

New Findings on Baby Soothers

Soothers satisfy the natural need to suck

Around 70 % of children in industrialised countries have a need to suck that goes beyond just feeding. For soothers are not only dearly loved sources of comfort, they can also affect developmental aspects of the jaw and oral cavity. It is the shape that plays a decisive role, according to an expert panel of specialists in orthodontics and paediatrics, who discussed the topic intensively during the workshop, "The Effects of Soothers on Jaw and Oral Development", which was held in Hamburg.

A child's sucking reflex is innate. It can be detected in an ultrasound scan from about the fifth month of pregnancy. As sucking is essential for survival, babies can already drink just a few minutes after birth. This need to suck is at its greatest during the first year of life, becoming weaker or disappearing completely thereafter.

But sucking is not only feeding – it can also have a great calming and comforting effect on babies. It is best if that can all happen at the mother's breast, but sometimes mothers need a quiet moment too. So it is no surprise that the first soother, in the form of a linen bag with honey or poppy seeds in it, was already being used in antiquity. In 1473, Albrecht Dürer painted a picture of a Madonna and child with a soother, simultaneously handing down the first illustration of one. With advances in medicine, the centuries-old, common rag bags were used increasingly less because of possible germ transfer and the dubious alcohol and poppy fillings. The first rubber soothers are to be found as early as the middle of the 17th century with rubber remaining the material of choice until the 19th century. However, for various reasons, there were only slow developments in the advancement of soothers until the 1950's.

Orthodontic Soothers are Not Round

The turning point came with studies in the 1950's by dental experts, Prof. Dr. Dr. W. Balters and Dr. med. dent. A. Müller, who, alerted by the high rates of jaw anomalies in children, developed the first soother shaped for the jaw.^{1,2} In industrialised countries since the 1960's, the soother has undergone – thanks in part



Fig. 1: NUK soother from 1956

to this fundamental research – a real upswing and it would be unthinkable for it not to be part of a baby's everyday routine today.

For about 60 years, the NUK shape has been studied scientifically, approved and undergone continuous development. Over and above that, the renowned American Journal of Orthodontics and Dentofacial Orthopedics, classifies the NUK soother as an orthodontic instrument.³ "When used correctly, an orthodontic soother can give a valuable boost to development", confirms the paediatrician,

Dr. Suzanne Knauer-Schiefer. She recommends using soothers as a natural stimulus, the use of which parents should decide after receiving detailed information from their doctor.

But not every soother seems suitable, as their shape can affect the development of the jaw and oral cavity. It is most often the case in newborns that the development of the lower jaw lags behind the upper jaw as an adjustment for the birth. After one year of life though, the lower jaw has often already caught up with the upper jaw's development. On observing the child's profile, the lower jaw and chin will be noticeably more aligned with the nose than they were at birth. Throughout this time, the baby's mouth cavity will also be developing as the child itself grows.

"The results of a long-term study, which has been undertaken at Münster University Clinic since 1999, show statistically significant growth of the upper jaw already in the first year of life in both preterms as well as in full-term babies", reports Prof. Ariane Hohoff, Director of its Orthodontic Polyclinic, "This suggests that – in the case of the parents wishing to give their child a soother – different sizes should be used according to the growth stage of the child."



Fig. 2: a. Sucking a soother, b. Sucking a thumb, c. Sucking at a mother's breast



Fig. 3: Orthodontic Soother NUK Genius (Latex)

There are good reasons why orthodontic soothers are not round. The baglet, which is rounded up at the front, can adapt well to the shape of the upper jaw (Fig. 2). "In particular the tongue needs enough space to move for a well-developed tongue muscle system, which is important for speaking later and for making the lips close together correctly", explains Dr. Christoph Herrmann from the Private Institute for Holistic Orthodontics in Heidelberg. All NUK soothers are right for the jaws and encourage healthy overall development.

Focus on Preterm Feeding

Preterms or full-term babies with a low birth weight often have to receive artificial enteral feeding. Although this ensures the provision of nutrients, the infants cannot suck to take in the food, as is actually their need. If a baby is given a soother at the same time as being tube fed, many are calmer, more satisfied and in a more stable state physiologically. In preterm babies, sucking coordination, which in many cases may still be only partially developed, can be learnt more quickly by giving them a soother. Therefore, these babies can generally be discharged from in-patient care sooner due to their more stable condition and their greater weight, compared with infants not given a soother while feeding.⁴

"As these children have a very small and very soft jaw, the correct size of soother could be decisive", says orthodontist, P.D. Dr. Thomas Stamm from Münster University Clinic. A special NUK soother

for preterms is already available for use in the clinic. Further developments for this special group are being considered.

Role of Soothers in Jaw and Oral Development

The development of both the jaw and the oral cavity proceeds in parallel from around the first birthday. However, in the following years there are various reasons why jaw anomalies often occur. A possible reason is thumb sucking. "A healthy functioning of the mouth, of which sucking is also a part, is essential for the development of the jaw and oral cavity according to the child's age", says dentist, Dr. Hubertus v. Treuenfels, Orthodontic Practitioner in Eutin, on a possible supportive role of soothers in this development interval. The wrong size and shape, as, for example, round teats, can inhibit the anatomical and physiological development of the mouth or push in an undesired direction, according to the experts. Lips that cannot close or the wrong resting position for the tongue can result from this.

On the basis of these findings he defined the most important requisite of a soother as being a baglet that is rounded upwards at the front with a flat base. Along with a physiological tongue movement, it can also promote the complete closing of the lips.

Due to material restrictions, there are limitations on the ability to replicate the softness of a mother's breast. Soothers are currently manufactured in latex or silicone. The stability contours in the baglet of the NUK Genius soother (Figs. 3 and 4) are therefore an important step towards softness and flexibility, especially in the silicone teats. Different sizes of soothers seem to be essential, in order to be able to keep up with the rapid growth of the oral cavity and jaw, especially in the first year of life.

The NUK Genius soother already fulfils a large number of these conditions and is therefore suited to being a prophylactic and supportive measure for physiological jaw and oral development.³ An orthodontic soother, compared with a thumb, has the advantages of controlled use and of the habit being broken earlier. There are to be further studies to advance the development of soothers. This will

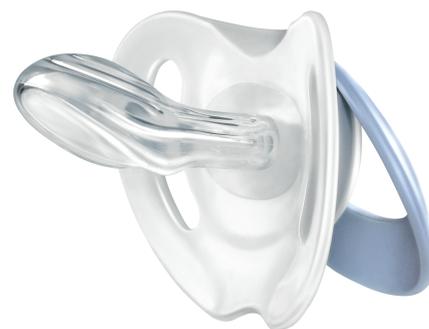


Fig. 4: Orthodontic Soother NUK Genius (Silicone)

then guarantee that they are always in line with the latest scientific findings.

The American Academy of Paediatric Dentistry (AAPD) regards the non-nutritive sucking of soothers in infants and small children as normal, as it corresponds to their need for contact and safety. However, it does recommend an examination after the third year of life and, where necessary, expert intervention, as continual sucking can lead to long-term problems.⁵

Expert Workshop

"The Effects of Soothers on Jaw and Oral Development", Hamburg 08/14/2010, Organiser: MAPA GmbH

Author: Dr. Claudia Heß, Mainz

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