

TIMING AND GAINING PROPER ERUPTION OF THE POSTERIOR PERMANENT TEETH IN CROWDED CASES

It is important to start crowded cases before the loss of the posterior deciduous molars (upper and/or lower depending on which arch has the crowding) since up to 4 mm. of crowding can be corrected in this way (Fig. 1). If one waits until all the permanent posteriors are in and the spaces have closed (usually as the second permanent molars erupt they push the other teeth forward) only a minimum of 1 or 2 mm. of crowding should be attempted¹.

The Occlus-o-Guide® treatment should ideally be started when the lower deciduous canines are exfoliating, (but not absolutely essential). As the child starts the active exercise of the Occlus-o-Guide®, with two hours per day or more of biting force, the crowding of the lower incisors begins to correct by moving into the space distally that has been created by the loss of the deciduous canines. If the deciduous lower canines have not exfoliated, it is extremely important that the mesial of these lower teeth are stripped or disked 2 mm. per side. An option would be to strip from the distal of the deciduous canine or from the mesial of the lower deciduous first molar. This is best done with a high speed diamond (very narrow) fissure bur. Fluoride can be painted on the disked surface afterward if desired. In the upper arch it is better to strip the mesial of the upper first deciduous molar and not the deciduous canine. If the canine happens to be the last tooth on the upper to exfoliate and if it has been stripped, then the larger permanent canine will not have enough room to erupt properly once the bicuspid has erupted forward to close all the remaining upper spaces created by the larger deciduous molars. In the lower (or upper), after the correction of the crowding of the incisors is complete and as the canines start their eruption into the mouth, it is important to then strip 2 mm. off the mesial of the first deciduous molar so that the permanent canine will distalize itself instead of erupting more mesially to compound the crowding of the incisors or move them labially (which can cause gingival recession).

When the first premolar begins its eruption, then 2 mm. can be stripped from the mesial of the second deciduous molar. The second premolar then simply slips into its proper position by exfoliating the same size (after stripping) second deciduous molar. In this way the first permanent molar is retained in its more distal position which was established when it first erupted at 6 years of age.

It should be stated that if the second permanent molar begins its eruption while this process of eruption of the premolars is taking place (which is fairly unusual), it complicates the

distalization process. This is because the first molar is pushed mesially by the erupting second molar². The first molar must be held distally in this type of case. One way to prevent this (Fig. 2) is to insert a 1 mm. diameter wire bent in a “U” shape³. The ends are heated red hot in a sharp blue flame and inserted into the buccal and lingual margins of the appliance. This wire fits at the gingival margin of the mesial of the first permanent molar (when the 2nd deciduous molar is missing), or in the same position on the 2nd deciduous molar (when the 1st deciduous molar is missing). A further alternative in an early erupting second molar with crowding would be to use a bumper (lower or upper) or a cervical head-gear (upper) with cemented molar bands.

1 Bergersen, E.O.: The Eruption Guidance Myofunctional Appliance: Case selection, timing, motivation, indications and contraindications in its use, The Functional Orthodontist. 2:17-33, 1985.

2 Baume, L.J., Physiological tooth migration and its significance for the development of occlusion. I. The biogenetic course of the deciduous dentition. II. The biogenesis of accessional dentition. III. The biogenesis of the successional dentition. IV. The biogenesis of overbite, J. Dent. Res., 29: 123-132, 331-337, 338-348, 440-447, 1950.

3 Bergersen, E.O.: Preventive and interceptive orthodontics in the mixed dentition with the myofunctional eruption guidance appliance: Correction of crowding, spacing, rotations, crossbites, and TMJ, The Journal of Pedodontics, 12: 386-414, 1988.

:TIMING

Figure 1

Fig 1. - Proper timing for correction of crowding with the Occlus-o-Guide® requires the presence of deciduous posterior molars since they afford the extra space for the correction.

Fig. 2 a, b and c

- Fig. 2a. A one mm. (.040 inch) wire is bent as indicated.
- b. The ends of the wire are heated red hot in a blue flame and inserted into the outer margins of the Occlus-o-Guide®.
 - c. The bent end of the wire places pressure against the gingival margin of the molar.