

**PREVENTING MALOCCLUSIONS IN THE 5 TO 7 YEAR OLD -
CROWDING, ROTATIONS, OVERBITE, AND OVERJET**

Dr. Earl O. Bergersen

A DESCRIPTION OF THE PREVENTIVE TECHNIQUE

Preventing malocclusions from developing in the young child is easier, less costly and less prone to relapse than using standard braces at 11 or 12 years of age. There are several reasons for these differences. Crowding and rotations develop as the permanent front teeth first erupt into the mouth at 5 or 6 years of age. Once erupted into this crowded state, the fibers that secure the teeth in position develop and increase their resistance to change orthodontically as well as increase their tendency for relapse or return to their original positions once straightened. This technique of guiding the erupting teeth in straight initially then uses these resistant fibers that develop around the teeth as an ally rather than as an enemy by letting them keep the teeth straight and prevent them from becoming crowded at a later time.

Also, it is easier to prevent the teeth from overerupting initially into an excessive overbite at the time of their normal eruption than to correct their positions afterwards after the fibers have stabilized then into a malocclusion. Also, the correction of vertical and/or horizontal problems such as an excessive overbite or overjet require sufficient facial growth to stabilize the correction and frequently by 11 or 12 years of age there is an inadequate amount of growth present to avoid substantial relapse (especially in the female and accelerated growing male) and may even require surgery for an ideal correction.

The technique of preventive eruption guidance involves wearing an appliance passively only while sleeping that simply guides erupting teeth into their proper positions in an uncrowded and unrotated state. At the same time, as they erupt into their correct positions the forceful eruption provides the needed expansion across the front of the mouth that would not have occurred if they had been allowed to erupt crowded and rotated. Therefore, more space is created which is necessary for the larger-sized permanent teeth (than the smaller-sized deciduous teeth). Once the adult permanent front teeth have erupted into their properly-aligned positions, the fibers develop that will stabilize them in this straightened condition.

The eruptive descent of these teeth is also inhibited so that the teeth reach their proper vertical level in relation to the rest of the back teeth and to the lips and again the fibers develop that help stabilize this position. As the rotations and vertical eruption is being preventively corrected, the horizontal discrepancy between the jaws is also simultaneously being adjusted so that an ideal occlusion will be the final result. Since the upper front teeth are not allowed to overerupt vertically, the resulting teeth and gum

tissue will be at a higher level in relation to the upper lip than would have been without the preventive procedure thereby reducing or eliminating a gummy smile.

Your dentist can predict the potential problems of future crowding, excessive overbite and overjet and a gummy smile for your child at 4 to 6 years of age even before these permanent erupt. A simple exam is all that is necessary. Contact your dentist for a preventive examination of your child's future occlusion before (or during) the eruption of the lower permanent front teeth. It is essential for your child's future dental health.

Q. Why should my child have early preventive correction of future problems?

A. The correction of crowding at a later age is prone to relapse due to development of heavy adult fibers that return teeth to their original positions once straightened at a later age (9 to 12). Vertical overbite correction at a later age also frequently relapses due to this same original fiber formation which stabilizes the malocclusion position and can be further complicated by the lack of sufficient vertical facial growth at this late growing stage to fully compensate for treatment procedures especially in the more severe problems. Temporomandibular joint (TMJ) problems such as clicking are frequently caused by a deep overbite and get worse with age. They can easily be corrected at an early age, but are difficult to get a permanent correction at 12 years of age and frequently impossible to permanently correct when fully grown at 16 years.

Q. Are there any problems in preventing malocclusions from developing at such an early age such as 4 to 7 years of age?

A. There is no evidence of any adverse effects at this age. The things that one

would look for at any age are an alteration of root development or bone change around the roots of the teeth, greater relapse tendencies, adverse facial growth tendencies, and difficulty for a young child to cooperate or follow directions. There has been no evidence of any of these factors occurring. In fact, there is no effect on facial bone growth or positional changes in the facial bony structures, while after 8 years of age there are such changes. In fact, there is no lengthening of the child's face when an overbite is corrected at 6, while a lengthening does occur when the same overbite is corrected with functional appliances after the front teeth are erupted.

Q. Can you really tell what a child's teeth are going to look like at 12 when you examine them at 4 to 6 years of age? Isn't there something called the ugly-duckling stage that self-corrects?

