maxillary incisors and the cuspid and first bicuspid on the side of the deformity, and 0.036 round buccal tubes soldered to the maxillary first molar bands.

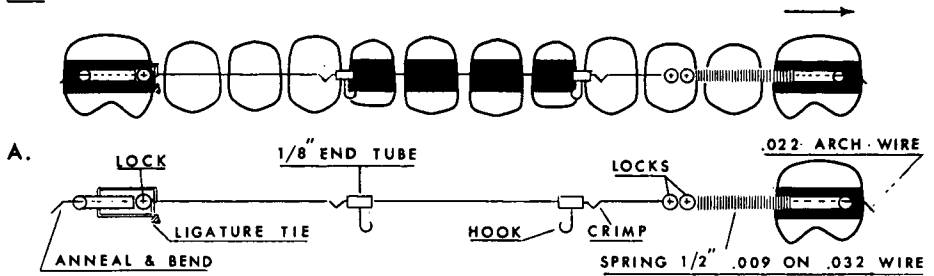
## TECHNIQUE

*Distal Movement of the Left Maxillary Molar or Molars* (Fig. 1, A) The maxillary labial arch is made of round .022 stainless steel wire. A description of the archwire from right to left is as follows: The end of the archwire is annealed and bent distal to the buccal tube which prevents irritation of the tissue and displacement of the wire. A lock is placed against the anterior aspect of the right maxillary buccal tube which acts as a stop. A ligature wire is tied from the lock around the buccal tube for stabilization. An end tube (0.035 inch outer diameter by 0.023 inch inner diameter) approximately  $\frac{1}{8}$  inch long with an 0.025 precious metal hook soldered to it is placed distal to the maxillary right lateral bracket. The archwire is crimped immediately distal to the sleeve. This crimp acts as a stop for the hook so that the necessity of soldering to the arch is eliminated. A loop is placed between the two maxillary in-

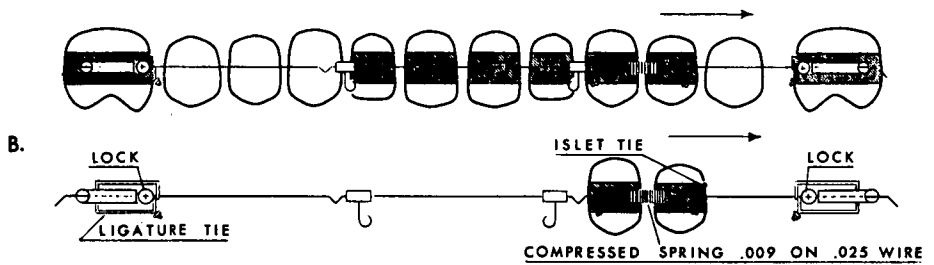
cisors which prevents impingement on the interdental papilla. A similar intermaxillary hook is placed on the left side identical to the right. Two locks and a  $\frac{1}{2}$  inch spring (0.009 inch on 0.032) are placed distal to the crimp. The archwire extends approximately  $\frac{1}{4}$  inch beyond the end tube and the distal end is annealed and bent. The spring is compressed by moving the distal lock 1 mm from the mesial lock and then brought together so that both locks prevent the forward action of the spring. The left maxillary molar is moved distally by the activation of the spring. The appropriate intermaxillary elastics are used to counteract the anterior action of the springs.

*Distal Movement of the Left Maxillary First and Second Bicuspids* (Fig. 1, B) After the left maxillary first molar is moved into its normal occlusal relationship the archwire is removed, and the left maxillary cuspid and first bicuspid are banded with islets on the distal aspect of the brackets to prevent rotation. The only change on the archwire is to remove the two locks and spring from the left side and replace them with one spring (0.009 on 0.025 wire), and a lock stop against the anterior aspect of the left maxillary buccal tube. This spring is 1 to 2 mm longer than the distance between the distal of the cuspid bracket to the mesial of the first bicuspid bracket so that when ligated into position the compression of the spring will activate the distal movement of the left maxillary first and second bicuspids. Again the intermaxillary elastics counteract the anterior force.

## 6 DISTAL MOVEMENT



## 45 DISTAL MOVEMENT



## 3 DISTAL MOVEMENT

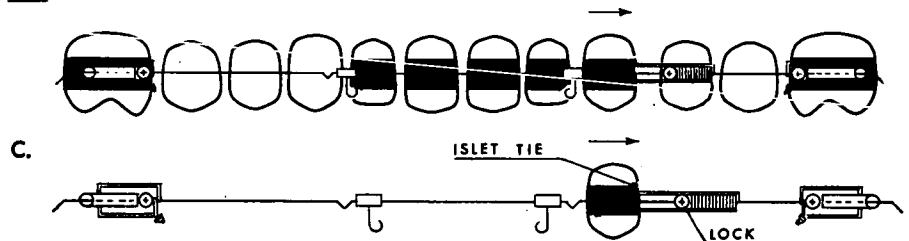


Fig. 1. A, The distal movement of the left maxillary molar. B, Distal movement of the left first and second maxillary bicuspids. C, Distal movement of the left maxillary canine.

