

Treatment Of Cases With Three Lower Incisors

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It is recognized that the establishment of a functional occlusion in balance with supporting structures and environmental musculature presents a problem ranging all the way from insufficient tooth substance to one requiring the elimination of multiple tooth units. When a mandibular incisor is congenitally missing or is involved with injury or pathology, this same problem of dimension and position of tooth mass in relation to structures confronts the orthodontist.

As the artist develops his picture with delicate and exacting proportions of colors, so we should establish occlusions with as delicate a sense of proportion, relation and detail in occlusion as we are capable of providing. When tooth substance limits one's choice it may be necessary to compensate, even by unorthodox procedures in order to provide the best possible in function, stability and esthetics.

The presence of only three mandibular incisors limits one's choice. Depending upon the requirements of stability and esthetics, the space must be restored by prosthetics or eliminated by orthodontics.

Loss of vitality by accident or caries presents the possibility of retaining the teeth by endodontics. This should be done if the tooth is required. However, it would be poor judgment to retain a nonvital tooth in a denture that was mildly protrusive or crowded. In a

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more extreme situation, where closing the space of an incisor would be insufficient, it may be justifiable to retain a nonvital incisor and eliminate four bicuspids.

Another condition to confound the orthodontist is labial tissue recession on a mandibular incisor. This may occur early in the mixed dentition and usually becomes more extensive. When given the opportunity, all possible procedures should be instituted to arrest its progression.

If this seems to be caused by insufficient space in the arch resulting in one incisor being forced through the labial tissues, extraction of the deciduous cuspids may arrest the condition. High attachment of the labial frenum may pull the tissues sufficiently to cause a recession. If so, early resection of the frenum is indicated. If trauma from a deep overbite seems to be a factor, this may be eliminated by certain tooth movements and bite-opening procedures.

In the extreme cases, failure of early interceptive measures, or lack of them, results in damage so severe that the fatal blow has already been struck. Considering the health of the denture over a period of time, one would have to eliminate the affected tooth. As in the cases of the congenitally absent teeth and those lost by accident or caries, the space would be kept open or would be closed depending upon the requirements of occlusion.

While it is evident that opening a space and maintaining it with a bridge may supply a very urgent need in some

occlusions, it also has some hazards. If an arch is expanded appreciably it may later be somewhat unstable and also have poor tissues. A good lower anterior bridge is difficult to construct and has a strong possibility for ultimate failure.

Correct occlusion of the posterior teeth and incisal contacts in the various functioning positions are potent factors in maintaining denture stability. The most certain way to obtain such a relation is to eliminate tooth substance from the anterior portion of the maxillary arch equal to that lost in the mandibular arch. Obviously the maxillary lateral incisor is the tooth which most nearly equals the mandibular incisors in width. While the extraction of a maxillary lateral incisor makes it possible to most nearly provide the ideal in occlusion and function, it does result in some loss to esthetics. If the maxillary cuspid is not too thick buccolingually and is not too pointed, it does not disturb esthetics greatly if placed next to the central incisor.

Attempts have been made to reach a solution by extracting an upper bicuspid. In some instances the result may be somewhat acceptable, depending upon the size of the teeth involved. However, the position of the bicuspid in the posterior segment of the arch complicates the mechanics required to make a correction, and the resulting occlusion will not fit as precisely as it would with the elimination of a lateral incisor.

Black's table of measurements indicates how much more closely the maxillary lateral incisor equals the width of the mandibular incisors than does the maxillary first bicuspid.

Case 1 was a girl thirteen years of age with a Class II, Division I malocclusion, in which there was a crossbite on the right side. The mandibular arch had some minor rotations and an

excessive curve of spee. The incisors were well aligned with a central incisor congenitally missing. The mandibular arch was in good relation to structure. One mandibular third molar was congenitally missing.

Orthodontic records and patient examination indicated that the denture was full in the face. This condition was caused largely by the position of the maxillary incisors.

It was decided that it would be unwise to open space in the mandibular incisal area. Elimination of tooth material in the maxillary arch, particularly in the anterior portion, would help to reduce the protrusion and would also aid in fitting the arches to each other. The maxillary left lateral incisor was extracted and the case was treated with typical Class II treatment.

