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EDITORIAL

Dear colleagues, dear members,

Yesterday I went to a 6 day old baby girl with a Greek mother. Everything went according to plan: she married a lovely husband, they bought a nice house, and she became pregnant, so far so good. Her breasts started to grow and in the end her delivery started with mild contractions. After several hours the baby came into the world. She crawled to her mother's chest and found a nipple.

That first hour was beautiful, but painful. The mother thought that pain was normal, so she continued breastfeeding. Her nipples became badly damaged. When the nipples started to bleed, the mother was really concerned and the supporting "kraam" caregiver (I explained this in my last editorial) did whatever she could.

They decided to start pumping and drop by drop she collected her milk. Unfortunately, the milk production did not increase that much and she even had no engorgement. She felt disappointed and desperate. She got upset and could barely sleep. Why did her body not do what it ought to be doing? Why could her baby not latch properly? Where was Nature???

In such cases I feel like an angel.

I arrived on day 6. I encouraged her to breastfeed. Since she had been pumping her nipples healed, and the frequent pump-sessions at least signaled her body to produce milk. I rewarded her for her perseverance and helped her positioning her baby step by step. Her self-confidence grew. The baby suckled and swallowed in a rhythmical pattern.

And then? Finally, nature came back. The smile on her face, the appearing silence, the relaxing mode of her body and the calmness of her baby. Together they became one again.

This is the reason I am doing this job.

Have fun reading this magazine,

Warm regards,

*Karin Tiktak, IBCLC
President ELACTA*

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The Use of the Nipple Shield

A Question of Perspective?! Author: Claudia Wronski El Awamry



Photo: © Karl Grabherr

There have been nipple shields of different kinds and forms since the 16th Century. Their development ranges from those made with materials such as wax, silver, wood, animal skin and thin latex (Drake, 1946), to those available today made of thin silicon material, also known as “contact nipple shields”.

In the years from 1980, using latex nipple shields was viewed among professionals rather negatively and was recommended only very cautiously (Mohrbacher, 2003). This caution was a reaction to the excessive and uncritical use then prevalent in many obstetrical hospitals, at a time of

low breastfeeding rates and lack of support by professional lactation consultants (Meier 2000). A reduction of the maternal milk supply was attributed by Woolridge (1980) to the thick latex nipple shields of that generation.

Around 1996, a series of studies was published, which described the use of thinner silicon nipple shields as a decisive element in the support for mother and baby on the way to full breastfeeding (Mohrbacher, 2003)

Despite its widespread legitimation nowadays as a breastfeeding aid, the use of a nipple shield is a hotly debated topic which frequently polarizes – both in expert

circles as well as among mothers. The one sees in them a useful aid for solving breastfeeding problems; the other attributes to them the development of many breastfeeding problems and increased stress (Chertok et al, 2006). In the discussion of “pro” and “con”, the question of perspective should be considered. The deliberations on what decision makes sense should be viewed in a differentiated way.

The Perspective of Science

If, as scientific practitioners, we embark on the search for evidence on the benefits and risks of the nipple shield, we will find a published review on the use of the

nipple shield (Chow et al, 2015). The intention of the researchers was to present an overview of the evidence on the use of the nipple shield. The evidence and outcomes associated with using a nipple shield, were evaluated.

The authors considered 14 English-language primary studies (literature search for the period from 1947 to 2015), among which, three dealt with the influence of the nipple shield on physiological processes, two with the effect on premature babies, eight with the experience of mothers and one with the experiences of health care professionals. The first three studies were conducted in the period between 1987 and 1990 (Amatayakul et al, 1987; Auerbach, 1990; Woolridge et al, 1980) and refer to the use of latex nipple shields which, today, have largely been replaced by the ultra-thin silicon shields.

The fact that the researchers around Amatayakul found no significant difference in the maternal cortisol and prolactin levels among the mothers in the group with and without latex shields, has long been known. However, they did observe a significant difference in milk transfer between the two groups (median 47 g by comparison to median 27 g), which they attributed to the inhibition of the oxytocin release in the group of mothers breastfeeding with latex shields. Woolridge et al (1980) determined a reduction of milk transfer for this kind of latex nipple shield. What is limiting for this study is that the measurements related only to a one-time breastfeed and that longitudinal surveys are lacking.

