

Correcting Anterior Cross-Bites

Part 3 – Treatment of a simple dental cross-bite



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The best treatment of a simple dental cross-bite is to prevent the condition from ever happening. This can be accomplished by taking routine radiographic images of the maxillary incisor region to look for abnormalities like an odontoma, the delayed exfoliation of a primary incisor, or the presence of a supernumerary tooth. Observing and managing severe arch perimeter deficiency is also essential to prevent a cross-bite from occurring.

Once a dental anterior cross-bite exists, many methods have been used to correct it. These range from the use of an acrylic incline plane to a reverse stainless steel crown. Even tongue blades have been used to try to jump a cross-bite. The key to success is to use an appliance that is both comfortable and predictable. The appliances shown below are two of the most common.

Simple Hawley retainer with recurve springs



#1072 – Hawley retainer with recurve spring.



Composite ledge with acrylic cleared away from top of spring.

Activation of the spring in a labialgingival direction will put a direct pressure on the tooth in cross-bite. The typical design has a passive labial bow which is utilized to diminish any lip pressure during active therapy. It also acts as a limitation for anterior tooth movement. Adams clasps or C clasps are typically used for retention. Additional retention can be obtained by placing ball clasps between the first and second primary molars. Posterior occlusal bite planes are often used to open the bite and allow the incisor to advance without any occlusal



The Simple Dental Anterior Cross-bite. Photos from Dr. Walt Pfitzinger's manual "How to do Simple Orthodontics in a General Practice".



interference. A composite ledge will prevent the activated finger spring from riding up the lingual incline of the central greatly. When this is the case, it is recommended that the acrylic be cleared away from the top of the spring as shown.

Fixed labial-lingual appliance

The fixed labial-lingual appliance includes a vertical removable lingual arch for ease of adjustment with a recurve spring to jump the cross-bite. As in the removable appliance, the passive labial bow is utilized to diminish any lip pressure during active therapy. This appliance is particularly useful when you are dealing with a patient that is a little less cooperative.

Both of these appliances work by tipping the maxillary teeth forward so that they are in a normal dental relationship to the mandibular teeth. Once this is accomplished, it will allow future coordinated growth to occur between the maxilla and the mandible. Activation of these appliances should be done every four weeks by opening the springs so



#2061 – Labial-lingual Appliance.

Appliance Spotlight

#1075 – Single Tooth Anterior Cross-bite with Bite Plane



Abnormal eruption patterns such as a retained primary can often cause one or two anteriors to erupt into cross-bite. Choosing the best appliance to correct this problem is dependent upon the depth of bite, the space available, and whether or not an occlusal interference is involved.

In this example, there is plenty of space in the arch to move the central forward, there are no occlusal interferences causing a mandibular shift, and the depth of the patient's bite is ideal. To correct this cross-bite, a simple Hawley with a posterior occlusal bite plane and a recurved spring is used. The occlusal bite plane clears the occlusion sufficiently to let the recurved spring move the anterior forward while preventing any unwanted change in the patient's ideal vertical dimension. Once the cross-bite is corrected, the bite plane can be removed and the appliance can serve as a retainer.

NOTE: If the spring is riding up the lingual incline of the central instead of pushing it forward, we recommend that you clear the acrylic away from the spring and add a small composite ledge on the lingual surface of the tooth to act as a positive stop for the spring. Removing the acrylic will also make it easier to adjust the spring with a 139 bird-beak plier.

that approximately 2.0 mm of compression is required to seat the appliance.

In the next issue of Continuum, we'll look at the treatment of Functional and Skeletal Anterior Cross-Bites.