

Space Management in the Primary Dentition

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Space Maintainers

- " A space maintainer is an intra-oral appliance used to preserve arch length following the premature loss of primary teeth/tooth."
- This allows the permanent teeth to erupt unhindered into proper alignment and occlusion.
 - A space maintainer is recommended after the untimely loss of a primary tooth.

Failure to maintain space results in Malocclusion

1. Drifting / tipping of teeth
2. Loss of arch length
3. Midline shift
4. Crowding of permanent teeth
5. Impactions
6. Orthodontic intervention including extractions

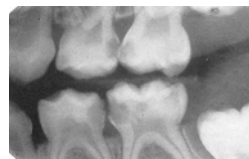
Types of Space maintainers:

1. Unilateral vs Bilateral
2. Anterior vs posterior
3. Fixed vs Removable

Basic concepts....

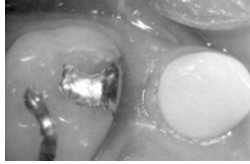
1. Space closure occurs during the first 6 months after extraction. It is best to insert the appliance as soon as possible following the extraction.
2. Loss of space occurs primarily due to a tipping movement of teeth (mesially or distally). In the maxillary molar region, space loss occurs due to rotation (mesial-in) in conjunction with mesial tipping.
3. Erupting premolars usually require 4-5 months to move through 1mm of bone as measured on a BWXR.

Space Management



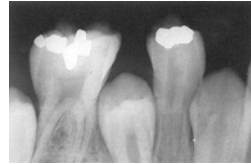
- Space loss occurring from mesial tipping of primary second molar secondary to proximal caries

Space Management



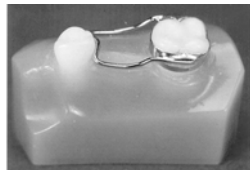
- Space closure from an untimely loss of a maxillary primary first molar

Space management



- Impacted maxillary premolar due to space loss

Band and Loop



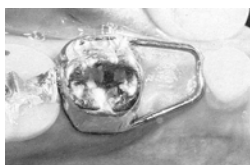
- Indication:
- Unilateral or bilateral loss of a primary molar.

Crown and Loop



- Restores a grossly decayed abutment tooth.
- Removal of appliance for adjustments is difficult.

Space Management



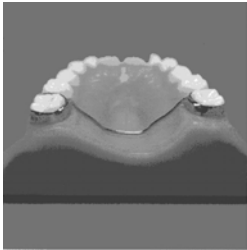
- The role of Chronological age and Dental age when considering space maintenance.

Distal Shoe space maintainer



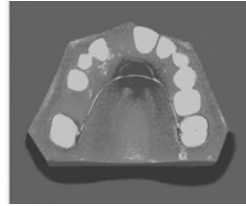
- Indication:
- Loss of a primary second molar before the eruption of the first permanent molar.
- Contraindications:
- Poor oral hygiene
 - Medically compromised pt.

Transpalatal Bar



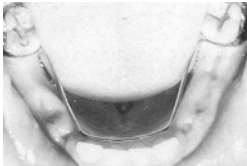
- Indicated for bilateral loss of primary maxillary molars.
- Hygienic
- May not prevent the mesial tipping of teeth

Nance Appliance



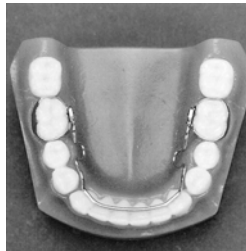
- Indicated for loss of multiple primary teeth (bilaterally) in the maxillary arch.
- Acrylic button provides increased stability. Appliance prevents tipping and rotation of molars.
- Acrylic button may cause difficulty in maintaining hygiene in the rugae area.

Lower Lingual Arch



- Indications:
- Bilateral loss of primary teeth in the mandibular arch during transitional dentition.
 - Maintenance of arch perimeter and incisor positions.
 - Contraindicated in primary dentition.

Lower Lingual Arch



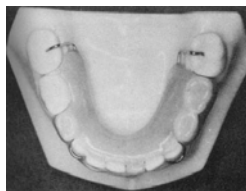
- Modification of LLA with omega loops.
- Activation of loops help flare anteriors with some distalising of permanent molars.

Lower Lingual Arch



- Modified LLA with clasps to prevent distal tipping of lateral incisors.

Removable Space Maintainers



- Indications:
- Loss of multiple teeth bilaterally (anterior and/or posterior)
 - In the absence of abutment teeth.
 - The acrylic resin or modified Hawley space maintainers restore esthetic, function and prevent supereruption of opposing teeth.

Fabrication of a Space Maintainer



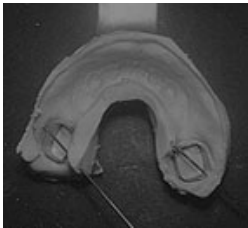
- Selection of molar bands.
- Trial and error leading to a snug fit.
- # indicates mesial surface.

Fabrication of a Space Maintainer



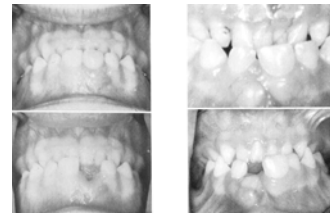
- Seat band 1mm below marginal ridges with the aid of a band seater.
- Adapt bands to the contours of the tooth.
- Separators may be needed for tight contacts.

Fabrication of a Space Maintainer

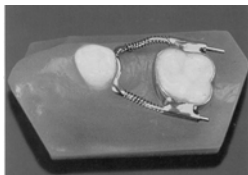


- Take alginate impressions with the bands in the pts. mouth
- Remove and place bands onto the impression.
- Stabilize bands with wire/paperclips.
- Pour the models with plaster and send to the lab with order form.

Space Management for the anterior region



Space Regaining



- Modified Band and Loop with spring coils.

Space Regaining



- Removable space regainer with jack-screw.