Two studies, conducted by Clum and Primomo (1996) and Meier et al (2000), show the effects and the benefits of the (silicon) nipple shield in relation to premature babies. Using test weighing, Clum und Primomo (1996) determined the amount that 15 premature infants (average gestational age of 34.9 weeks – with a range between 33 and 39 weeks) drank while breastfeeding with nipple shields. They compared the values of the milk received with the total amount recommended for these babies. It turned out that 60% of the premature infants received 50% or more of the recommended amount (compared with 0% when breastfeeding without nipple shields); 40% received 13-28% of the recommended amount. In the authors' view, nipple shields could enable the development of a breastfeeding relationship if the baby had difficulty with latch-on in the first few days of life.

In a retrospective study by Paula Meier et al (2000), the effect of the nipple shield on milk transfer and the total duration of breastfeeding for 34 premature infants on a neonatal intensive unit was studied. All of the premature infants received more milk with the nipple shield on the breast than without (mean 3.9 ml without nipple shield by comparison to a mean of 18.4 ml with a nipple shield). On the one hand, due to its form and stability, the nipple shield functions as an intraoral sucking stimulus. On the other hand, the baby staying on the breast during the sucking pauses is ensured due to the prevention of slipping. On average, these premature infants breastfed with the nipple shield 24.3% of their entire breastfeeding time. A critical view should be taken of the authors' conflict of interest statement on partial financing of this study by Medela, a firm which produces and promotes nipple shields.

The Mother's Perspective

For the maternal perspective, we find four retrospective and four prospective studies in the review by Chow et al mentioned above, which deal with the experience of the mothers, their knowledge about and grounds for or against the nipple shield.

Bodley and Powers (1996) examined the records of ten mothers who used a nipple shield. Nine of the mothers reported very positive experiences and found the nipple shield a helpful support. The study showed different tolerance levels of the mothers for observing and tolerating a baby struggling with breastfeeding difficulties. The individual tolerance for pain and strategies to deal with stress seemed to influence how the mothers dealt with sore nipples. This, in turn, seemed to influence the use of the nipple shield for these mothers.

Powers and Tapia (2004) interviewed 202 mothers who used a nipple shield. 11% of them reported that their babies could also suck at the breast without the nipple shield, but they used it to reduce nipple pain or found its use comfortable. 88% of the mothers confirmed that the nipple shield had helped them to continue with breastfeeding.

Chertok (2009) reported that 90% of the 54 mothers surveyed by telephone said they had had positive experiences with the nipple shield. 67% attributed an important role to them in preventing weaning.

A majority (86%) of the 51 mothers interviewed by Brigham (1996) on the telephone said that the nipple shield helped them to continue breastfeeding. No mother reported an insufficient amount of milk

or an insufficient growth trajectory for the baby while they were using nipple shields.

Clum und Primomo (1996) wrote that, for mothers of premature babies who wanted to breastfeed, whose pregnancy was suddenly ended by prematurity and, in some cases, was associated with a separation from the baby, the use of a nipple shield could help provide a bit of the expected "normality as a breastfeeding mother."

Chertok et al (2006) reported that of 32 mothers asked, 81% had less nipple pain. 37.5% of these mothers reported that the use of the nipple shield complicated breastfeeding

My personal observation shows that mothers in the time of the Internet and blogs are more or less well informed about nipple shields. With easy access, they can immediately inform themselves, they have an interest in and access to many scientific publications. Friends or family members have had experience with nipple shields, which they share with the mothers. Women who have just given birth want to take good care of their children, to be aware of their own needs and also to care for themselves (Blöchlinger et al, 2014).

Critical discussion of treatment and therapy recommendations is, in general, natural for many new mothers, depending on their cultural and/or societal background. This is also shown in that I, as a breastfeeding counsellor, am frequently asked about the nipple shield without having mentioned or offered it. In my experience, it is important for mothers to make an informed decision. They verbalize this need for information in counselling, clearly and directly. On the whole, they want to ensure the best nutrition for their babies. In my experience, mothers increasingly express the wish for rapid, practical and inexpensive solutions without great effort. According to Sacks (2006), for some mothers, particularly those of "generation Y", born between 1978 and 2000, with high expectations and pressure to perform, striving for self-optimization is a major concern. This is consistent with the results of Brigham (1996): Nipple shields can, in some circumstances, be a solution for families that involves little effort and low cost. Furthermore, the nipple shield is only discretely visible during breastfeeding and can give the mother the feeling of "belonging" to the breastfeeding mothers in her environment. This appearance can be important for mothers.

