IMPORTANT PRINCIPLES ON THE USE OF THE NITE-GUIDE®

PREVENTIVE ERUPTION GUIDANCE APPLIANCE IN THE 4 TO 7 YEAR OLD

1. EXAMINATION - Check to see that all permanent teeth are present and erupting in the correct positions and directions from the X-ray films. See if the overbite exceeds 1.25 mm, overbite exceeds 3 mm, and if there is potential crowding up to 6 mm from an arch length analysis. If any of these problems exist, the patient will benefit from preventive eruption guidance. A further indication for intervention is for gummy smiles where the potential for overeruption of the upper incisors exist and where there is more than 4.25 mm of deciduous gum showing when the child smiles.

TMJ problems of clicking with an overbite and/or overjet present, where when the mandible is positioned to an ideal Class I position and the clicking disappears, the TMJ symptoms will correct usually with correction of the overbite with eruption guidance. The young child of 4 to 7 years should open approximately 42 mm while the restricted maximum mandibular opening is about 32 to 35 mm and usually indicates a potential TMJ problem.

If there is a posterior cross-bite on one side, the child can be corrected with the Nite-Guide® provided there is no lateral mandibular displacement with only night wear. If a displacement exists, preliminary expansion of the upper arch is recommended before the Nite-Guide® is initiated.

An open-bite at this young age can be corrected provided there is no thumb or finger sucking habits or a tongue thrust swallowing pattern present. The Nite-Guide® can be used in conjunction with a fixed tongue crib or thumb-sucking device and aids in allowing the incisors to erupt normally. The Nite-Guide® as a replacement for the thumb will work in about one half of the cases to correct the sucking habit. Those that are resistant after 2 months should have a fixed sucking device placed in the mouth in conjunction with the Nite-Guide® wear while sleeping.

Severe overjets over 4 mm should ideally be corrected with the Nite-Guide® prior to the eruption of the permanent incisors with 1 to 2 hours of daily exercise together with night wear. Once the deciduous incisors are exfoliated no overjet can usually correct. If it is left until the incisors erupt, it should not be corrected until six months after the upper permanent incisors are fully erupted. Frequently in severely spaced and protrusive permanent incisors, particularly in those cases with anterior tongue thrusts, a Hawley retainer is worn night and day to retract the anterior upper teeth while swallowing therapy is given. If the swallowing and overjet problems can be corrected by 8 years of age, the retention is quite successful.

2. MEASUREMENT - The must usual measurement is from the mesial of the upper deciduous canine to the mesial of the canine on the other side. If the upper arch is unmeasurable due to flared incisors, rotations or crowding, then the lower arch from canine to canine can be used. The Nite-Guide® is placed that is ½ to 1 size too large for the area particularly if space will be required for the permanent incisors (especially in the lower arch). The reason for this is to anticipate the normal and expected developing arch circumference as the central incisors approach the tissue before eruption (which increases 1.7 mm in the male and 1.1 mm in the female).

It is extremely important to anticipate this increase in size before the expansion occurs so as to maximize the increase rather than restrict it, especially when the expansion is necessary. Very rarely are the permanent incisors smaller than the available space between the deciduous canines, but when this does occur, it is important to recognize it before using the Nite-Guide® and one would reverse the normal and usual procedure. This would be done by beginning with a Nite-Guide® smaller than the existing space so as to consolidate the space present unless the future interproximal spaces are to be closed by bonding the proximals of the permanent incisors. An arch-length analysis, particularly in the upper and lower anterior segment, is highly recommended before proceeding with eruption guidance.

3. INSERTION - The appliance is placed in the mouth, lining up the midline mark with the center of the mouth, and have the child close the mouth. The upper and lower deciduous canines are checked to see how they live up in their appropriate sockets. If expansion is required (and it almost always is), the canine will fit into the most mesial portion of the socket and will be forced or at least allowed to expand 1 to 2 mm depending on the severity of the potential crowding. The margins of the appliance are checked for gingival impingement. If impingement is noticed, the margins are trimmed. If there is overjet to be corrected, one must be careful not to trim the labial upper margin very much or the lingual lower. The ideal way to trim all margins is on the interior rather than shortening the margins since to retain the height of the margins will prevent the appliance from falling out at night. If the first permanent molars have erupted, a "G" Occlus-o-Guide® appliance is used instead of the "C" Nite-Guide® appliance. The "C" Nite-Guide® appliance is used whenever the first molars have not yet fully erupted. The "C" appliance can be used while the permanent molars are erupting in place only in cases with severely deep overbite and short lower face heights in order to open the bite by lengthening the lower face height.

4. KEEPING IT IN AT NIGHT - If the child cannot keep the appliance in all night when sleeping several methods can be used. One of the most effective is to have the child wear it 2 hours each day for 3 or 4 days and at night and most will soon get used to the feel of it in the mouth. Another aid is to use Scotch tape (not adhesive, carpet, filament, etc.) and tape the mouth shut diagonally in both directions with the Nite-Guide® in place when going to bed for 2 or 3 nights being sure the child can breathe freely through the nose. Another method if the child cannot go to sleep with the appliance in or resists putting it in the mouth before going to sleep is to have the mother put it in the mouth after the child is already asleep and it will usually stay in all night.

