Proper breathing is important

Immediately after birth, the baby starts to breathe with its first cry. The lungs inflate and the bloodstream responds to life outside the womb—this is a natural reflex that functions perfectly in most cases. Breathing is one of the body’s elementary functions, in which oxygen is taken from the airways to the lungs and then the bloodstream, to keep us alive, breath for breath. As a midwife, I have been able to share in this happiness and experience this first breath many times. Whenever a newborn’s breathing does not progress properly in the delivery room, I am always reminded just how important breathing is for the other functions in our bodies. As we grow, negative developments in the jaw, palate and oral cavity can massively impair our breathing. It has been estimated that only around 20 per cent of these malformations are congenital. Many of them are acquired, mostly by sucking on a thumb or dummy.

What promotes normal breathing?
There are certain prerequisites for normal breathing in a baby or child. The healthy development of the jaw, palate and tongue position are deciding factors. In children, the jaw is still very soft and malleable. Breastfeeding is the best way to promote healthy and physiologically correct jaw development. Latching on to the breast supports the natural development of healthy facial and mouth tone by training the cheeks, lips and tongue muscles. This helps to bring the skull plates into their correct physiological form after birth, which then has an effect on the jaw and mouth. This is only one of the reasons that breastfeeding should always be first choice. The jaw develops naturally as the baby grows, through the nutrition that the baby takes in through feeding.

It all comes down to proper breathing
There is a difference between mouth breathing and nasal breathing. Nasal breathing—and the related correct position of the tongue on the palate—pushes the top jaw outwards, promoting the healthy development of the palate and tooth positioning. Many children need something in addition to breastfeeding to satisfy their urge to suckle. In most cases, this is a dummy. However, it is often unfortunately a thumb. Standard dummies do not take into account the movements involved in sucking and the relationship between different spaces in the mouth. Around 70 per cent of children who use
incorrectly shaped dummies or suck their thumbs end up with jaw misalignment and improper tooth positioning. In many children, this results in mouth breathing, which can have massive consequences for their health.

**What is mouth breathing and why does it happen?**

When we talk about mouth breathing, we are referring to breathing in which air reaches our lungs through the mouth or oral cavity. Generally, one only breathes through one’s mouth if the nose is unable to take in enough oxygen. For example, this happens at times of physical or mental stress; it also often happens during sleep. There are several possible reasons for mouth breathing: jaw misalignment, such as a high palate and the resulting improper tooth positioning, for example.
ADVERTORIAL: A NEW PERSPECTIVE

About the author

Dayo Oliver studied midwifery at St Gallen in Switzerland. She has been a midwife at the See-Spital Horgen hospital in Switzerland since 2006. For two years, Oliver also worked at a doctor’s surgery specialising in fertility problems and in vitro fertilisation. At the See-Spital hospital, she works in the delivery room and the women’s clinic, provides postnatal care and training, and performs acupuncture. Since starting her training, she has brought around 300 children into the world. Oliver is very passionate about her career as a midwife. She has been living with her partner for 19 years and has two sons and a daughter.

Dummies that have not been designed to take the mouth and jaw position into account, as well as thumb-sucking, cause unnatural pressure points in a child’s mouth. This can lead to several pathologies. First, the shapes of standard dummies and thumbs cause the wrong kind of pressure, which leads to misalignments. Owing to the shape of the dummy, these children move their tongues to an unnaturally low position. The child becomes used to this incorrect tongue position and begins to hold it there even when not sucking on a dummy or its thumb. This in turn results in the dental arch not being stretched upwards by the pressure of the tongue, so the teeth and tongue do not have enough space on the palate. Owing to the lack of space on the palate, the child breathes through its mouth.

In some children, the size of the tonsils is to blame. They can be so swollen that they cause an obstruction, meaning that the child cannot take in enough air through the nose. The body then automatically switches to mouth breathing to ensure a sufficient supply of all-important oxygen.

