



# Breastfeeding



The NUK Breastfeeding Guide was produced in collaboration with Dr. Suzanne Knauer-Schiefer, Chief Physician, Paediatrics and Child Health, Sana Ohre Hospital, Haldersleben, Germany.

**This brochure is the new, revised edition of the first publication in the NUK Library Series. It contains useful information on the following topics:**

- **Breast milk**
- **Breastfeeding techniques**
- **Breastfeeding in hospital**
- **The daily breastfeeding routine at home**
- **Breastfeeding and career**
- **Weaning**

The NUK Breastfeeding Guide, containing information on breast milk, breastfeeding techniques and the daily breastfeeding routine at home, was produced in collaboration with Paediatrician Dr. Suzanne Knauer-Schiefer

# Editorial

## Dear Expectant Mothers,

Firstly, I would like to congratulate you on your pregnancy and wish you a great start in life with your baby. You can look forward to a unique and absolutely wonderful experience in your new role as mother, as well as enjoying a time of intimacy, tenderness and love.

The approaching birth will certainly be first and foremost in your thoughts and those of your partner. You may even already have considered how you would like to feed your baby?

If you wish to breastfeed, you will soon experience how nature provides you with everything that your baby needs. But to start with, all may not run as smoothly as it should. Even with experienced teams problems may keep occurring, which you and your baby will have to overcome together.

In our hospital I observe every day how breastfeeding works best when you are well informed. With this guide it is our aim to help you as much as possible to prepare for breastfeeding. This is because, if you are aware of what is happening to you and your baby while breastfeeding, you will find it much easier to make the right decisions, thus enjoying a rewarding nursing period. Should you have any queries or experience problems with breastfeeding, you'll find many helpful answers in this guide, together with practical tips for your daily nursing routine.



There is one particular piece of advice from my many years of experience of working with mothers and newborn babies that is particularly close to my heart: trust your instinct, that real maternal instinct, as well as those phenomenal skills you will possess as a mother. You'll be astonished at everything you and your baby can do. But don't be afraid to ask for help straightaway, even with the slightest problem. With the experience of your doctors, midwives and other health professionals solutions will normally soon be found.

I would like to wish you a wonderful time breastfeeding your baby.

A handwritten signature in black ink that reads "Suzanne Knauer-Schiefer". The signature is written in a cursive, flowing style.

Dr. Suzanne Knauer-Schiefer

Chief Physician, Paediatrics and Child Health,  
Sana Ohre Hospital, Haldersleben, Germany

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# Part I

# Preparing for breastfeeding

*Midwives, health professionals and doctors are in agreement: breastfeeding is the best thing you can do for your baby in the first few months. From the biological aspect we know that virtually any woman can breastfeed if they wish to, if they are well informed about breastfeeding and if they are given the support of a midwife or other health professional.*

## Choosing to breastfeed

The physical requirements for breastfeeding are virtually always provided by nature – both for you and your baby. Whether or not you opt to breastfeed your baby is predominantly a decision made on instinct. It has been shown that if you are well-prepared for breastfeeding and if you are aware of what actually happens while you are breastfeeding, then you will be in the best possible position to help your baby suck and feed properly.

### Tip

Please don't forget the father of your child. Even though you and your baby may form a complete unit while breastfeeding, your partner can still make a considerable contribution towards a wonderful relationship at this time. Try and include him in the preparations if you can. A well-informed father will be able to support his partner in all decision-making and whenever there's a problem relating to breastfeeding.

You may, of course, for whatever reason, decide not to breastfeed. The important thing is that you stand by this decision and that you don't let anyone give you a guilty conscience. Irrespective of whether you breastfeed or not: as long as you feel sure about it and are comfortable with your decision, your baby will feel secure and you will both experience a time of intense intimacy.

## Unique benefits for your baby

Never again will you be able to do so much for your child's health than in the first few days and weeks of his or her life. Breastfeeding is the perfect nourishment for your baby's body and soul. And breastfeeding means safety, security and lots of protection for your little one.

## Mother's milk – the best thing for your baby

Mother's milk, as a general rule, is the best nourishment for your baby. It contains simply everything that your baby needs in the first few months to flourish and grow. Breast milk is particularly practical too: both the composition of the milk

### Note

Renowned organisations such as UNICEF and WHO (World Health Organisation) recommend breastfeeding exclusively for the first six months of your baby's life.



and the quantity will always adapt itself perfectly to the requirements of your child.

In addition, breast milk also offers your infant protection against infections and illnesses and it can also reduce the risk of allergies, obesity and diabetes.

### Well-protected right from the beginning

No other baby food offers your baby the level of protection that breast milk does. Even with the first few drops of breast milk your baby will absorb essential antibodies. These behave in a similar way to an immunisation and will ensure that your little one is protected against many illnesses. Numerous studies have shown

that breastfed babies suffer less frequently from infections of the middle ear, diarrhoea and infections of air ways and urinary tracts than babies that are bottle-fed.

### Healthy long-term benefits for your little one

Long-term studies prove that breastfed babies are still reaping the benefits in adult life. The incidence of infection-related illnesses and Type 2 diabetes is lower than in adults who were bottle-fed as infants.

### Promoting development of speech

Another benefit for breastfed babies: sucking at the breast promotes the development of the mouth muscles and the formation of the jaw in an ideal way. When sucking, your baby pushes its lower jaw back and forth and the tongue moves with wavelike motions to coax out the milk from the breast. Children trained this way notice the benefits later when taking solid foods and when learning to speak. Breastfeeding, even at this early stage, therefore lays the most important foundations for your baby's speech development.

### Note

But in addition to these benefits there are also some very practical reasons for breastfeeding: breast milk is completely germ-free, is always available, is at just the right temperature and helps reduce your household budget.

### Tip

If you or any member of your family suffers from neurodermitis, allergy-related asthma, hay fever or other allergy, you should consult with your doctor preferably before your baby's birth. It is best to seek the advice of a paediatrician as to whether any more changes need to be made both to your own diet and within your household.

