



TECHNICAL GUIDE

The Snodgrass/T-Rex Appliance



Description:

The design of the Snodgrass/T-Rex appliance is credited to Dr. David Snodgrass. The appliance is designed to accomplish both lateral expansion and molar distalization with one appliance. It is a hybrid of the Haas expander and the Hilger's Pendulum appliance. The appliance is built on bands placed on the first permanent molars. On the lingual of the bands are special horizontal lingual tubes (Pendex tubes) into which are inserted the TMA springs. For anchorage a pair of rests are placed on the occlusal of the first bicuspid and are bonded in place. A large Nance button provides additional palatal anchorage and houses a RPE (Rapid Palatal Expander) screw. The TMA springs, which are imbedded in the Nance acrylic and inserted into lingual sheaths on the molar bands, provide the continuous light forces used for distalization. Rotation occurs as a function of the open helicicals that are incorporated into the springs.

The appliance is designed to be used in two stages. The first stage is expansion and the second is distalization. Lateral expansion is achieved first by activating the RPE screw. After the desired expansion has occurred, distalization of the molars is initiated. To begin distalization, the 'holding wires' that are soldered to the bands mesial to the lingual tubes are cut. This allows the pre-activated springs to release their force, the result of which is distalization of the molars.

Indications:

Class I or II case, constricted arch, rotated and/or mesially positioned molars.

Contraindications:

Class III malocclusion.

Alternate Appliances:

Distal drive 3 Way Sagittal (fixed or removable).

Advantages of this appliance are:

1. It is fixed so patient compliance is not an issue.
2. It works fast. Distalization gains of 4 to 5 mm can be achieved in 3 to 4 months.
3. It is capable of maximum lateral expansion (up to 10 mm) and has enough force to split the midline suture.

Clinical Procedures:

1. One week prior to taking impressions place separators for the 6-year molars. Separators need not always be placed before impressions and this step can be eliminated if the bands are going to be sized at the laboratory.
2. One week later size bands for the 6-year molars, or, indicate on the lab slip if you want us to do it for you. Remove the bands and place them in a bag or envelope to be stapled to the lab slip later.
3. Complete a maxillary impression.
4. Pour impression with lab stone. Do not pour bands up in impression.
5. Staple the bag/envelope with the bands in it to the lab slip. Send the case to the laboratory with a completed *Orthodontic Technologies* prescription form. Indicate on the lab slip if you want buccal attachments added to the bands. We will provide the lingual attachments.

Delivery Suggestions:

1. Placement should begin with an initial trial fitting of the appliance to insure correct fitting and placement.
2. The appliance is then cemented as a single unit.
3. After the appliance is cemented, direct bond the occlusal rests in place.
4. Give instructions to the patient on appliance care and activation of the RPE screw.

Adjustment Suggestions:

1. The patient may be instructed to activate the screw once or twice a day, once in the morning and once in the evening, for two weeks. The appliance should be checked every week while the patient is activating the RPE screw.
2. After the desired expansion is achieved, the appliance should be left in place for one month with no adjustments.
3. After a holding period of one month, intraoral release of the pre-activated pendulum springs is achieved by using a 557 bur to cut through the small wire that is soldered to the first molar bands mesial to the lingual tubes.
4. Once a month, the springs may be reactivated by removing the wire from the lingual sheath (open the hinge cap to release the spring). To reactivate the springs, grasp the helix with a bird-beak plier and work the loop open. Reinsert the leg of the spring into the horizontal lingual sheath and close the hinge cap.

Length of Treatment Time and Results Expected:

Lateral expansion will occur at a rate of approximately 2 to 3 mm per week depending on the frequency of activation (each turn equals $\frac{1}{4}$ mm of expansion). Once distalization is initiated, 4 to 5 mm of movement can occur within 3 to 4 months.

Stabilization of the Teeth and Bone following of the appliance:

After the desired expansion/distalization is achieved, remove the body of the appliance and leave the molar bands in place. Insert a fixed-removable Nance, Transpalatal Arch (TPA) or Lingual Arch (FRLA) immediately to hold the molars in their new position. Leave this appliance in place for up to a year following treatment. Note, fixed straightwire mechanics can be started during this phase.