The case was retained with a Hawley type retainer on the maxillary arch and no retention on the mandibular arch.

The final records of this case were made three and one-half years after completion of treatment. They indicate a marked degree of stability and very acceptable facial esthetics.

Case 2 was a boy eleven years of age with a Class I malocclusion. The mandibular incisors were severely crowded with essentially no space for the lingually-positioned left lateral incisor. There was extensive tissue recession around the mandibular right central incisor.

The mandibular arch had an excessive curve of spee which contributed to the deep overbite. The maxillary teeth were crowded mildly with the right first bicuspid occluding in a buccal position.

The denture was in good relation to a well-proportioned face. All diagnostic criteria, including parental evaluation, indicated that one could expect a reasonable amount of growth. All four

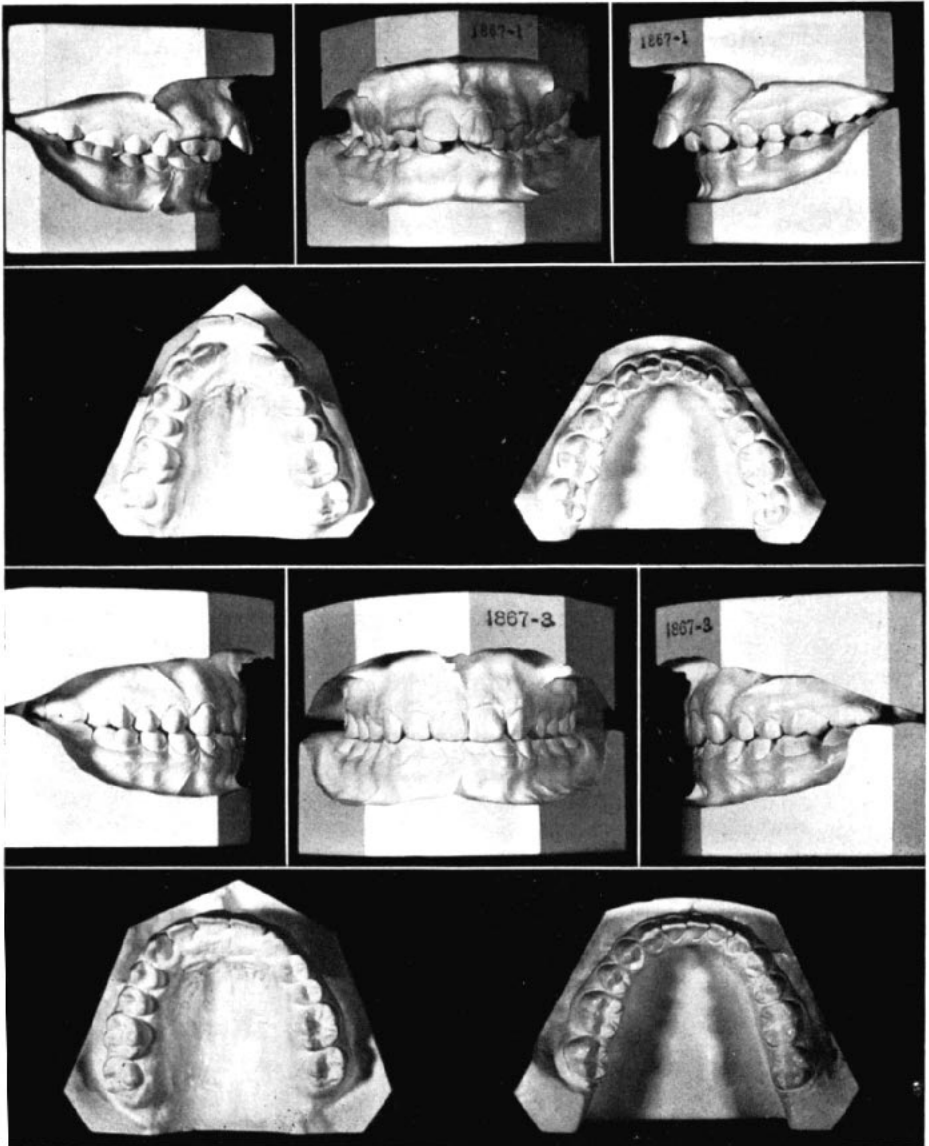


Figure 1



Figure 2

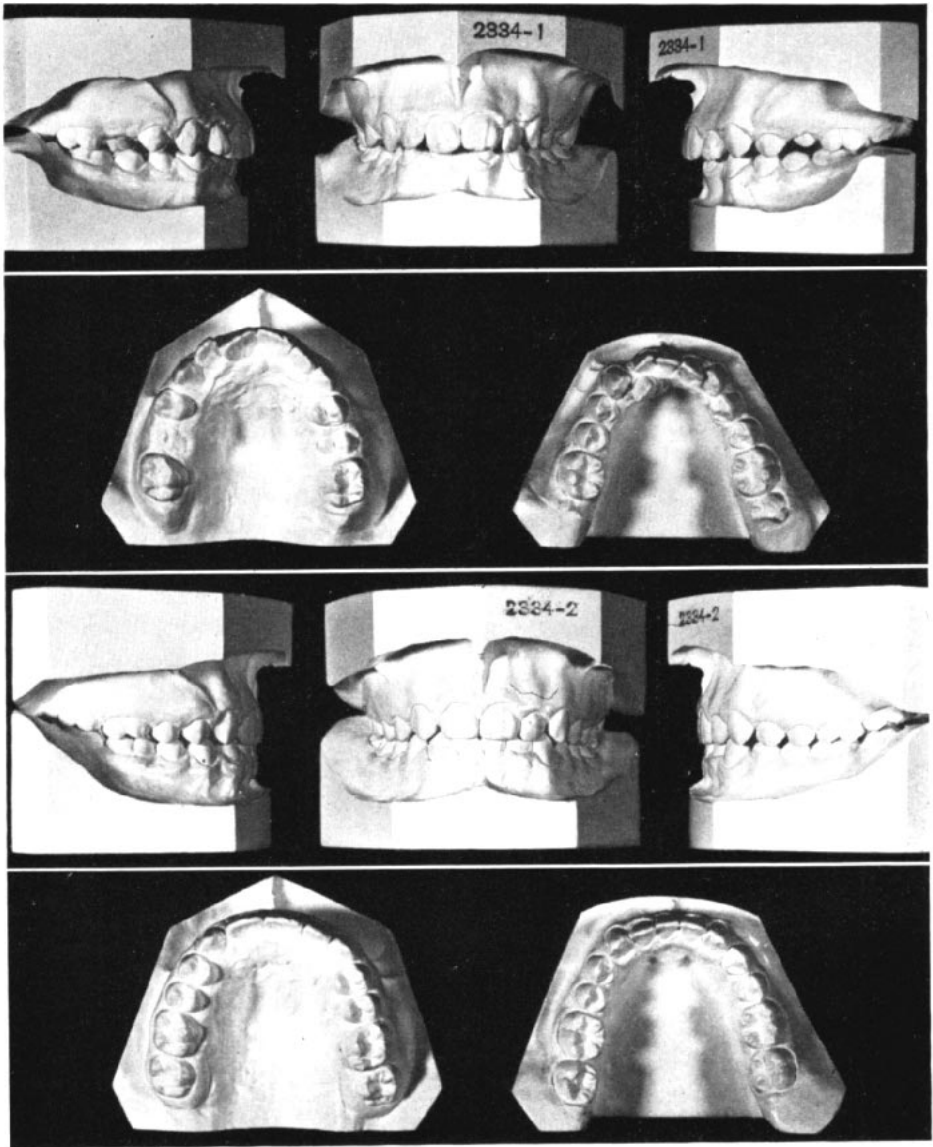


Figure 3

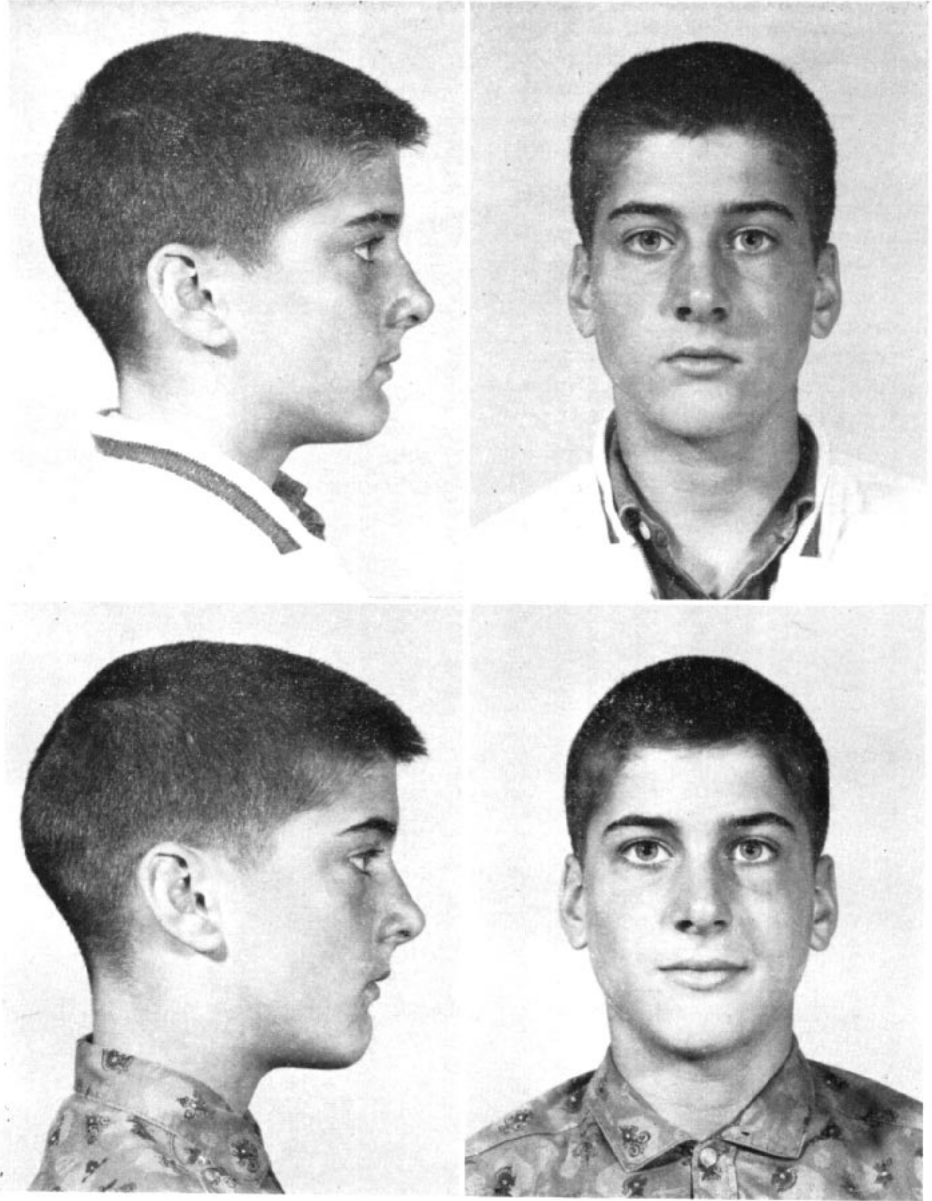


Figure 4

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third molars were present; however, the mandibular third molars were impacted in such positions as to make eruption into occlusion doubtful.

This case was evaluated as being a borderline situation in which it was impossible to expand and have good tissues or stability. The removal of bicuspids would leave the face deficient in tooth substance plus poor tissues around the affected mandibular incisor, and ultimate loss of third molars. The decision was made to extract the mandibular right central incisor and the maxillary right lateral incisor.

Treatment consisted of correcting tooth alignment, reducing the overbite and closing spaces in both arches.

The case is being retained with bands on the mandibular cuspids, connected with a lingual wire, and a Hawley retainer on the maxillary arch. It is

anticipated that retention should be continued for some time to permit the cuspal surfaces to settle into functioning positions.

DISCUSSION

The presentation of these cases and the accompanying discussion is not intended to influence anyone into minimizing the importance of incisor teeth. When tooth substance is well matched in size and form, the loss of any incisor results, to some degree, in a loss of esthetics and functional balance. This loss is conspicuous in the records of these cases. These results have been accepted only because they are more favorable than it seemed possible to obtain by any other combination of tooth substance and supporting tissues.

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