### Preventing allergies through breastfeeding

20 to 30 percent of all babies develop an allergy during the course of their childhood. If you exclusively breastfeed your baby in the first six months this can reduce the allergy risk by up to 50 percent.

One decisive factor in the occurrence of allergies is protein from external sources, such as cow's milk and derived products, for example. Protein from external sources

is absorbed into the infant gut and can trigger an allergic reaction. Breast milk offers the best protection against this, as it contains no such protein.

Children having two 1st-degree relatives (in other words father and mother affected by allergy-related conditions) are at most risk. The risk of the child developing an allergy is considerably increased here by approx. 60 - 70 percent.

### Plus points for body and soul

Breastfeeding is the best thing for your baby – and for you. Breastfeeding is good for your soul and helps you to feel more confident in your new role as a mother. From the very first time you put your baby to your breast powerful hormones are emitted, which strengthen your maternal feelings even more. That indescribable experience of having satisfied a hungry and restless baby at your breast will help





considerably to build up your self-confidence and energy for the forthcoming challenges.

#### Helping the uterus recover

Breastfeeding also has major benefits for your health. When baby sucks at the breast the muscles of the uterus are drawn together and this helps the uterus to contract more quickly to its original size. Putting baby to your breast immediately after birth and then on a regular basis is also the best way of preventing infections during the post-natal period, as well as minimising the bleeding after the birth.

Latest research shows that the risk of developing breast cancer with breastfeeding mothers is less than with non-breastfeeding mothers. For example, the German Cancer Research Centre has proved that the risk of breast cancer with mothers that breastfed their baby for six or more months is around 14 percent less than with those who did not breastfeed.

Breastfeeding also helps you to get back into shape after the birth; you burn more calories and lose weight gently and gradually. Please also bear in mind that your baby has spent many months growing inside your body, so you need to be patient if your body also takes some months to recover.

#### Tip

Some women become concerned about their figure. From my experience in hospitals I can assure you that breastfeeding does not cause a “droopy bosom”. Even shortly after the birth you will be unable to tell from the shape of your breast whether or not you have ever breastfed. It is your pregnancy – not breastfeeding – that changes the breast. Pregnancy makes the tissue overall softer and genetic-related, the tissue strength may change in the long term.



# Part 2

# Best conditions for breastfeeding

*During your pregnancy you will be witness to many small miracles every day. Even the production of breast milk is a unique device of “Mother Nature”.*

## Your breast works perfectly

In the initial weeks of your pregnancy your breast will start to prepare itself for feeding. The breast tissue increases and the tiny milk droplets form the colostrum.

When your baby sucks at your breast your brain receives clear signals to produce hormones. The two hormones that are responsible for preparing and producing milk are called prolactin and oxytozin.

The hormone prolactin stimulates the production of the mature breast milk. The more frequently your baby feeds at the breast, the more milk will be produced.

The hormone oxytozin triggers the flow of milk, effects a powerful contraction of the milk droplets and muscle cells of the breast: the let-down reflex is triggered, with the milk being pressed hard against the baby while sucking. Incidentally, you will feel this reflex as a pulling or tingling feeling in your breasts. As the reflex is always triggered in both breasts simul-

taneously, you will also be able to observe how milk will drip from the breast on which your baby is not currently sucking. During each feed the let-down reflex is triggered up to six times.

## The ideal mother’s breast

This is useful to know: there is no ideal breast shape for breastfeeding. Irrespective of whether you have a large or small breast, your baby will be able to feed. Your breast is not a store for milk, which baby simply needs to empty. The majority of the milk is produced while baby is feeding. A small or light breast that feels soft before feeding will give your baby just as much milk as a large breast or one filled with milk just before feeding.

### Note

Women with inverted or flat nipples may have problems breastfeeding, if their baby is unable to grasp the nipple. A breast pump can often help in this situation, by bringing the nipple into a better shape. Speak with your midwife or health professional, so that she can help you with practical advice.

2.

The sole decisive factor in the production of milk is regular sucking by your baby. Only then will the hormones required for the flow of milk be produced and the production of milk be sustained.

### **Breastfeeding after a breast operation**

In some cases, for example due to a preceding breast operation, breastfeeding may not be possible. If you are uncertain as to whether it is feasible, we recommend you consult your doctor. This way you avoid potential disappointment after the birth and can prepare yourself at an early stage for formula food for your baby.

### **The breastfeeding environment**

The foundations are often laid for a harmonious feeding relationship shortly after the birth – from the first skin contact between mother and child to the first time the baby is put to the breast. A calm environment after the birth, coupled with experienced hospital staff, midwives and lactation consultants or health professionals are therefore particularly important at the start of your time breastfeeding.

Hospitals frequently offer information sessions, combined with a visit to the birth rooms. Utilise this opportunity and take your time before the birth to get to know a place of confinement that suits you. Ask about nursing-friendly environments, such as nursing rooms and the tried-and-tested rooming-in facility. You can also find out more about the exact procedure on the post-natal ward and, where possible, where to get help and support with breastfeeding under special circumstances, such as after a Caesarian section. Of course, you will also have the option of giving birth either in a special maternity home or, if the conditions are acceptable, of a home delivery.





# Your stay in hospital

*The time has come. Your infant has arrived and you experience those first overwhelming moments with your little treasure.*

## Falling in love with your baby

We know now exactly how essential the time is directly after the birth for an intensive mother-child-relationship. Whether you had a normal birth without complications or a Caesarian, your midwife and doctors will do everything they can to lay your baby on your tummy straight after the birth. Your baby will feel more secure in the familiar proximity to its mother and both of you will be able to experience this for the first time and in the fullest sense of the word. This first intensive contact outside the womb is a real milestone for your baby in building up a trusting relationship. For you these moments are ones of sheer bliss after the exertions of the birth. This is the time when you fall in love with your baby.

### Note

It is not always possible for mother and baby to have skin-to-skin contact directly after the birth. But rest assured, you can still catch up and go through this intensive bonding phase at any time. If you can, you should include your partner in this building-up of basic trust of your child. Fathers, too, can give your baby that first important skin-to-skin contact.