5. THUMB-SUCKING AND OPEN BITE - If the child sucks the thumb at night, the Nite-Guide® is to be used as a substitute and will work in about 50% of the cases. The more resistant habits will require a fixed thumb-sucking crib and the Nite-Guide® is worn at the same time to allow the incisors full normal eruption and the prevention or correction of an anterior open bite. If the child sucks the thumb during the day, the Nite-Guide® is used as a thumb substitute and works in about half of the cases. The remainder of the persistent habits will require a fixed thumb-sucking device.

Frequently active thumb-sucking habits are also further complicated by anterior tongue thrusts. Frequently these cases have protrusive and spaced upper incisors and require a Hawley retainer to be worn day and night. Usually if the teeth are fully retracted and retained there, the child's tongue thrust will spontaneously correct itself if the child is under 6 or 7 years of age. If older, they will frequently also require swallowing therapy in addition.

6. RECOMMENDED WEAR - Almost all of the correctable problems discussed only require passive nighttime wear while sleeping. The only resistant problems that are an exception are the persistent spread incisors or an open bite with an active tongue thrust, severe overjets over 4 mm, and the severely rotated incisors that have erupted with inadequate space created for their face eruptions. All of these problems require daytime exercise of 1 to 2 hours each day if the child is less than 8 years of age. If older they

require 2 to 4 hours each day with exercise. The tongue thrust and open bite as the child gets older becomes more difficult to treat and after 9 years of age, the Occlus-o-Guide® technique is not recommended for their correction.

Overbite and incisal guidance only require about ½ hour to 2 hours of passive sleeping wear a few nights per week, although full night wear is encouraged. Overjet correction of 4 mm or less requires all night passive wear.

6. IMPORTANCE OF ADEQUATE SPACE FOR ERUPTION - When a lateral incisor is seen in tissue on an X-ray film rotated, it is usually essential that adequate room is provided by artificial expansion of the arch by the use of a bumper, Crozat, Frankel, Schwartz or rapid palatal expansion, etc. If this is not done, the tooth will usually erupt rotated and must be corrected after full eruption. When insufficient space has been created for erupting teeth, the lateral incisors will frequently erupt to the lingual or have severe rotations as they break tissue. The space should be created prior to this time to allow the tooth to rotate as it erupts. The Nite-Guide® can rotate laterals (and centrals) as they erupt only if they have adequate space. Space must be created by disking the deciduous canines but this is usually not sufficient and is created too late in the eruption process to help in the more severe cases. Disking only helps in the more minor crowded cases during eruption. Disking at a later age once the incisors are fully erupted and the force of daytime exercise of 2 to 4 hours each day with the wear of the Occlus-o-Guide® appliances more effective in those cases with 4 mm of crowding than passive wear with eruption is with the same degree of disking. Disking should not be done until the lateral incisors have broken tissue after all the natural arch circumference has occurred. The disking at this time, of 2 mm per side, with passive eruption is only effective in obtaining 2 to 3 mm of additional space.

7. GENERAL - The Nite-Guide® can be cold sterilized but should not be boiled or autoclaved. All Nite-Guides® contain Cooperation Detector™ or C-D™ that allows the doctor to detect if the patient is wearing the appliance satisfactorily. The guide becomes slightly cloudy when worn properly each night and becomes more white the more hours it is worn. If it is not worn for two consecutive days, it will become transparent.

The Nite-Guide® is made of extremely tough and resilient plastic and will not wear out with reasonable care for several years. The patient should be warned, however, not to bite on the appliance in any other way (such as gnawing at the ends) than directed. The patient should not move the appliance forward out of the mouth to chew at the lingual posterior margins. If the child has a dog, they should be instructed to keep the appliance in the box in a drawer when not in use and keep the dog out of their room at night until it stays in each night.

8. INSTRUCTION TO THE PATIENT AND APPOINTMENTS - The patient should put it in the mouth each night whether it stays in or not. For many problems (overbite and eruption guidance) the appliance will work satisfactorily with only ½ hour passive wear each night. Be sure the child fills out the cooperation chart each night and brings both the chart and the appliance to each appointment. A little wear is always better than no wear.

The child should be seen one month after the appliance is inserted. Thereafter the appointments can be spread out to 2 to 3 month visits, but just before the centrals and laterals break tissue it is important to increase the size and observe the progress so that the maximum expansion is obtained. When the first molars erupt, the "G" Occlus-o-Guide® appliance should be used. The same numbers for sizes apply for both the "C" and "G" series. Once all of the incisors are erupted, the patient is told to continue to wear the appliance only at night and the patient is seen every six months. After 6 months to one year, the

appliance can be discontinued, but should again be worn passively at night when the permanent canines and bicuspids erupt, then discontinued.

At each visit, as the incisors are erupting, the bicanine width is measured with a divider, punched into their record card and compared to their appliance bicanine distance. If expansion is required, always keep the appliance 1 to 2 mm wider than the measured dimension in the mouth.