*Distal Movement of the Maxillary Left Cuspid* (Fig. 1, C) The left maxillary bicuspids and the molars are now in their normal positions. The maxillary first bicuspid band is removed and a lock is placed on the same archwire slightly distal to the left maxillary cuspid in front of the spring. A ligature tie is placed through the distal islet to prevent rotation. The spring is compressed and activated by placing a ligature wire around the archwire binding the distal of the spring and tied anteriorly to the cuspid bracket.

*The Correction of the Midline Discrepancy to the Left* (Fig. 2, A) The left buccal segment is now in normal position from the cuspid back. The cuspid band is now removed and a new labial 0.022 archwire without the anterior loop is inserted. Right and left locks are used as stops against the buccal tubes as before and the intermaxillary hooks are at the mesial aspect of the maxillary first bicuspids. A lock activates a  $\frac{1}{4}$  inch spring (0.009 on 0.025 wire) against the distal aspect of the right maxillary incisor bracket to

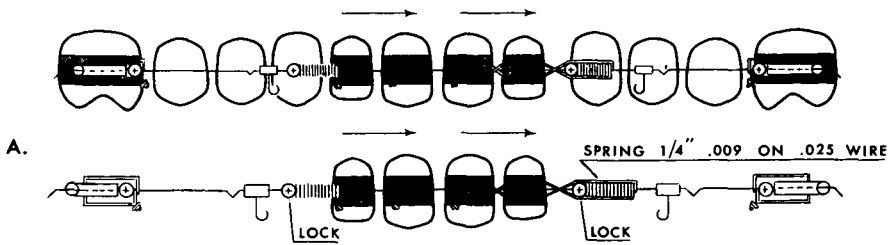
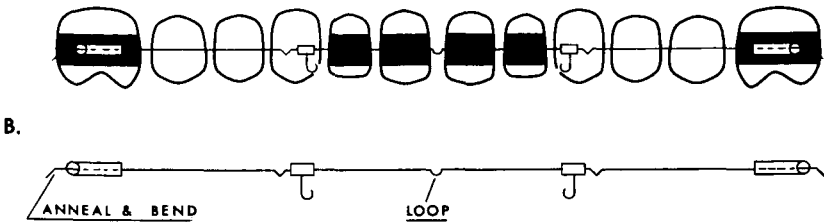
21|12 TO LEFT21|12 RETRACTION

Fig. 2. A, Maxillary midline correction to the left. B, The retraction of the maxillary central and lateral incisors.

move both lateral and centrals mesially. The left maxillary central and lateral incisors are moved distally by the compression of the  $\frac{1}{4}$  inch spring (0.009 on 0.025 wire) against a lock which is placed about 2 mm distal to the left lateral incisor. The ligature wire binds the distal end of the spring and is inserted through the brackets of both left incisors. A smaller size intermaxillary elastic is used to prevent protrusion of the maxillary incisors.

*Correction of the Overjet* (Fig. 2, B) After the midline correction has been completed there may still be an overjet. A plain round 0.022 archwire is inserted with intermaxillary hooks placed at the mesial aspect of the maxillary canines. The four maxillary incisors are retracted by means of intermaxillary elastics.

## DISCUSSION

The correction of a unilateral distocclusion deformity requires a plan of treatment with a smooth continuity of

applied forces during the entire course of treatment. Succession of movement of eight or nine teeth is involved.

A minimum amount of time is required for the adjustment of the appliance during the transition from each phase of the therapy.

If the elastics are not used as prescribed, a maxillary protrusion may occur due to the spring reaction. Simply by deactivating the spring and moving the molar tube lock stop forward, the protrusion can be corrected without the necessity of removing the entire arch. Since intermaxillary elastics are worn during the entire course of treatment, it is important that the mandibular anchorage be carefully constructed in order to maintain the stability of the mandibular arch. A full description of the mandibular anchorage the author uses is described in an article previously published.<sup>1</sup>

## SUMMARY AND CONCLUSIONS

1. A procedure for the treatment of a

Class II, Division 1 subdivision malocclusion with a midline discrepancy has been demonstrated.

2. There is a minimum amount of time necessary for appliance adjustments during the five phases of treatment.

3. The technique can easily be adapted to twin arch, edgewise, and universal appliances.

4. All of the component parts of this

light, sturdy appliance are prefabricated and kept in stock supply.

5. This appliance can be mastered and employed by the average operator within a comparatively short period of time.

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#### REFERENCES

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## The Angle Orthodontist

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