### The first time you breastfeed has a profound impact:

- your baby receives the precious colostrum
- the contraction of the uterus is set in motion and then sustained
- the foundations are laid for the start of a good nursing relationship through this first close physical contact

## Searching for your breast

In this initial time after the birth the sucking reflex of a newborn child is most pronounced. This is an important tool of nature, as your baby has an innate survival instinct: it wants to suck and will seek your breast with all his or her might. Even just a few hours later this sucking reflex will subside, making the first attempt at breastfeeding possibly more difficult.

# Part 3

## The right technique

Although breastfeeding is the most natural thing in the world, it is not always straightforward. The right technique, however, will help prevent sore and inflamed nipples.

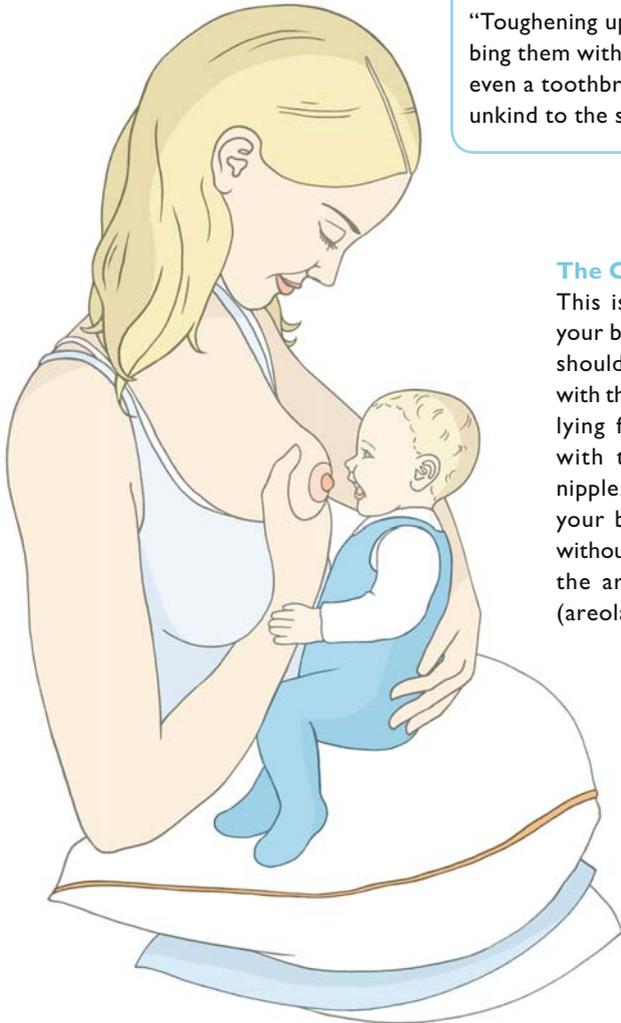
### Tip

The more familiar you become with the correct techniques before you start breastfeeding, the more of a routine you will develop in helping your baby to feed at your breast.

“Toughening up” your nipples by rubbing them with a rough hand towel or even a toothbrush is unnecessary and unkind to the sensitive skin.

### The C-hold

This is how you should put your baby to the breast: baby should be offered the breast with the C-hold i.e. the fingers lying flat under the breast, with the thumb above the nipple. This way you support your breast with your hand without your fingers touching the area around the nipple (areola).



### Putting baby to the breast

There is a trick for making your baby open its mouth wide to ensure it can grasp most of the nipple: to do this you should hold your nipple to baby's mouth. Once your baby's mouth is wide and the tongue is lying on the floor of the oral cavity, you can put baby to breast with a single swift movement.



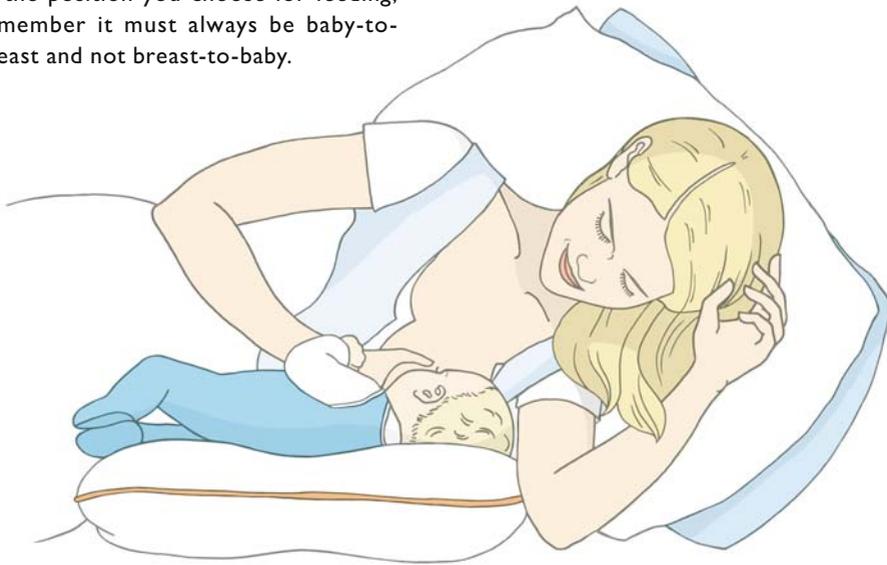
### Removing baby from the breast

Once your baby stops sucking properly and is just nibbling on the nipple, you can carefully remove the breast. Do this by pushing your little finger gently into the corner of baby's mouth. This way you release the vacuum in baby's mouth.

## Finding the ideal feeding position

The position in which you breastfeed is crucial for your baby being able to suck properly, for you to be able to relax between feeds and for your nipples to recover.

An important tip for all feeding positions is to ensure that your body and your baby's body are well supported. You can, for example, use a comfortable armchair, a nursing pillow and a footrest. Irrespective of the position you choose for feeding, remember it must always be baby-to-breast and not breast-to-baby.



