Principles of Extraction Therapy

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In the treatment of malocclusion, the advisability of extracting dental units has been a controversial subject for many years. The points of view on extraction advocated in this paper are, in the main, not mine; but all of them have been used in my practice. In the short time allocated to this presentation, it is necessary to deal in generalities and not to cover the exceptions that arise.

Until the advent of an appliance that called for banding of all teeth, it is doubtful if routine extraction was advisable. By the time these full banded appliances were in general use, the leaders of the profession had divided themselves into definite camps on the subject. When a student of the leader of the non-extraction group openly advocated the removal of teeth in a large percentage of malocclusions, pandemonium reigned for several years. Most orthodontists today are looking at the subject objectively, trying to come to some definite conclusions regarding the procedure. Let us do our best to help.

When I was asked to participate in this symposium, my first task was to analyze my cases treated since 1940, to find out where extraction had, in my opinion, proved an aid in the correction of malocclusion and where extraction had been inadvisable. This study was done from the standpoint of facial balance and denture stability.

In our analysis, let us first consider Class I malocclusions. In this grouping, extractions are indicated in all cases where arch length will not accommodate fourteen teeth in alignment. It has been my observation that in the majority of cases where teeth are crowded and expansion is resorted to, the facial balance is impaired and the degree of collapse is greater than in those cases where extraction has been the procedure of choice. I have al o observed that if these cases can be diagnosed and serial extractions be performed before the permanent teeth have all erupted and assumed irregular positions, the results are more stable.

The contra-indications for extraction in Class I malocclusions are those cases where the arch length is equal to or greater than that needed for a full complement of correctly aligned teeth. Spaces between the teeth are characteristic of the condition where arch length is excessive. Another group of Class I malocclusions where, I believe, extraction is not indicated are those cases where the labial musculature, either through habit or hypertonicity, has caused the maxillary or mandibular teeth to be displaced lingually at the time of eruption.

The indications for extraction in Class II, Division I malocclusions are many and varied in the permanent dentition. There are those cases where facial pattern and mandibular arch form will indicate that the best balance and stability can be attained by maxillary extraction only. In this condition, maxillary first bicuspids or second molars are the teeth to be removed. Should a Class II, Division 1 case, with crowded mandibular teeth or with mandibular teeth too far forward on their bony base be under consideration,

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it would in my opinion, be advisable to extract teeth in both the maxillary and mandibular arches. Under these circumstances, in the maxillary arch, the first bicuspids are always the teeth to be removed. In the mandibular arch, facial form must be the guide as to whether first or second bicuspids are to be extracted. In some instances where the antero-posterior discrepancy of the denture bases is marked, even though the mandibular denture is in favorable relationship to its base before treatment, it is necessary to extract mandibular bicuspids. These bicuspids are extracted for the purpose of anchorage preparation so that, following treatment, the mandibular incisors may occupy their most favorable position for stability.

Contra-indications for extraction in Class II, Division 1 malocclusions exist in mixed dentition cases. These mouths respond beautifully to occipital anchorage treatment. The decision regarding extraction is left until all permanent teeth have erupted.

The second division of Class II malocclusions is handled very much the same as Division 1 of this class, with this difference. In my practice a far larger percentage of these Class II, Division 2 cases are treated without extraction than in Class II, Division 1 because there are more instances where the chin point is well forward to the mandibular alveolar ridge and where the arch is well-formed.

In Class III malocclusions, always a limited group, I have been governed by the following procedure. The degree of protrusion of the mandibular denture, in rest position, determines the treatment. Should the protrusion be slight, a mandibular central or lateral is removed to collapse the mandibular arch sufficiently. In more severe protrusions the first bicuspids are removed. In some instances it is necessary to extract in the maxillary arch where there is crowding of the maxillary denture and the anterior teeth are already protrusive to the maxillary denture base. The more extreme cases in this category call for mandibular resection. The contra-indications for extraction in Class III malocclusions are those cases in which the anterior teeth are almost edge to edge in rest position.

There is another type of malocclusion in which I believe extraction is always indicated. In this type are those cases where both maxillary and mandibular dentures are too far forward on their denture bases, a condition commonly referred to as double protrusion. In the majority of these cases the best results can be attained by the removal of the first bicuspids in both maxillary and mandibular arches.

Also deserving consideration are those atypical cases that require extraction. In this group are those mouths in which there are malformed teeth, those where the tooth size is asymmetrical, and those where decay has shortened the life expectancy of certain teeth. These cases all call for the making of a set-up before any decision is made regarding extraction, if the best in functional occlusion is to be obtained.

Through the preceding summary, my aim has been to give you a concise picture of my orthodontic treatment procedure. The description concerns general principles, however. It must be understood that they are modified by the age and growth potential of the individual patient. It is necessary that the orthodontist have a thorough understanding of the growth processes of the face and denture in order that he may arrive at a correct diagnosis and treatment plan.

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