A. Almost every aspect of occlusion can easily be predicted from 4 years of age onward. The overbite increases by almost 2 mm. from the deciduous dentition at 4 years to 12 years of age, while 88% of young overbites at this age increase. Crowding develops as the permanent incisors erupt in 65% of children whose baby dentitions are perfectly straight. Malocclusions of the arrangement of the lower to upper teeth stay the same or get worse in 75% to 89% depending on the type of arrangement. The ugly duckling stage refers to a generalized spacing and lateral spreading

between the upper front incisors frequently present when they first erupt and which tends to close when the permanent canines erupt at around 10

or

11 years. Early preventive treatment to correct this specific problem should not, and is not, recommended. This specific problem, however, should not be confused with overbite, crowding, rotations and overjet. There is no connection.

- Q. Is prevention at an early age any easier or less expensive than full treatment at a later age?
- A. Prevention implies that the technique will be easier and therefore less expensive. The procedure in relation to today's economy involves considerably less effort on the part of the dentist compared to getting teeth straightened for the same problems at a later age. The idea of such a procedure is to pass most of the savings on to the parent so that the preventive procedure is about 1/3 (1/4 to 1/2) the cost of present-day braces. When one considers that orthodontics within 10 years could easily be twice as costly, or more, and together with other expenses such as college tuition that might escalate disproportionately to the cost of living increases within the next decade, these might be serious economic considerations for earlier treatment rather than postponement.
- Q. What is the worst that can happen if our child's dental problems go untreated at an early age and postponed until later?
- A. The crowding is more difficult to obtain a permanent result and may involve fiber surgery on the front teeth. The overbite will probably increase and be more prone to relapse following correction at this age than to aid in the overbite retention unless it is postponed until after sufficient growth remains at which time it would be more prone to relapse. A gummy smile is difficult and involves braces or surgery to correct at a later stage while later age. The same appliance requires only passive nighttime use during the eruption stage while later on, after 8 years of age, requires 2 to 4 active hours of exercise each day for the same correction.
- Q. What are my child's chances of having braces anyway after this preventive work is done?
- A. There is about a 20% chance of having braces later on and an 80% chance of not having them. If braces are required, they should usually only be necessary to torque the upper front teeth and/or rotate some back teeth if their eruption is inadequate. This treatment normally would require no more than 6 months for completion at a considerably reduced fee of about 1/4 to 1/8 the cost of full braces.
- Q. When is the most ideal time for my child to have a preventive check on his or her occlusion?
- A. When your child has the first dental exam at about 3 or 4 years of age, it would be advisable to ask your dentist at that time. Overjet, which is the excessive protrusion of the upper teeth in front of the lower teeth, shows some self-correction with the slowing down of thumb sucking until 5

years

of age. If this excess is more than 1/4 inch, it should be started about at least 6 months before the lower deciduous incisors are lost (about 6 to 6½ years of age). Therefore, the severe overjet should be started at about 5 or 6 years of age. The crowding and overbite should be started when the first lower baby tooth is lost at about 6 to 6½ years of age.

Q. What do I look for in my child's teeth?

A. The first thing to look for is excessive overjet which is when the upper teeth are way in front of the lowers. A 1/8 inch gap (2 mm.) is normal at this age while a 1/2 inch (8 mm.) is severe. An overjet of 1/2 inch should be started by 5 or 6 years (younger for a female, and slightly later for a male). It should be at least 50% corrected when the first lower front baby tooth gets loose. An overjet of this severity at 2 or 3 years of age

you
self-

should not worry about, especially if thumb sucking is present. It may

correct by 5 years of age if the thumb sucking slows down. If your child's baby front teeth are well spaced (where there is almost a total amount of space between the 6 front lower teeth of 1/8 to 1/4 inch, your child has a good chance of having straight permanent teeth. If the space is less than this or is non-existent, there is a greater chance for permanent crowding while if the baby teeth are crowded, there is no chance for straight permanent incisors to develop. If there is an overbite where the upper incisor crowns cover most of the crowns of the lower front teeth, there is a great risk of having an excessive overbite of the permanent teeth. If there is an opening in the front of the mouth, an openbite is present and is most often caused by a persistent thumb or finger-sucking habit or by an abnormal tongue thrust swallowing pattern. By 6 years of age, it should

be
of

corrected. Cross-bites, which is when the upper teeth are positioned partially or completely inside of the position of the lower teeth. This problem does not self-correct and should also be corrected about 6 years

age.

Q. How long will this prevention technique take when done at this early age?

A. It is done while the permanent incisors erupt and depends on the speed of your child's tooth eruption. In most cases it takes about 1½ years. The appliance is worn only while sleeping and is usually continued for about 4 to 6 months after full eruption to allow for adult fiber formation to aid in the retention.

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