### Feeding in the side-lying position

Many women find that lying on their side is the most comfortable position for breastfeeding straight after the birth and in the following few days. This position can also be used when feeding your baby at night, as you can remain in bed and continue to relax. To assume this position

you and your infant should both lie on your side, tummy-to-tummy, with baby's mouth positioned at the level of your nipple. You should support your head and shoulders with a pillow. Baby can also be supported in this position with a nursing pillow or a rolled-up towel.

### Tip

Take the time to familiarise yourself and try out the different feeding positions. The more familiar you are with these, the easier breastfeeding will be. The effort will be worthwhile, as both of you will be spending several hours a day in this position.



### Feeding in the cradle position

With this best-known position baby lies across your tummy-to-tummy. Its head is lying in your arms with the body on a nursing pillow or other cushion, which supports baby's weight. To help you sit more comfortably you should raise your feet, using a footstool for example, and support your back with a pillow. Always ensure that your back is straight and relaxed and that you do not bend over to your baby, who should be lying horizontally. You can vary this position a little by gently pushing baby's head towards your hand. Sometimes just a slight change in position will make all the difference.



### The clutch or football hold

As the name suggests, with the "football hold" baby is tucked under your arm on the side you are feeding from, supported by a nursing pillow or other cushion. Looking at your baby, the nose should be level with your nipple and the feet facing towards your back. The important thing is that your baby lies completely on its side and that you use a cushion to support baby's weight.

### Note

This position is particularly suitable for feeding twins simultaneously.



### Feeding in the reclining position

If you are recovering from a Caesarian or a difficult birth, this feeding position is to be recommended. Your upper body is supported with a pillow, so that you are slightly propped up. To ensure that no pressure is put on your tummy, baby lies beside you on a pillow on its side. In this position you support baby's back with your arm.

### Colostrum and mature breast milk

From a few satisfying drops through to an ample feed of mature breast milk – your breast will provide precisely the amount of nourishment that your baby requires at that time.

### Colostrum – when a little means a lot

The first milk that your baby receives is something quite special. This thick, yellowish “pre-milk” or colostrums, contains everything your baby needs. You will probably wonder about the tiny quantity there is and you may even despair as to whether your baby is satisfied. However, with colostrum it is a case of “quality rather than quantity”. You have to trust this perfect mix of ingredients, as just a few drops of this precious breast milk will supply your baby with exactly the right quantities of nutrients, vitamins and antibodies.

Colostrum is easier for your baby to digest than mature breast milk or formula infant food and also has a laxative effect, so the digestive system functions perfectly right from the start.

### When the milk “comes in”

Up to around the fifth day after the birth your body will produce colostrum. You will then notice a change when the mature breast milk “comes in”. Your breasts will normally expand considerably, they will become warmer, heavier and more sensitive.

#### Tip

For most babies the nutritious colostrum is so satisfying that baby will only need to feed once or twice in the next 24 hours. For both you and your baby this is a good opportunity to breathe deeply and relax and start to recover from the exertions of the birth.

The skin will become tense and the veins more pronounced beneath the slightly reddening skin. The production of milk has now been properly set in motion and will adapt itself in quantity and composition to the needs of your baby during the nursing period.

### For hunger and thirst – mature breast milk

Your baby is growing and thriving and with its continuing development the composition of the breast milk will adapt accordingly. The mature breast milk no longer contains so much protein, but now has more fats, carbohydrates, vitamins, minerals and trace elements.

In order to quench baby's initial thirst and then satisfy baby's hunger, the composition of your breast milk may even change while you are actually breastfeeding. When your baby starts sucking, the milk will initially be very thin. Only after about five minutes will the consistency become thicker, as the fat content increases threefold. This milk is particularly nutritious and will satisfy your infant's food requirements.

### Bringing up baby's wind – a relief for your baby

When your baby is feeding, air also gets swallowed together with the milk and collects in the stomach causing discomfort. The “burp” releases this pressure, offering your baby the necessary relief. To make this easier you should lay your infant over your shoulder, patting lightly on the back. If the burp doesn't come immediately, lay

#### Tip

When changing from one breast to the other while feeding you should give your baby the chance to produce a little burp for relief.

your infant down on the side, keeping an eye on him or her and try again a bit later.

Your baby may feed very slowly, enjoying the feed, and swallowing little air. In this case there may be no need to burp. Or perhaps your baby will burp while feeding. As this shows yet again, every baby is different. You will soon notice which type of “burper” your little one is.

### Breastfeeding in special circumstances

Complications may have arisen during the birth or perhaps you have given birth to twins. Even in these special circumstances I would like to encourage you to try and breastfeed.

### Breastfeeding after a Caesarian

As with a spontaneous birth, after a Caesarian your body will start producing milk to enable you to breastfeed your baby. For the first few days, when you are not yet completely fit and mobile, you will need assistance with breastfeeding. Let your partner help you and ask at the hospital for guidance. You will soon see how the intensive skin contact with your baby is good for you both. Incidentally, breastfeeding is important for

the mother too, in particular with Caesarian births, as the uterus will then contract and recover more quickly. For severe pain there are painkillers available that are suitable for nursing mothers, so that you can continue breastfeeding as normal.

#### **Breastfeeding premature babies**

If your baby is premature and you wish to breastfeed, the doctors, midwives and lactation consultants at the hospital are there to help. For the premature baby it is invaluable. And the close contact while breastfeeding will help you and your infant to become accustomed to this unusual situation. If possible, lay your baby to the breast immediately after the birth to help stimulate the production of milk. In the event that your baby does not yet have sufficient strength to suck at the breast unaided, the best thing is to express or pump off the milk for the first feed straight after the birth. A rhythm of six to eight times a day and one more for the night will ensure that the production of milk is sustained.

#### **Breastfeeding twins**

It is also possible to breastfeed if you have more than one baby, as most women are able to produce enough milk for twins. Please remember that feeding twins is a particular challenge, especially in the first few weeks or months. Try and organise help for your everyday household chores to enable you to relax enough to gather new strength and energy.

Twins are often born by Caesarian section. As long as they are stable and healthy, twins should be put to the breast as soon as possible after the birth, just like with any other newborn babies. Particularly after a Caesarian the reclining position is very suitable for feeding. If you wish to feed both babies simultaneously there are many more feeding positions you can use. You'll soon establish whether you prefer to feed your babies at the same time or separately.