I think we need to consider these facts against the background of societal changes. >

> The Child's Perspective

When we consider the child's perspective, it could well be that it is the child's right to the most species-appropriate nutrition, the satisfaction of his needs for sensitivity, closeness (skin contact), security and sucking which we should factor into our considerations.

If we want to discover and evaluate what the child's experience is in connection with the nipple shield, then we are moving – seen very much simplified – in the not clearly verifiable area of the operationalized value of an observation. We can observe the child's behavior at the breast, with or without the nipple shield, at various points in time and interpret this behavior on the basis of our perception of mother and baby, even if it may be happenstance and subjective.

Personally – due to my observations – I can intuitively understand that a baby is, with greater probability - more comfortable being on the mother's breast – even if this happens with a nipple shield – than being fed with a cup. Closeness to the breast is ensured and the baby's sucking need is satisfied – always assuming that beforehand, extensive efforts to breastfeed were undertaken. Concretely this could mean, for instance, that a baby who, in the first 24 hours post-partum tried repeatedly – and unsuccessfully, despite professional support – to attach to the mother's breast (supported by breast massage, stimula-

tion of the nipples and extensive bonding – briefly, in a professional BFHI setting) and, frustrated, reacted with increasing crying (the frequency of the crying phases constantly increasing), was helped with a nipple shield to have a successful sucking experience. Naturally, I cannot prove that the causal ground for the baby's crying was the lack of sucking success, but when I observe that the baby is relaxed after the breastfeed, a number of things suggest it.

If we again consider the available studies and what using the nipple shield could mean for the baby's healthy development, then we find the following results by Chow et al.:

In a prospective survey of 117 breastfeeding mothers, Nicholson (1993) found no indication that the using the nipple shield hampered the initiation of breastfeeding. The breastfeeding rate of mothers feeding with nipple shields was higher at hospital discharge. However, this significant difference between the groups of this study population disappeared after three months postpartum

As already mentioned above, Clum and Primomo (1996) and Meier (2000) showed clear evidence that using a nipple shield can be helpful for premature infants: easier latch-on and greater milk transfer by comparison to putting the baby to breast without a nipple shield.

Boldey and Powers (1996) reported on ten mother-baby pairs who used the nipple

shield. The average duration of breastfeeding with nipple shields was between two weeks and 3.5 months. All of the babies were weaned away from the nipple shield and showed appropriate weight development at the ages of three weeks, two months and four months.

Chertok (2009) found comparable weight development at two weeks among 54 mother-baby pairs in Israel and the USA regardless of whether they used the ultrathin silicon nipple shields or not.

None of the 51 mothers surveyed by Brigham (1996) reported insufficient milk supply or poor growth development among the babies when they used the nipple shield.

With five mother-child pairs, Chertok et al (2006) found no significant difference in the amount of milk received by the baby whether he was breastfed with or without a nipple shield. They evaluated the use of a nipple shield as an effective intervention that did not negatively influence the milk transfer and could prevent premature weaning.

Meier (2000) reported to us the reasons why the experts (Newman 1990, Walker und Auerbach 1993) repeatedly advised against the nipple shield: It was assumed that they reduced the maternal milk transfer to the baby and, thereby, hindered sufficient emptying of the breast which, in combination with the baby getting used to the nipple shield, led to a



NIPPLE SHIELDS – SHOULD WE DEMONISE THEM OR SPEAK UP FOR THEM?

The different approaches to the appliance of nipple shields have evoked contrary reactions even among the editorial team in the run-up to the publication of our magazine.

We, as a team, would appreciate an open and respectful exchange and are really happy to present the different points of view here, which are all of some importance in our working life. We live in a colourful, multifaceted world.

For us all empathy towards mothers, babies and families is a heartfelt concern. Also the carers deserve to be treated with empathy, particularly in controversial discussions. And just because we are very enthusiastic and committed, this does not appear to be an easy task for us.

There are several approaches to the adequate appliance of nipple shields: Many of us are acquainted with colleagues who take to nipple shields "so quickly" (mostly due to a lack of time, but quite

frequently because they lack the motivation and the knowledge how essential it is to take your time with the mother. The question, if there is enough staff and good working conditions which enable us to set baby-friendly priorities, remains more topical than ever. As a board member I have experienced how important time, cohesion and suitable framework conditions are. Ward staff that are under constant pressure generally start getting more critical, more exhausted and more dissatisfied. When Dr Newman manages to keep his team motivated so that he is successful with his clear, firm attitude, this does probably not work on the basis of applying sheer pressure, but he knows how to motivate his staff and create suitable working conditions. You can read a first statement on this topic by the pediatrician Dr. Paul Newman from Canada. In our next issue you will find a detailed article on the same issue.