Problems caused by mouth breathing

In normal cases, a baby or toddler breathes through its nose. This is enormously important for many functions in our bodies, especially the unhindered growth of the oral cavity. There is a mucus membrane inside the nose that is covered with small hairs. Breathing through the nose cleanses and moistens, warms or cools the air. This natural effect prevents, among other things, dirt particles from the air, germs and other pathogens from entering our bodies. It works like a filter. When we breathe through our mouths, this filter is bypassed.

Mouth breathing also dries out the mucus membrane in the mouth, especially at night. The dryness reduces the saliva’s natural protective effect against dental caries and allows inflammation of the mucus membrane and gingivae, which can be very painful. This makes the child more susceptible to infections. This drying of the mouth can lead to problems swallowing, respiratory infections, tonsillitis and inflammation of the oral and pharyngeal mucus membranes. Mouth breathing also impairs the environment that important bacteria and digestive enzymes in the saliva need to thrive. This then has a negative effect on digestion and oral health.
One of the greatest problems caused by mouth breathing is the decreased absorption of oxygen. Nasal breathing leads to approximately 10–15 per cent more oxygen in the bloodstream compared with mouth breathing — this is a deciding factor for the growing child’s well-being and health.

Nitric oxide is a colourless gas that builds up in our sinuses. When we breathe through our noses, this nitric oxide is transported into our lungs. There, it causes vaso-dilation—an expansion of the blood vessels—and promotes better circulation within the pulmonary alveoli. This means that the body can absorb more oxygen and improve its supply to cells. This effect does not happen with mouth breathing, which explains the lower oxygen saturation.

Furthermore, babies and children who breathe through their mouths at night often snore and may also suffer from sleep apnoea. This means they experience pauses in breathing, which has a negative effect on their absorption of oxygen. These abnormal breathing patterns have several negative effects. The child does not reach deep sleep, as it often wakes up struggling for breath. This can increase its sleep requirement by several hours. The lack of deep sleep also has a negative effect on the child’s overall growth, since growth hormones are mostly released during deep sleep. If a child cannot reach deep sleep owing to loud snoring and regular sleep apnoea, not enough of these hormones are released—this negatively affects normal growth. The decreased intake of oxygen also leaves the child exhausted. This can lead to lack of concentration, decreased performance, disruptions in growth and development, and behavioural problems.

Designed to suit the mouth’s anatomy

Babies have a natural urge to suckle. Breastfeeding satisfies this urge for the most part. However, breastfeeding is sometimes not possible or not enough to satisfy the child’s urge to suckle. In order to limit the negative effect on the child’s jaw growth as much as possible, it is extremely important to choose the right tools. Standard dummies are unfortunately very poorly designed when it comes to the physiological needs of babies’ mouths. This can — as I have already said — have grave consequences.

CURAPROX Baby has designed a dummy that prevents oral dysfunction, as it reflects the anatomical reality of babies’ mouths. The dummy is flat with side wings, a slightly asymmetrical tip and a specially shaped plate.

The flat suckling surface does not put any pressure on the roof of the mouth. This means that the dummy prevents the development of a narrow palate, which can lead to a crossbite, jaw abnormalities and mouth breathing. The side wings exert a small amount of pressure on the top jaw. Supporting this natural function ensures that the top jaw widens.

The flat suckling area and the side wings ensure there is enough space on the roof of the mouth for pressure to be exerted on the top jaw so that it widens. This means there is enough space for the tongue to lie correctly in the mouth, promoting healthy nasal breathing.
Dummies that are designed to suit the mouth’s anatomy can have a great preventative effect. Healthy breathing is especially important for babies and small children. It is scary just how many negative effects pathological breathing, especially mouth breathing, can have. If we miss something in childhood, it could have a negative effect on the child for the rest of its life. If we are able to have such a positive effect on our baby’s health just by using the right dummy, we should start as soon as possible.

To sum it up, it is very clear to me how important proper breathing is for all of us. As a midwife, I seek to ensure that this topic is given the attention it deserves both in the hospital and at my postnatal home visits. We owe it to our children.