# Part 4

# At home with your baby

## Questions and answers on the daily breastfeeding routine

After your stay in hospital it will be time for you to take your baby home. You may be pleased that you can at last enjoy the time with your baby without being disturbed and in a familiar environment. However, you may also be slightly concerned as to whether everything will go smoothly and that you will be able to feed and care for your baby properly. You should trust your knowledge, your skills and abilities, as well as your unmistakable instinct. Please do not hesitate to contact your midwife or health professional at any time if you have any questions or problems.

## Strength comes from peace and quiet

Try and take your time and keep calm when breastfeeding; this will help ensure that everything falls into place at home. If possible, find a peaceful place where you and your infant will not be disturbed. Everyone will understand when you let your answerphone accept the calls congratulating you. Considerate visitors

### Tip

Make yourself comfortable for feeding. Place a drink by your side first, as breastfeeding makes you thirsty.

will withdraw automatically when you want to feed your baby.

## Think of yourself too

Life with an infant requires considerable strength and energy. Make a point of thinking about yourself, too, during this time and try to relax as much as possible. Whenever you can, utilise the help of your partner and your family. When you notice however, that even with all your strength and patience you are at the end of your tether, get someone to help you immediately. A little peace and quiet or simply a few hours just for yourself will work wonders. You will then be able to cope with your infant again and remain calm.

*I would like to answer here the questions you have most frequently asked pertaining to the everyday breastfeeding routine.*

## How often should I breastfeed?

You should feed your baby to suit both of you. In the first few weeks your baby will normally want to be fed every two or three hours, in other words around eight feeds a day. However, every baby is different and your baby may miss one or two feeds or even demand more.

When your baby is hungry, he or she will make clear signals.



Your little one may

- move its head from side to side
- seek your breast with its mouth
- make sucking motions
- put its finger in its mouth
- roll its eyes
- clench its fists

#### Tip

Remember when breastfeeding to consider your own needs. If, for example, your breast becomes tense when the milk comes in and you need some relief, put your baby to the breast. Even babies that sleep a lot can then wake up with a good conscience. If you have a sound sleeper you can try partly or fully undressing your baby as a gentle wake-up call.

You will soon recognise the signals your baby is giving you and you will be able to start feeding before the discomfort becomes so much that he or she starts crying.

#### How long should a feed last?

In the first two to four days after the birth I recommend that you put your baby to the breast little and often. This is the best way to stimulate milk production yet still being gentle to your nipples. A few days after the milk comes in at the latest, your own personal feeding rhythm will develop. You should feed for as long as it suits you both. Take your time, as a feed can take between 20 and 45 minutes at both breasts, depending on your baby's sucking rhythm. Your baby should feed at each breast for at least five to ten minutes, as this will ensure that it also receives the fat-rich and filling milk.

#### Will I know whether my baby is feeding correctly?

Definitely. Once your baby has found the correct sucking technique, you will be able to hear and feel it. The baby's mouth will envelop a large part of the areola and the tense feeling in your breasts will lessen. You may also experience a tingling effect when the let-down reflex is triggered. If your baby is sucking correctly you will hear the swallowing sounds, closely followed by the sound of the milk being digested.

Baby will also become calmer, relaxed and the clenched fists will open.

#### Is my baby getting enough milk?

Your baby will lose weight before putting it on again. Despite getting enough nourishment and feeling full and satisfied, a newborn baby may lose up to ten percent of its birthweight in the first four to six days. This is completely normal and occurs with most infants, as the metabolism has to change and adapt completely after the birth. After one week at the latest your baby's weight will then rapidly increase, regaining the original birth weight at about two weeks old.

You can be sure that your little one is drinking enough milk, if he or she:

- is feeding regularly every two to three hours
- has a rosy complexion
- is alert and content when awake
- has six to eight wet nappies each day
- is steadily gaining weight
- has regular bowel movements

Don't be surprised: your baby may have anything from one to five bowel movements a day but may also go for as long as a week without one. This is completely normal for breastfed babies. If the stools are yellowish in colour with an acidic odour, then you can assume that your baby's diet is fine.

#### Too little milk

Time and time again mothers are concerned that they might not have enough milk. You just need to remember that your baby only needs a few drops of milk in the first few days to become full and content. Putting your baby to the breast

regularly and frequently stimulates the milk production and normally there is no need to feed baby any extra. Even during the ensuing weeks and months the milk you produce will, by some amazing means, be able to adapt to the needs of your child. Give your body time to adjust to these growth spurts and to respond to the fact that your baby will become more hungry.

#### Too much milk

If your baby keeps choking while feeding because too much milk is flowing, then he or she can lose enthusiasm. The best thing is to lean right back so that your baby can suck against the vacuum and not be so surprised at the large quantity. You should not let your baby completely empty your breast, then milk production will become a little bit less and demand and supply will gradually set in.

#### How much weight should my baby gain?

Every baby grows and flourishes to his or her own rhythm. You can observe at home whether your infant is drinking enough, by occasionally checking the weight. Breastfed babies gain weight much more quickly in the first few months than at the end of the first year. Whereas most breastfed babies gain between 130 and 210 g per week in the first two months, between nine and twelve months this drops to only 60 to 110 g per week.

### What is a “breastfeeding crisis”?

We often talk about a “breastfeeding crisis” when the supply and demand principle suddenly goes out of synchronisation. After around 14 days, then after about six weeks and then again after around twelve weeks your baby will go through leaps in development, both physical and mental. During these phases your baby will need noticeably more milk and may want to feed up to twelve times a day or even more. These restless phases often unsettle mothers and are therefore also known as “breastfeeding crises”.

Even if the days are not so calm now, be patient and avoid top-up bottle-feeds at this point. You can be pleased that you and your baby are mastering this together – getting the supply and demand equation just right.

#### Tip

By putting your baby to the breast more frequently you can increase milk production and at the same time your baby will continue to be satisfied. After one or two days your breasts will have adapted to this increase in demand and your baby will be satisfied again with fewer feeds.

