Treating the tiniest of patients

Nasoalveolar molding speeds healing of clefts

by Dustin S. Burleson, DDS

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Nasoalveolar molding (NAM) is a nonsurgical technique used by orthodontists to assist babies who are born with cleft lip and palate. Its objective is to restructure the gums, lip and nostrils, using a plastic plate, to reduce the cleft inside of the mouth and the opening in the upper lip. It also will lift and narrow the nose, making the cleft less severe, with the goal of decreasing the number of surgeries for cleft lip and palate the child will require in the future.

Once the molding is complete, initial surgery is performed, usually when the child is 3–6 months old.

NAM is used primarily for children who possess large or wide clefts, and has shown to significantly transform cleft repair. Formerly, children with such clefts required numerous surgeries from birth to the age of 18, which would often place them in jeopardy for psychological and social challenges. The initial surgery would pull the lip together; the next surgery improved the position of the upper lip; at least two more surgeries would follow to shape the nose. Another surgery, which frequently included a bone graft, would then be performed to close the palate, and so on and so forth for many years.

Using NAM in the months before the first surgery, orthodontists are able to reduce large clefts and improve the shape and position of the nose and upper lip. For babies with a smaller cleft, there will be less tension when the surgeon closes it. Hence, because the orthodontist molded the lip and nose beforehand, a reduced amount of reshaping will be required during surgery.

Orthodontists create a better result initially, which means children may need fewer surgeries.
In practice

NAM works by lightly guiding the growth of a baby’s gums and the shape of his nose throughout the initial 2–3 months after birth, when the body’s tissues are soft and easier to mold.

The orthodontist will fit the baby with a custom molding plate, which looks similar to the type of retainer one would get after braces. The baby wears the plate 24/7—even while he’s being fed—as it’s held in place by small rubber bands that are taped to the baby’s cheeks. The parents will need to change the rubber bands and tape and also clean the molding plate at home as needed (typically every day). The orthodontist and her team will work with parents and teach them how this is all performed.

To help guide the baby’s gums as he grows, the orthodontist will make slight adjustments to the form of the acrylic plate at each visit—one a week, in most cases. When the orthodontist believes that adequate reduction in the cleft has been achieved, she will put in a nasal stent (or stents, for bilateral clefts), which is protected with both hard and soft acrylic added to the front of the plate. The plate will glide effortlessly into the baby’s nostril and will progressively lift up the nose and shape the nostril on the side of the cleft.

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NAM FAQ

How long will my baby wear a NAM device?

Babies who have unilateral clefts generally wear the NAM device for about three months. Babies who have bilateral clefts may require the device for up to six months. Once the plastic surgeon and orthodontist reach a consensus that the best possible results have been attained, the baby can then be scheduled for the initial corrective surgery.

Is my baby a candidate for the NAM procedure?

The deciding element as to whether a baby is eligible for NAM is the parents’ pledge to committing the necessary time and patience required for the method to succeed. The parents will need to vigilantly clean the device, tape it in place correctly, deal with possible skin and mouth irritations, and visit the orthodontist weekly. If the parents are able to dedicate the time and effort, NAM will deliver the greatest results.

Does NAM hurt the child?

Not at all. Although it is a different feeling for him, and may be slightly frustrating for the first few days, know that the plate used for molding and the nasal stent are not at all painful for the baby. It does not stretch the baby’s fragile tissues; its only purpose is to gently guide the growth of the gums (which is also called passive molding) and reduce the size of the cleft.

Once the baby gets used to the plate, usually a few days, he is generally happier wearing it than he was without it. We believe that this happens because the plate acts as the roof of the baby’s mouth and is more comfortable. An added benefit is that feeding becomes easier.