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THE PEDIATRIC DENTAL REPORT

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The Pediatric Dental Space Maintainer: Delayed gratification by any other name

Maintaining dental space can be a long term proposition for a pediatric patient. As an example, a 5 year old who loses a first primary molar could need a band and loop in place for 5 years. In our experience, space maintainers are easily tolerated, hold up well over time and provide a great service for the patient.

As a review, early loss of maxillary or mandibular incisors do not usually need an appliance to maintain space. The inter-canine space

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is very stable and is unaffected by early incisor loss. The rare exception is if a very early loss occurs (prior to a canine eruption). We have seen that scenario with a resultant mesially drifted canine. An appliance in that situation would be very difficult and usually advise parents that orthodontic treatment should be expected later.

Primary incisors: An appliance for the anterior region is for aesthetic value only. The literature will tell you that no long term speech problems or functional issues arise from early loss of even all 4 incisors. A word of caution: aesthetic appliances are notoriously difficult to maintain and have a high incidence of failure. Be prepared for a high maintenance situation.

Canines: Occasional loss of an upper or lower canine is a dilemma. Some have attempted a hy-

brid appliance but typically we consider a nance or lower lingual holding arch, or monitor without intervention as long as any drifting is kept to a minimum. This is also one of those cases when parents are advised that they should make friends with an orthodontist after further eruption to regain and maintain space.

1st primary molars: A band and loop to hold space for this tooth is crucial, especially prior to the 6 year molar's eruption. We see a steady stream of new patients who show up without the benefit of a simple band and loop with resultant space loss. It is much easier to preserve versus recapture space. A 3 year old can easily handle this type of appliance so age should not limit a candidate.

2nd primary molars: With a fully erupted 6 year molar and missing primary second, a lower lingual holding arch (LLHA) or nance are the rule of thumb. This more complex appliance configuration is for cross-arch stabilization. The lower 6 year molars tend to tip lingual and the uppers tend to rotate around the palatal root. A trans-palatal bar is sometimes used in the upper arch but we prefer a nance for patient comfort, ease of construction and stability.

Prior to the 6 year molar eruption: The degree of difficulty goes up exponentially with the loss of a 2nd primary molar in this situation. A distal shoe is the standard, with conversion



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to a LLHA or Nance later. There are other variations of a distal shoe, such as a reverse band and loop, but all depends on the amount of eruption of the 6 year molar and practitioner's training or experience.

Pitfalls: A LLHA placed before the eruption of all the lower incisors needs careful monitoring. Trapping an erupting permanent incisor lingual or under the wire is not uncommon. Typically a provider will need to remake the appliance.

Super-eruption can happen over time with primary teeth opposing a space. A space maintainer is not designed to prevent this problem, however, after exfoliation and eruption of the succeeding permanent tooth, the occlusal plane seems to normalize and equilibrate to a reasonable curve of Wilson and curve of Spee.

As a review: A space maintainer is a simple intervention that can benefit a patient greatly. Of course the best space maintainer is the original tooth itself so saving a tooth with pulp therapy and or a stainless steel crown is the first option if indicated. Trauma claims a lesser number of teeth but still should be considered a possibility for saving space depending on the situation. If significant space loss has occurred, a referral to an orthodontist to regain space is more appropriate than an appliance to hold inadequate space.

As always, we are available to offer advice by phone or in person on any patient or pediatric dental topic.



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