### Who can help me if breastfeeding is just not working?

If you have any doubts or problems with breastfeeding, it is essential to have competent and caring support. From the first time you feed your baby a midwife or

health professional will be there to help you. A midwife will carry out a post-natal examination up to ten times after your baby is born. And even after this your health insurance should provide assistance via your midwife, but you should check with your insurance provider. You can obtain contact details of midwives and health professionals or lactation consultants from the hospital where your baby was born, for example, from your gynaecologist, from your local telephone book or on the world-wide-web.

### Breastfeeding problems and their solutions

The first few days with your baby are exciting – everything is new and there is still a lot to learn. This applies to both you and your baby. There will likely be some misunderstandings and mistakes, which will result in problems with breastfeeding.

But don't be discouraged. No one is perfect there is a solution to virtually every problem. From my experience I can assure you that after mastering any difficulties you may have at the beginning you will normally experience a wonderful, trouble-free time breastfeeding your baby.

#### Problems when the milk comes in

A cold compress, for example using yogurt or cabbage leaves, can help relieve swollen, hot or even painful breasts. It is essential here that you put your baby to the breast frequently. If your baby has trouble getting hold of your breasts as they will be quite hard, try expressing a

#### Tip

At times your baby will feed less, either due to sleeping soundly or because a cold is making feeding more difficult. Don't be afraid of enlisting the help of your baby by waking him or her up, as sucking will help release the tension in your breasts. You can gently express any excess milk. Or you can use a breast pump to remove the milk for use later.

little milk before feeding to make them softer.

#### Plugged milk duct

Sometimes the milk may accumulate in the duct, which then becomes clogged up and the milk is unable to reach the nipple. This part of your breast will become hard and painful. The most frequent cause of this is baby not being put to the breast often enough, resulting in the breast not being completely emptied. In these cases more frequent feeds will help.

On occasions a plugged milk duct may be caused by stress – either physical or mental. If so, try and find peace and quiet for you and your baby, so that your breasts can also “relax” again.

Putting your baby to the breast in an inappropriate way can also clog up the breasts. You should check again as to whether your baby is enveloping not only the nipple, but also a large part of the areola, as only then can the breast completely empty.

### First aid for a blocked milk duct

If you have a blocked duct you should contact your midwife without delay. She is the best one to establish the cause and offer help accordingly. In the meantime you can do something yourself to relieve the pain: gently massage the hard areas of the breasts under a warm shower. Then cool them down again with a cold compress e.g. with yogurt straight from the refrigerator. Take care to avoid the nipples and never place ice on them.

With a blocked milk duct it is essential that baby is put to the breast frequently.



Changing your feeding position will help ensure that the breasts are emptied. The reclining position is often the most suitable position for emptying the breasts. You may manage to lay your baby such that the jaw when sucking is facing the painful part, as this will ensure that precisely this part is emptied.

### Breast massage and expressing

It will help to trigger the let-down reflex if you use a warm compress and massage your breasts before feeding, expressing or pumping off the breast milk. Breast massages are also useful in helping to prevent clogged ducts. Every nursing mother should learn these tips. Even if your

breasts have become really hard and your baby is having trouble grasping them, it will help if you massage the breasts and then express a little milk.

### Inflammation of the breast

Both a clogged breast as well as bacteria on the sore or chapped nipples can lead to an infection. In a similar way to influenza you may suffer from headaches or aching limbs, accompanied by a slight temperature, at the onset of an infection. This will progress to a high temperature and the affected part of the breast will become hot, will redden and be painful. A breast infection is an illness and you will need to be treated by a doctor as soon as possible.

### Tip

If you have sore, cracked or bleeding nipples, you should take special care with hygiene. This way you will help prevent bacteria from settling. Change the breast pads after each feed and wash your hands each time before touching your breasts.

mouth rather than most of the areola, the nipple will be overworked and will become sore. If the shape of the nipple after feeding has changed, this means that the position of mother or baby is incorrect.

The infection can be successfully treated using medication suitable for nursing mothers, and combined with rest in bed.

### Sore nipples

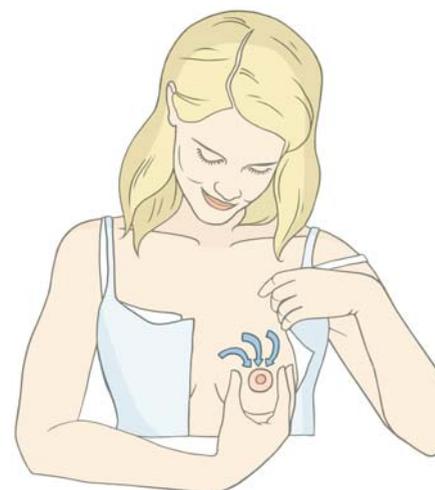
Nipples become sore when baby is put to the breast either incorrectly or too frequently. If baby only has the nipple in its



Massage the breast tissue using a circular motion with your fingertips. Start at the outer part of the breast, massaging in a spiral movement towards the nipple.



Bending over, stroke the breast from all directions towards the nipple, keeping your hand flat.



Now place thumb and index finger on the edge of the areola, expressing the milk with rhythmical, rolling movements.



Change the position of thumb and finger around the nipple. Take care, however, and never pinch, pull or squeeze the breast.

### Note

The nipple is meant solely for providing baby with nourishment. It is not meant to replace a soother.

Some women have particularly sensitive nipples. If your nipples are sore, chapped, cracked or bleeding you should seek advice from your midwife. Sore nipples can make breastfeeding traumatic, as it becomes particularly painful when your infant is sucking.

I recommend you do the following to help the nipples recover:

- Allow air to circulate freely around the breast.
- Express a few drops of milk after breastfeeding and let them dry on the nipple. Breast milk is a perfect healer.
- Take extra care with the nipple that is particularly painful, by only allowing your baby to suck for a short time on that breast. Express the remaining milk.
- Use nipple shields if the pain is severe.
- With severe pain a breast pump can offer relief. The suction strength can be adjusted to permit a gentle pumping action, thus helping with the healing process.