The registered nurse Claudia Wronski EL Awamry is shedding some light on various aspects around the topic of the application of nipple shields and also looks into scientific data.

The consideration whether to use a nipple shield is closely connected to the respectful treatment of the baby. Taking your time and giving them the right to be allowed enough time to learn how to suck is one of the ideas. And this decision definitely needs the support of the mother. The only thing she longs for is someone who takes time for her, her wishes and her uncertainties, someone who knows what to do – who does not yearn for that?

Perhaps many of our readers experience the same ambivalence Things will remain colourful and multifaceted for sure!

Please send your letters to the editor to: magazin@elacta.eu



Photo: © Andrea Hemmelmayr

lower milk supply and premature weaning. On his homepage, Newman (2009) refers, under the rubric “Nipple Shields”, to studies which do not describe any reduction in the amount of milk of breastfeeding mothers using nipple shields compared to mothers who breastfeed without nipple shields. He argues that this fact is necessarily the case when the amount of mother’s milk obtained by babies who are breastfeeding with nipple shields is compared with that of babies poorly attached to the breast. He stresses the perspective of the comparison.

If breastfeeding can be initiated, maintained and established with the help of a nipple shield, this is, in my view, a resulting great health advantage, viewed from the child’s perspective.

The Perspective of the IBCLC

According to Sackett et al (2000), evidence-based practice means making a decision for or against an intervention based on the best available research evidence, in combination with clinical professional expertise, and bearing in mind the client’s preference. In this decision process, the mother-baby-dyad and the IBCLC create a “diagnostic and therapeutic alliance” (Sackett et al, 2000), with the goal of jointly making the “probably” correct decision with the greatest possible certainty. We, as lactation consultants, commit ourselves to this principle.

This means educating ourselves, time and again, against the background of developing scientific research and evidence. The engagement with science in general and,

in particular, with scientific publications on the topic of nipple shields, leads us in this way to a continual optimization of our knowledge and a cumulative scientific understanding. The critical assessment of the topic and the question of which historical background could be the cause for the continued standpoints vis-à-vis using a nipple shield, must be incorporated into our considerations. The setting of the 1980s was different than today – in both scientific and historical respects. Here, we are challenged to scrutinize and re-evaluate that which we may have been taught by the IBCLCs in the initial lessons.

What insights does the review by Chow et al give us about the experiences of health care professionals with the use of the nipple shield?

Using Web-based interviews, Eglash et al (1997) evaluated descriptive data from 490 health care professionals who worked in diverse settings with breastfeeding mothers. 92% of them used nipple shields in their professional practice. The most common grounds for recommending them were prematurity (<35th week of pregnancy), with latch-on problems, flat or inverted nipples and as a method to ease the transition from bottle to breast. Of most concern related to this use were lack of follow-up after the introduction (of the nipple shield), inappropriate grounds for its use and maternal problems using it. The feedback on its use, which they got from the mothers, ranged over a span from “helpful” through “comfortable” and “uncomfortable” to “get rid of it as soon as possible”

Lawrence noted in 1999, that many lactation consultants view the use of nipple shields as a failure in breastfeeding counselling.

Newman (2009) stressed that nipple shields cannot be an adequate solution for breastfeeding problems, but rather only create more problems and give us the illusion of solved problems. Mothers also had the impression that their problems were solved for the moment and then, over time, problems such as poor weight gain cropped up. Then, in his experience, it was frequently too late to wean the baby from the nipple shield or to resolve the problems. Newman prefers hand expression of the mother’s milk and feeding this milk with a cup or, if need be, with a bottle, over the use of the nipple shield. Not least because breast massage with the expression of mother’s milk increases the amount of milk.

Interesting is the view that, due to their optical similarity to the bottle, nipple shields can represent an alien barrier between mother and baby and could support an industry, which suggests that breastfeeding is “unnatural” and needs devices to succeed (Meier et al, 2000).

