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Paper orthodontic

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Q2: Illustrate the management of anterior cross bite.

Ans: Anterior crossbite is the term used to describe an abnormal labiolingual relationship between one or more maxillary and mandibular incisor teeth. Different techniques have been used to correct anterior crossbite. This paper describes the use of bonded resin-composite slopes for the management of anterior crossbite in children in early mixed dentition.

- ❖ In each of the cases presented here, dental crossbite was corrected by applying a 3–4 mm bonded resin-composite slope to the incisal edge of the mandibular incisor with an angle 45° to the longitudinal axis of the tooth. Correction was achieved within 1–2 weeks with no damage to either the tooth or the marginal periodontal tissue. The procedure is a simple and effective method for treating anterior dental crossbite
- ❖ Anterior crossbite is defined as a malocclusion resulting from the lingual positioning of the maxillary anterior teeth in relationship to the mandibular anterior teeth. Dental crossbite involves localized tipping of a tooth or teeth and does not involve basal bone. Patients with anterior dental crossbite will show a normal anterior-posterior skeletal relationship with a smooth path of mandibular closure into an Angle Class I relationship and coincident centric occlusion and centric relation.
- ❖ Anterior dental crossbite has a reported incidence of 4–5% and usually becomes evident during the early mixed-dentition phase.^{4–7} A variety of factors have been reported to cause anterior dental crossbite, including a lingual eruption path of the maxillary anterior incisors; trauma to the

primary incisor resulting in lingual displacement of the permanent tooth germ; supernumerary anterior teeth; an over-retained necrotic or pulpless deciduous tooth or root; odontomas; crowding in the incisor region; inadequate arch length; and a habit of biting the upper lip.



Treatment:

Various treatment methods have been proposed to correct anterior dental crossbite.

- A. Such as tongue blades.
- B. Reversed stainless steel crowns.
- C. Fixed acrylic planes.
- D. Bonded resin-composite slopes and removable acrylic appliances with finger springs.

Q1: Describe the procedure for mandibular and maxilla uses of acrylic in activator.

Ans: It was first developed by William Clark in 1977. Originally, it was made of acrylic Blocks cut at 45 degrees to the occlusal plane; this has since been

modified to 70 Degrees to provide better engagement of the blocks and more positive Forward positioning. Forces are not applied directly to the upper incisors. Retention of The upper appliance is achieved by Adams cribs on the maxillary first molars and Additional cribs on maxillary first premolars if they are erupted. The lower appliance Has Adam’s cribs on the mandibular first premolars and first molars, typically made From 0.7mm stainless steel. Additional retention afforded by ball clasps on the lower Incisors.

- Activator appliance initially started out as one block of acrylic which fit in both maxillary and mandibular arch. The lower arch would see the horseshoe shaped lingual plate acrylic extending from distal of the last erupted molar. In the upper arch, initially the anterior portion is covered from canine to canine, but that was later modified, as seen with appliances such as Bionator Appliance which placed its emphasis on the tongue function.
- Wire
- The wire components of activator included a labial bow which was usually placed 1mm away from the front incisors and extended from canine to canine. The bow would be 0.9 – 0.8mm thick. Additional wire elements were later added to stabilize the appliance.



Q4: Demonstrate the recent trend modification of oral screening?

Ans: **Oral screening:**

Oral screen is a mayofunctional appliance introduced by Newell in 1912. It is a thin sheet of acrylic base material which is fit into the buccal or labial vestibule of the mouth which acts as a screen between the teeth & the surrounding musculature. It is also known as vestibular screen.

The oral screen can be used for the correction of the following conditions:

- Thumb sucking, tongue thrusting and lip biting,
- Mouth breathing
- Open bites in deciduous and mixed dentition
- Incompetent lips.

Modification of oral screening:

- The oral screening can be fabricated by a metal ring projecting between the upper and the lower lip. This ring can be use to carry out various muscles exercises.
- In patient who has tongue thrust habit an additional screen is placed to the lingual aspect of teeth.
- In case of mouth breather the vestibular screen should be fabricated with a number of hole that are gradually closed in a phased manner.

Q5: What is finger spring ? Why Z spring is called double cantilever spring?

Ans: **fingure spring**

- Palatal finger springs are often used in removable orthodontic appliances to tip teeth in a mesiodistal direction.
- The purpose of this report is to establish the magnitude of forces for finger springs made from different types of wires (i.e. those from different manufacturers and of different diameters and lengths).

- Used to move tooth mesiodistally.
- Usually made of 0.5mm to 0.4 stainless steel round wire.

Z spring is called double cantilever spring because:

Z spring The 'z' spring is also called double cantilever Spring. It is made up of 0.5mm wire . The spring consist of two Coil of very small internal diameter. it should be placed Perpendicular to palatal surface of tooth.

Q3: Summarize the division 1 and division 2 of the Class II malocclusion?

Ans: **Class II malocclusion:**

Division 1:

Low- to moderate- quality evidence suggests that providing early orthodontic treatment for children with prominent upper front teeth (class II division 1) is more effective for reducing the incidence of incisal trauma than providing one course of orthodontic treatment in adolescence. There do not appear to be any other advantages of providing early treatment when compared to late treatment. Low-quality evidence suggests that, compared to no treatment, late treatment in adolescence with functional appliances is effective for reducing the prominence of upper front teeth.

Division 2:

Treatment can be undertaken using orthodontic treatments using dental braces. While treatment is carried out, there is no evidence from clinical trials to recommend or discourage any type of orthodontic treatment in children. A 2018 Cochrane systematic review anticipated that the evidence base supporting treatment approaches is not likely to improve occlusion due to the low

prevalence of the condition and the ethical difficulties in recruiting people to participate in a randomized controlled trials for treating this condition.