### What nursing aids are there available?

Nowadays there are many practical aids for mothers with problems pertaining to breastfeeding and to ensure a trouble-free time:

### Breast pump

It might be necessary for you and your baby to be apart at times. In this case I recommend the use of an electric or manual breast pump. These allow healthy breast milk to be expressed to and given to your baby later, at the same time maintaining milk production for breastfeeding. You will need to use the pump regularly, otherwise your body will receive unwanted signals to prepare for weaning and will start reducing the production of milk.

May also wish for a little more independence while breastfeeding. It is best to



### Tip

Allow the last few drops of milk to dry on your nipples after breastfeeding or expressing. The breast milk, which has a high fat content, protects healthy nipples and is an effective healer for chapped, sore or cracked nipples.

give your baby sufficient time to learn how to feed at the breast. An infant that has learnt routine will normally cause no problem if occasionally given breast milk from the bottle. Whether at home or out and about, and whether your partner or another person is looking after your baby. The breast pump offers a great opportunity for mothers wishing to return to work quickly without having to stop breastfeeding. It enables you to build up a supply of breast milk for the whole day.

As every nursing mother has different needs and requirements there are electric and manual breast pumps on offer. The NUK e-Motion Electric Breast Pump with its 2-phase-system offers the optimum solution if large amounts of milk are required on a regular basis. The breast pump is characterised by an individually adjustable suction strength. The gentle and rhythmical pumping is easy on sensitive or sore nipples. The NUK Sensitive Breast Pump also has an individual suction strength adjustment. It is comfortable to use, efficient and especially practical, as it can be operated with one hand. The suction funnel also has a silicone insert that feels soft and pleasant on the skin.

### Nipple shields

Should breastfeeding become difficult due to sore or sensitive nipples, the tried-and-tested nipple shield made of latex or silicone, for example from NUK, will help here.

### Breast compress

Cold compresses relieve pain caused by plugged milk ducts and breast infections. They should be put in the refrigerator and never in the freezer compartment. Cold compresses should only be used after breastfeeding, as warmth is required before feeding to ensure optimum milk flow. The NUK Breast Gel Cushion offers a double benefit: it can be used both as a cold compress and as a heat pad for stimulating milk flow.

### Breast pads

The breasts continually leak fluid during the breastfeeding period. Breast pads absorb this milk, keeping clothes dry. NUK offers comfortable breast pads for different requirements. In order to prevent nipples from becoming sore, you should choose a breast pad that traps the fluid in the inside of the pad. Provided you change the pads after every feed, you will be able to prevent breast infections effectively.

# Maintaining good health during the nursing period – the most important questions

## Healthy breast milk for your baby

There are certain things you can do to ensure that your baby gets only the best.

## What about smoking and drinking during the nursing period?

If you have succeeded in not smoking during the pregnancy, you should continue to abstain while you are breastfeeding. For every cigarette that you smoke, your baby will effectively smoke two, as the tobacco contents are absorbed directly into the breast milk and are more concentrated there than in the mother's blood. This can have grave consequences for your baby.

Studies show that with infants of smokers the risk of developing an allergy is considerably higher than with infants of non-smokers. An increased risk of cancer in later life must also be assumed.

Alcohol is also only permitted in very small quantities while breastfeeding. A glass of wine, beer or champagne or similar is acceptable if consumed directly after breastfeeding. This way your body will have the maximum time to the next

feed to break down as much alcohol as possible.

## Diet – what should you be aware of?

Breastfeeding demands considerable energy. Your energy. As in the pregnancy you should eat a balanced diet and in sufficient quantities, so that you feel good and breastfeeding does not burn you out. In particular while breastfeeding you will notice that your body needs more fluids. Keep a large glass of water within reach for you to sip while breastfeeding. You will know whether you are drinking enough if your urine is clear to slightly yellowish in colour.

Really you can eat anything that you fancy. Milk and dairy products provide important calcium. Sea fish and iodine salt are

## Tip

Breastfeeding demands time. In order to ensure that you eat regularly and a well-balanced diet even during the initial, time-intensive period, enlist the help of family and friends with the cooking. Pieces of fruit and vegetable or yogurt desserts are suitable as snacks.



especially important as sources of iodine after the birth. If your infant has an increased risk of developing allergies, you should consult your doctor as to what needs to be observed in your diet. Women who are underweight or who follow a specific diet, for example vegetarians or vegans, should discuss this with their doctor.

#### Your baby eats when you do

Anything that you eat or drink is also consumed by your baby when you breastfeed.

It is therefore also possible that your baby could develop a reaction to certain substances. Citrus fruits may give your baby a sore bottom and pulses in large amounts may give baby flatulence. Your baby may not, for example, like the taste of garlic in your milk and will then not be so keen to feed. In order to establish what your baby can tolerate and what triggers a reaction, you should carefully increase the quantity of a specific food over several days. Check that consuming that specific food or drink has no effect on your baby. You will soon see what your baby can tolerate and what causes a reaction.

Foods that cause flatulence include cabbage, pulses, onions, garlic and wholegrain products. Even chocolate, nuts and acidic drinks can have this effect. A sore bottom can result from consuming citrus fruits, kiwi, strawberries, tomatoes and paprika, as well as vitamin drinks, fruit and vegetable juices.

Of course you can enjoy your daily cup of coffee or tea during this time. However, you need to bear in mind that sage and peppermint tea may reduce milk production. I would recommend that you refrain from consuming large amounts of drinks containing caffeine.

#### Medication while breastfeeding

If you need to take medication it is essential that you discuss with your doctor the fact that you are breastfeeding. Virtually all medication is absorbed into breast milk and may be harmful to your infant. You should, however, be able to continue breastfeeding as normal, as there is a nursing-friendly alternative for most medication. Only in exceptional circumstances is this not the case. If you have to take any medication that is harmful to your infant, then you should express your breast milk during the time you are being treated. The flow of milk will then be sustained and you will be able to continue breastfeeding later without a problem.

#### Getting back into shape

Some women wish to get back into shape as swiftly as possible. Please do, however, note that your body simply needs a little time to revert to its former level of fitness.