There are numerous reasons for using nipple shields. The following reasons are mentioned in the literature:

- > inverted nipples (Moorbacher, 2003)
- > inelastic nipples (Powers and Tapia, 2004)
- > flat nipples (Powers and Tapia, 2004)
- > sore nipples (McKechnie, Eglash, 2010)
- > pain reduction in the nipples while breastfeeding (Chertok et al, 2006; Powers and Tapia, 2004)
- > infant and/or maternal problems with latch-on (Mohrbacher, 2003)
- > infant’s prematurity, baby falling asleep at the breast (Meier, 2000)
- > weak sucking behavior (Mohrbacher, 2003)
- > to enable the baby to stay on the breast (Brigham, 1996)
- > support for the transition from the bottle to the breast (McKechnie, Eglash, 2010)
- > oversupply of milk (McKechnie, Eglash, 2010)
- > breast refusal (Wilson-Clay, 1996)

Furthermore, on the basis of my personal observations, the use of nipple shields is appropriate in the following situations:

- > Negative breastfeeding experiences with injured and painful nipples

- › which led to weaning (for example with the first baby)
- › Personal preferences, the origins of which can be found in taboo zones
- › pronounced initial engorgement

Guidelines in Our Hospital

In my own professional environment, we work according to the following concrete guidelines on nipple shields. These pertain to the approach during the pregnancy, after the birth in the hospital and the time after discharge in a home setting.

1. Professional use and selection (primarily, adapted to the size of the nipple, moistened, turned over and fixed to the areola with clockwise rotation), risk assessment and information given to the mother by trained personnel (optimally in a BFHI setting) to enable an informed and individual decision on the basis of our guidelines for using nipple shields).
2. Give mothers a realistic picture of infant breastfeeding behavior (duration and frequency of the breastfeeds) and crying, as well as alternative calming strategies (bedding-in, bonding, breast massage, baby sling).
3. Breastfeeding history and documentation during the pregnancy and within 24 hours post-partum: Identification of resources, preferences, experiences and risk factors
4. Breastfeeding observation and documentation of each breastfeeding attempt/breastfeed: identification of baby's sucking behavior, nipple and breast condition, effectiveness of breastfeeding.
5. Nursing diagnosis in accordance with NANDA (North American Association of Nursing Diagnosis) classification ("A nursing diagnosis may be part of the nursing process and is a clinical judgment about individual, family or community experiences/responses to actual or potential health problems/life processes", Wikipedia 2016) and documentation: Formulation of the breastfeeding problems and appropriate measures.
6. Observe and document the course of breastfeeding: Evaluation of the measures or adaptation
7. Follow-up with ambulatory post-partum care (midwife, registered nurse, IBCLC). In its absence, provide the same ambulatory breastfeeding counselling at the hospital, latest one week after discharge, observation of breastfeeding management and appropriate follow-up appointments

8. Written post-partum report on current breastfeeding management for the follow-up health care professional
9. Written documentation has a key role. It must be available at all times and be comprehensible for all those health care professionals involved.

As an illustration of our conditions, here a brief description of the clinical setting:

The Limmattal Hospital, with about 1000 births a year, has been a certified Baby-Friendly Hospital since 1993. It was most recently re-certified successfully in 2016. Breastfeeding support has a long tradition on all levels of the hospital. 92% of mothers leave the hospital "fully" breastfeeding, 30% of them – that is every third woman - breastfeed successfully with a nipple shield. The mothers themselves largely determine the duration of the stay on the maternity unit. Should there be uncertainty about breastfeeding management, the women have the possibility of an extended hospitalization.

The surveys of the above-mentioned histories and diagnoses as well as the clinical expertise are carried out both by trained registered nurses and by IBCLC lactation consultants. As IBCLCs, we work both on day and night shifts and care for some of the post-partum mothers there as contact persons. Furthermore, we also do individual in-patient and ambulatory breastfeeding counselling. In my view, this combination makes possible a broad observational spectrum of breastfeeding problems and a very helpful "close to the frontlines" of the contact person and her problems, as well as to the mothers and their needs in various situations. Supporting and observing the same mother-child pair for eight hours on five consecutive days allows for an extended look at the detailed "stumbling blocks" over time than does an individual breastfeeding consultation or a snapshot. Although, in the daily routine of the unit, it sometimes complicates the possibility of viewing problems with a certain distance and tranquillity. Mothers have the possibility of requesting help at every breastfeed and are given uniform and targeted feedback on their actions and the infant's feeding behavior.

