



TECHNICAL GUIDE



E-Arch Expander

Description:

The E-Arch, also known as the 'Arnold Expander', is a simple appliance designed to expand either arch laterally. Typically the appliance is built on bands that are placed on the first permanent molars. Lingual arms soldered to the molar bands are adapted to the posterior teeth and extend to the mesial of the cuspids. A tube is positioned transversely in the cuspid-bicuspid area and a wire running through the tube is soldered to the arms on the lingual. A Nitanium Coil Spring is used as the active component of the appliance and is compressed between the mesial of the tube and the solder joint on the arm. This wire inside the tube holds the appliance together and allows the components to expand with the force of the Nitanium Coil Spring. The Nitanium Coil Spring provides a continuous slow force of expansion and is self-activating.

Indications for the use of the E-Arch Expander:

- Minor to moderate crowding of either arch.
- To gain approximately 3 to 4mm of lateral expansion.
- For patients with compliance and/or hygiene issues.

Alternate Appliances:

- Upper or lower 'W' appliance (soldered or 3D).
- Upper or lower removable Schwartz.
- Lower Gordon expander.

The Advantages of this Appliance are:

1. It is fixed and self-activating so patient/parent compliance is not an issue.
2. It is very streamlined, has very little bulk.
3. Soft tissue tolerance is very good.
4. Patient tolerance is excellent.
5. It is effective on both mixed and permanent dentition cases

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. If you are sizing bands then it is advisable to oversize the bands ½ size to allow for the rigidity of the appliance due to the solder joints. Remove the bands and place them in a bag or envelope to be stapled to the lab slip later.
3. Complete maxillary and/or mandibular impressions. Optional, obtain a wax bite at normal biting relationship.
4. Pour impressions 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.

Delivery Suggestions:

1. Trial fit the appliance.
2. Adjust as needed and prepare for cementing the bands.
3. Give instructions to the patient on appliance care.

Length of Treatment Time and Results Expected:

Typically the Nitanium Coil Spring will have reached their maximum expansion potential within 4 to 6 months. On patients 12 years of age and younger you could expect to achieve approximately 3 to 4 mm of lateral expansion. On patients over the age of 12 years you could expect gains of 2 to 3 mm.

Holding Phase:

At the end of expansion the appliance should remain in place for stabilization for three months.

Stabilization of Teeth and Bone following removal of the appliance:

After reaching the required development and completing the holding phase of three months, a Fixed-Removable Lingual Arch (FRLA) or some other retention device that provides cross-arch stabilization should be fitted to stabilize the teeth and bone. This should be left in place for up to a year following treatment.