

Posterior Skeletal Cross Bites

The posterior skeletal cross bite is one of the more common malocclusions and should be corrected as early as possible in the patient. The treatment is relatively simple in the younger patient and is well within the skill level of most general and pediatric dentists.

The posterior skeletal cross bite is the result of an underdeveloped maxilla as opposed to asymmetrical dental units within the arches. The objective is to use a rigid appliance within the maxilla developing its transverse width.

The appliance can be either removable or fixed. It is adjusted .25mm twice per week to allow the dermal bone of the maxilla to model as opposed to splitting the mid palatal suture. A secondary positive effect is an increase in the nasal airway.

Most posterior skeletal cross bites are bilateral with the mandible deviated ipsilateral to the cross bite making them appear unilateral. The diagnosis is made by comparing the lower labial frenum to the upper midpalatal suture being sure the suture is not deviated in the premaxilla.

The correction of a posterior skeletal cross bite presents a unique mechanical situation. The functional effect of developing the maxilla causes the mandibular dental alveolar ridge to develop without any active appliance. The clinician must either allow this functional force to improve the size of the

lower arch or stop any change in lower arch size with a fixed or removable retainer.

When the mandible is deviated in the posterior skeletal cross bite the condyle ipsilateral to the deviation is back in the glenoid fossa with the articular disk forward. This results in Temporal Mandibular Dysfunction (TMD). The articular disk in the pre pubertal patient is composed of dense fibrous tissue and rarely sustains permanent damage from the posterior cross bite. As a result, the mandibular deviation will self-correct as the maxilla is developed eliminating the posterior skeletal cross bite. This is known as a Self-Reducing Type One internal derangement.

Once the articular disk has matured into fibro cartilage it can be damaged to the point that splint therapy may be required to heal the disk following correction of the posterior skeletal cross bite. The earlier the posterior skeletal cross bite can be corrected the less damage occurs to the articular disk and to balanced facial development.

The posterior skeletal cross bite is only one of a number of skeletal malocclusions that require early treatment. The dentist needs to also be concerned about the child's airway, TMJs, and facial aesthetics, not just crooked teeth.

Should you have any questions or comments regarding the treatment of posterior skeletal cross bites feel free to contact me at skip@cfoo.com.

I will be presenting a seminar on Maxillofacial Orthopedics at London Heathrow on November 19th & 20th. Details for the seminar can be obtained by contacting Pennie Hudson-Ward (phudsonward@archformbyte.com). Additional information is also available at www.cfoo.com.