Pre-Restorative Tooth Positioning

Budd Rubin, D.D.S., M.S.
San Diego, Calif., U.S.A.

INTRODUCTION

As an orthodontist who works closely with many gnathologically oriented dentists, I became aware of the fact that many restorative dentists seldom look to the orthodontist for assistance in treating patients. The orthodontist should be included on the dental team. His skills can offer much to aid the restorative efforts of the general practitioner.

What assistance can the orthodontist lend to the dental team? He can: upright tipped teeth, close spaces, open spaces, correct crossbites and turn rotated teeth. Consider how much compromise can be avoided when constructing a bridge if the abutment teeth are well aligned and parallel to each other. Won’t there be less chance for pulpal exposure, pocket formation, abnormal functional stress and abnormal pontic size when abutments are well approximated?

Barriers to communication exist between the dental specialties, and certainly they are great between the general practitioner and the orthodontist. It is with a hope of reducing these communicative barriers that I am presenting this article.

PATIENT: D. G.

Problem
The extruded upper left central incisor had borne an inordinate amount of stress when the mandible protruded forward in the chewing cycle. This stress produced further periodontal breakdown (Fig. 1).

Goal
To intrude the central incisor and close the diastema, thereby producing a more harmonious and simultaneous contact of both maxillary central incisors with the mandibular incisors (Fig. 1).

Solution
An upper Hawley retainer was utilized to close the diastema. An intruding spring was added to depress the extruded left central in-
cisor to the level of the right central incisor (Fig. 2).

Another Hawley retainer was made with the addition of clasps to the incisal edges of the upper centrals to stabilize their anterior relationship.

Fig. 1. Illustrates patient prior to treatment and completed case with sought after result.

Fig. 2. Upper Hawley retainer with spring added to intrude the upper left central incisor.

PATIENT: M. H.

Problem
The lower right cuspid was in a crossbite relation. This tooth was needed for splinting as an abutment for a lower removable bridge (Fig. 3).

Goal
To establish proper alignment of the lower right cuspid with the remaining lower teeth, thus enabling splinting of teeth with veneer crowns (Fig. 3).
Solution
A lower Hawley type of retracting plate was utilized to move the cuspid distally and lingually into occlusion. The second molar was kept as long as possible for stabilizing the orthodontic appliance even though it was to be extracted for periodontal reasons (Fig. 4). The six lower anteriors were splinted with crowns to form a stable abutment for the lower removable bridge.

PATIENT: F. P.

Problem
The upper anteriors had spaced and elongated but the posterior teeth had been satisfactorily reconstructed (Fig. 5).

Goal
To close the diastemas and depress the anteriors without bonding or anterior crowns. We wished to maintain the crowns on the posterior teeth (Fig. 7).
Solution
An upper Crozat appliance was fabricated to close the diastema with labial springs. Lingual finger springs to the cinguli exerted depressing forces to these teeth. By clasping the upper first bicuspids, the reconstructed posterior occlusion was left undisturbed (Fig. 6).

![Fig. 5. Patient prior to treatment](image1)

![Fig. 6. Upper Crozat appliance in position](image2)

![Fig. 7. Post-treatment](image3)

PATIENT: V. R.

Problem
Due to the crossbite relationship on the right side, the lower right cuspid to 2nd molar bridge was repeatedly dislodged (Fig. 8). The referring doctor was unable to “bend” the cusps enough to eliminate the crossbite.

Goal
To correct the crossbite and thereby bring the teeth to within a more ideal proximity with each other: thus a more satisfactory oc-
clusal relationship could be established for the new fixed bridge (Fig. 11).

Solution
An upper Crozat appliance was placed to widen the right posteriors and advance the anteriors out of crossbite (Fig. 9).
The lower right bridge was cut off and the arch was banded and constricted to help in the crossbite correction (Fig. 10).
This new interarch relationship allowed the gnathologist to successfully restore the patient’s occlusion (Fig. 11).

PATIENT: K. J.

Problem
The upper rotated cuspids, elongated centrals and peg-shaped...
laterals presented a challenging functional and esthetic problem (Fig. 12).

Goal
To achieve a more proper coupling of the six anterior teeth with an improved cuspid relation and proper positioning of the small laterals for jacket crowns (Fig. 14).

Solution
By banding the upper molars, cuspids, centrals, and the left lateral, the cuspids were rotated to a more esthetic and functional occlusion (Fig. 13). The centrals were elevated to achieve better anterior coupling and the laterals were positioned so that minimal tooth material was removed for the jacket preparation (Fig. 14).
PATIENT: P. T.

Problem
The gingival embrasures between the triangular shaped anterior
were accentuated by a gingivectomy and resulted in painfully sen-
sitive exposed roots and an unesthetic smile. Overbite and overjet
were too excessive to permit ideal coupling of maxillary and man-
dibular anterior teeth (Fig. 15).

Goal
To reduce the size and shape of the anterior teeth, protect their ex-
posed root surfaces, and eliminate the spaces between them.

Solution
The anterior teeth were prepared for jackets and plastic brackets
were bonded to the smaller temporary crowns when they were
fabricated in the laboratory. When these temporaries and their at-
tached orthodontic brackets were cemented, the teeth were able to
be moved easily to their ideal functional and esthetic position (Fig.
16). After this was completed, smaller permanent jacket crowns
were made to cover the exposed root surfaces and eliminate the
root sensitivity. Aesthetics was improved and maxillary and man-
dibular anterior teeth were related in a more ideal manner.

CONCLUSION

I hope these case histories have been of some help in presenting a
cross-section of what the orthodontist can do to help the
restorative dentist achieve more ideal results by lessening original
problems.

I also wish to emphasize that it is important that the orthodontist
be given ample opportunity to review the mounted study models,
photos, x-rays and other diagnostic aids with you prior to initiating
tooth movement. By doing this we can determine together the
best stage for orthodontic intervention.

Perhaps by sharing some of our experiences together we can help bridge the communicative gap and hopefully a new plateau in dentistry will be reached.

Dr. Budd Rubin
3737 Moraga Ave.
San Diego, Ca. 92117
U.S.A.