

FIXED SPACE MAINTAINERS

INTRODUCTION:

A space maintainer is important to hold or keep this space open for the permanent teeth and to help guide them into position. Space maintainers are usually fitted in children when they have lost baby teeth early. The gap left from losing this tooth needs to be held open for the permanent tooth to erupt in the correct position.

A space maintainer is made of stainless steel and/or plastic. It can be removable. Some space maintainers are cemented into the child's mouth. This is called a fixed space maintainer.

If a primary tooth (baby or milk tooth), has to be removed early due to

- An abscess
- If the tooth is knocked out due to any kind of trauma
- Teeth that were extracted due to severe decay.

A space maintainer may be recommended to save the space. If the space is not preserved, the other teeth may drift causing difficult to treat crowding and orthodontic problems. If it is a front tooth then you don't need a space maintainer.

ADVANTAGES OF FIXED SPACE MAINTAINERS:

- 1) Easy manipulation
- 2) It does not interfere with eruption of adjacent tooth.
- 3) The succedaneous permanent teeth are well guided to their positions.
- 4) They can be used for uncooperative patient from the stand point of loss, breakage or failure to wear the appliance.
- 5) The jaw growth is not hampered.

DISADVANTAGES OF FIXED SPACE MAINTAINERS:

- 1) They may result in decalcification of tooth material under the bands.
- 2) Elaborate instrumentation with expert skill is needed.
- 3) Dental-checkups for caries detection is not easy.

TYPES OF FIXED SPACE MAINTAINERS:

- Unilateral
- Band and loop
- Crown and loop
- Distal shoe
- Bilateral:
- Lingual arch
- Nance palatal holding arch
- Transpalatal arch

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1. Unilateral:

• Band and loop:

Band and loop space maintainer is one of the most commonly used space controlling appliances in dental practice. It is a unilateral fixed appliance (just one side) used for replacing just one tooth, and usually posterior tooth.

Here orthodontic band is placed around the tooth and a wire loop is attached to the band, extending in the space and touching the adjacent tooth (Fig1)



Fig 1 (Band & loop)

• Crown and loop:

Crown and loop appliance will be similar to band and loop space maintainer in all respects except that stainless steel crown is used for the abutment tooth (Fig 2,3).



Fig 2 (Crown & loop)

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Fig 3 (Crown & loop)

2. Distal shoe space maintainer:

Distal shoe appliance is indicated, when the second primary molar is extracted or lost before the eruption of first permanent molar, there is no tooth to hold a band-and-loop space maintainer in place.. In this type of space maintainer appliance is usually inserted in the gums.

Distal shoe appliances must be monitored frequently because the incoming tooth can easily become blocked by the wire. The appliance may require adjustment to allow the tooth to come in properly (Fig4,5).



Fig 4 (Distal Shoe)



Fig 5 (Distal Shoe)

3. Bilateral:

- **Lingual arch:**

It is used when back teeth are lost on both sides of the lower jaw. It is also called as Lower Lingual holding arch where "Lingual" refers to the inside or tongue side of the teeth. This type of space maintainer uses bands wrapped around a tooth on either side of the mouth behind the missing teeth. A wire connected to the bands runs along the inside of the bottom teeth. A lower lingual holding arch is more stable than two separate band-and-loop space maintainers. The appliance is usually indicated to preserve the spaces created by multiple losses of primary molars when there is no loss of space in the arch (Fig6).



Fig 6 (Lower Lingual holding arch)

- **Nance palatal holding arch:**

The Nance arch is simply a maxillary lingual arch that

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does not contact the anterior teeth, but approximates the anterior palate. A maxillary bilateral spacer may incorporate an acrylic button and is called a Nance space maintainer. This acrylic button provides resistance to the anterior movement of posterior teeth (Fig 7).



Fig 7 (Nance palatal arch)

- **Transpalatal arch:**

It is a unilateral, fixed type of space maintainer used in maxillary arch. It is mainly used for stabilizing first permanent molars, when primary teeth in front are lost. An advantage of this appliance over Nance palatal arch is that we see no inflammatory reaction as there is no acrylic button used.

- **Caring for Your Space Maintainer:**

It's important for your child to brush regularly to keep the gum tissue healthy. If your child has a fixed space maintainer, he or she needs to avoid chewy candy and gum,

which can loosen the band or get caught in the wire arm. If the space maintainer becomes dislodged, there is a risk of swallowing or aspiration (inhaling the object into the lung). Finally, your child shouldn't push on the space maintainer with his or her tongue or fingers because that could bend or loosen it.

- **Follow-Up:**

Dentist will follow the progress of the incoming permanent tooth by taking X-rays regularly. When the tooth is ready to erupt, the space maintainer is removed.

If there is no permanent tooth, the space maintainer will be used until your child's growth is completed (age 16 to 18), and then a bridge, implant or removable partial can be placed in the space.

CONCLUSION:

With this we conclude that it is most important to maintain the integrity of the dentition, thus the best space maintainer is a well restored tooth. If there is an early loss of primary tooth a space maintainer is needed to prevent any space loss and cause any space problems in future to the child.

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