#### Dieting while breastfeeding?

Breastfeeding your baby demands considerable energy and you should make sure you eat sufficient and that you have a well-balanced diet. A strict diet may result in a deficiency of essential nutrients. By reducing your fat intake

pathogens can be released and be absorbed into the breast milk. If you are heavily overweight you should speak with your doctor about a special diet plan for the time you are breastfeeding.

#### Sport while breastfeeding?

From the medical aspect I would advise starting slowly with any sport. Your body has performed an amazing feat and worked extremely hard with the birth and now needs a little time to return to its normal self. If you really want physical activity as soon as possible you should wait until the post-natal bleeding (lochia) has stopped. Then start gradually and with not too much sport. Provided your nipples not cracked or sore, swimming is good to help get you fit. Always ensure that you shower well afterwards to rinse off any chlorine residue. If your baby does not feed as well as normal after you have taken exercise, this may be due to a

specific chemical process in your body: the physical exercise can increase the lactate values in your blood, giving your breast milk a bitter taste. In this case it would help to wait a while until the next feed. By that time the lactate value will have dropped.

#### Breastfeeding and your career

From my own experience I can confirm this: with some organisation and support breastfeeding and work can be combined well. If you decide you want to go straight back to work, you don't need to wait until you have weaned your baby. Or vice versa, irrespective of when you wish to return to your job, you and not your work should determine when to wean your infant.

I would recommend that you speak to your employer and work colleagues as soon as possible about your decision to





24 hours, you can add this freshly-expressed milk to that already cooled. Remember, however, to ensure that the new milk is cooled to the same temperature before feeding to your baby.

Without cooling breast milk should be stored for no longer than six to seven hours. Refrigerated at 4 °C it will keep for up to three days. Breast milk frozen at – 18 °C can be stored for up to six months.

Breast milk containers, for example from NUK, or special freezer bags are suitable for storing breast milk. The receptacle should be labelled with date and time of storage, to ensure that the milk is used in chronological order from when it was expressed.

breastfeed, and the effect this might have on you and them. A joint discussion with them about incorporating breastfeeding into your work schedule hopefully allow you to reach a decision that suits everyone involved.

#### How should I store my breast milk?

If you want, you can completely express your breast milk or use a breast pump. The let-down reflex must be triggered to ensure the flow of milk. Massaging the breast, a warm compress and a view of your baby are all ways of stimulating milk flow. It's best to start storing the milk four or five days before the date it is required, as this will prevent any stress. If you express your milk several times within

# Weaning

## When should I start weaning?

There is no general rule as to the “right” time for weaning. It will depend on the individual and has to be determined by the mother and her baby. Exercising loving care and attention during the weaning period is more important than the actual time of weaning. You need to give your infant the assurance that there will still be that intimacy and security, even once breastfeeding gradually becomes less frequent.

If your infant is at risk of allergies, you should try to breastfeed for six months. Avoid giving your baby cow's milk, fish and nuts while weaning and until your baby is one year old. When you are buying baby food ensure that there is an HA on the pack, indicating that it is hypoallergenic.

### Tip

To enable the breast to adapt gradually to producing less milk, we advise that you take it gently. Try replacing the milk feeds one at a time (approx. every four weeks) with a cereal feed.

These foods contain no intact cow's milk protein, which can trigger allergies in a baby. Soya milk is not recommended for preventing allergies, as like cow's milk, it can trigger allergies.

From the biological aspect, by six months your baby's organism will be developed to such an extent that it will also be able to



consume more solid foods. From that point, giving your baby solid foods is also important for health reasons, as the nutrients that your baby receives from breast milk will no longer suffice for this growing infant. Iron, obtainable from meat for example, zinc, fibre and many other nutrients need to be obtained from solid foods.

Start feeding baby solid foods with a few spoonfuls of baby rice each day. A straightforward vegetable cereal or rice is suitable as the first solid food. It is fine to feed the same type of food, one that baby can easily digest, for several days or even weeks. Once your infant can feed easily from a spoon, try replacing a complete milk feed with a vegetable, potato and meat feed. The next milk feed can, for example, be replaced by a milk cereal feed, prepared using breast milk or formula and gluten-free cereal. The third feed using solid foods could be a fruit cereal feed. Your paediatrician will guide you as to the best composition when you take your infant for its routine examination.

By the end of the first year your baby should be receiving three cereal and three milk feeds each day. From this point the nursing period can gradually be stopped.

For whatever reason you may wish to or even have to wean your baby prematurely. If possible, try to wean baby gently by gradually replacing each feed. Your breast will easily adapt to producing less milk.

#### Tip

Should your breast feel tense, try expressing some milk until you feel relief. Cooling the breast or drinking herbal tea (sage or peppermint) will help bring the production of milk to a complete standstill.





# Sources of support

And last but not least I would like to reassure you once more that there are many competent sources of support for you and your baby. Please do not hesitate to contact your midwife, health professionals, lactation consultant or doctor for advice should you have any questions or be unsure about anything.

Breastfeeding self-help groups offer the opportunity to exchange experiences with other mothers. These sessions are run by midwives or lactation consultants and frequently take place in special “breastfeeding cafes” in hospitals or wherever courses are offered for parents. Other organisations include those such as La Leche League.

**Here are the most important addresses:**

## **WHO**

World Health Organisation  
Global Data Bank  
on Breastfeeding  
[www.who.int](http://www.who.int)

## **Ibfan**

The International  
Baby Food Action Network  
[www.ibfan.org](http://www.ibfan.org)

## **La Leche League**

[www.la lecheleague.org](http://www.la lecheleague.org)





## Imprint

The NUK Breastfeeding Guide was produced in collaboration with Dr. Suzanne Knauer-Schiefer, Chief Physician, Paediatrics and Child Health, Sana Ohre Hospital, Haldersleben, Germany.

The producer has checked all information and advice in this guide for accuracy and to the best of their knowledge and ability. It is the responsibility of the reader to put this advice into practice. In the event of any queries we advise that you contact your doctor, midwife, lactation consultant or health professional.

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