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## The NAOL Fixed Expander™



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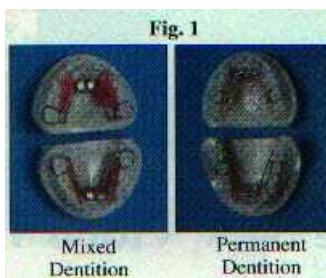


Fig. 1

Mixed Dentition

Permanent Dentition

### The NAOL Fixed Expander™

Nothing is more frustrating for both the doctor and the parent than to be treating a patient that does not properly wear their orthopedic appliances. It is for that reason only that we must sometimes be forced to resort to fixed or fixed removable orthopedic appliance systems.

The most common skeletal malocclusion is underdeveloped maxillary and mandibular arches. There are a number of different methods to make removable arch development appliances fixed. These include banding in the maxillary plates such as the Schwarz or Sagittal appliances and using .010 steel ligature wire to ligate mandibular Crozat or Jackson appliances.

A new fixed arch development appliance system on the scene is the NAOL Fixed Expander™ (see figure #1). These appliances are banded on the first permanent molars using glass ionomer cement. In the very young patient the molar bands are placed on the deciduous second molars. Lingual arms and auxiliary springs in conjunction with a midline expansion screw allows the clinician to fully develop both the maxillary and mandibular arches without depending upon the cooperation of the patient.

The appliances are modified in the mixed dentition to include acrylic flanges, as opposed to wire lingual arms, to the deciduous first and second molar areas. This allows pressure to be placed directly upon the alveolar ridge and in turn provides skeletal arch development and not just "orthodontic tipping" of the deciduous molars.

The expansion screws are adjusted by the parent one-quarter turn (one adjustment) every five days in the mixed dentition and every seven days in the permanent dentition. String or a ribbon must be tied to the expansion screw key to prevent the patient from swallowing or aspirating the key should the key be inadvertently dropped into the patient's mouth.

The maxillary appliance is usually activated one month in advance of the mandibular appliance. Once the arches are fully developed acrylic can be added to the expansion screw to stabilize the appliance as a retainer.

Most patients are capable of developing at least one millimeter of bone per month in a transverse direction. If arch development is followed by additional orthopedic therapy then retention is limited to two months. If arch development is followed by fixed orthodontic therapy or if arch development is the only treatment that is required the retention period is usually six months.

Hygiene is very important when using the NAOL Fixed Expander™ as it is with any fixed appliance technique. The patient should use an irrigation system containing a plaque control agent morning and evening. The parent should also supervise the patient's hygiene.

For more information about the NAOL Fixed Expander™ contact Frank Fox or Bobby Middle at 1-800-521-2351.