Personal Perspective

In my opinion, nipple shields can also help mother and baby to a bit more self-efficacy. In this context, the term "self-efficacy" is in the understanding of "acting oneself" or

"independently acting practically and effectively" and, only in a broader context, understood as the construct of self-efficacy" ("Perceived self-efficacy refers to beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations" in accordance with Bandura, 1995). We can understand the self-efficacy of the mother as the belief in her own ability to successfully breastfeed her baby.

Despite competent breastfeeding support, I constantly observe situations in which the mother is not successful in putting the baby to breast entirely on her own without the support of her contact person and, for me, it is precisely at this point that the use of a nipple shield is frequently very "self-efficacious". Above all, in view of discharge to a home setting. The mother can experience coherence if she can independently put her baby to breast with the help of a nipple shield. This feeling of coherence can enhance the available resources and, thereby, initiate the successful reduction of stress as well as be seen as an important factor in health promotion (Antonovsky, 1997). Here, I mean quite concretely that breastfeeding succeeds due to her own practical handling, even it that also means with a nipple shield and without a third person being involved. The mother sees her baby sucking and during breastfeeding can experience herself as self-effective. She is not dependent on the support of a professional.

Or the baby does not succeed in sucking on the breast after 24 to 48 hours (i.e. inverted nipples, which cannot be stimulated, flat nipples, limited elasticity of the nipple, prematurity). In some of these situations, I prefer the successful use of a nipple shield (which, factually, can mean that the baby begins to suck) over pumping of mother's milk. In my opinion, remaining on the breast, provided that the baby sucks, is more important than pumping stimulus which is frequently more radical for all those involved. Naturally, in the practical daily routine, my first choice of method is always breast massage and expressing milk by hand.

It seems important to me to view the aspect of "pain reduction" by using a nipple shield, as very significant for the further course of breastfeeding. Pain cannot wait and demands quick resolution. When the underlying cause of the pain is the poor elasticity of the nipple and it helps the mothers to have a pain-reduced or pain-free breastfeeding experience ›

Statement Dr. Jack Newman, International Breastfeeding Centre, Toronto, Kanada

L&B Should nipple shields be demonized, or are they indispensable?

Dr. Newman: I don't agree with the word „demonized“. This implies an irrational fear of nipple shields. The fear is not irrational but very rational based on our very large experience in our clinic. Nipple shields, in my experience, cause much more harm than good for breastfeeding mothers and their babies. The nipple shield is absolutely not indispensable. There is nothing that can be done with a nipple shield that cannot be done better without a nipple shield.

L&B Questions about the use of nipple shields in the first days of life.

Dr. Newman: I don't agree that there is a use for them in the first days of life, especially not in the first few days of life. Once the mother's milk comes in, what may have seemed impossible on day 2 (getting the baby to latch on, for example) may be easy on day 4, say, but the mother may feel that her problem is solved and not get followup help to get the baby off the nipple shield. Her problems however, in most cases, are just beginning. In the first few days, the main reason for the use of nipples are 1. Baby does not latch on and 2. Mother has sore nipples. Why do babies not latch on in the first days after birth? One problem is oedema of the nipples and areolas due to intravenous fluids given to the mother during labour and birth. Another is the baby's sleepiness due to medications given to the mother during labour and birth. The answer here is, first of all, allowing the baby to crawl to the breast. But certainly not a nipple shield; the answer is getting the mother to decrease the swelling of the nipples and areolas with „reverse pressure softening“, and if the baby still does not latch on, then express the milk and give it by spoon, cup, finger feeding or even bottle. As for the mother's sore nipples, I can state that from our experience, if a mother has

pain from the first latch, or even the first day, the baby has a tongue tie, diagnosed by observation, palpation and testing for mobility of the tongue, not just observation. Early release of tongue tie can make a huge difference and prevent the use of the nipple shield.

I am told that if the mother is on the verge of giving up on breastfeeding, the nipple shield can save the situation. But it's not the answer, it's a bandaid and a bandaid that in the long run does not work. What has happened to our profession that we cannot counsel a mother to help her see a longer view, that there are ways to get the baby to latch on and that we can make this work, but it will come and please be patient?

L&B Which information can we give mums, to avoid the use of nipple shields?

Dr. Newman: Basically what I wrote in answer to the second question.

L&B Which information is helpful for healthcare providers to avoid the use of nipple shields? If you cannot help the mother without using a nipple shield, get someone for the mother who can.

Dr. Newman: Many healthcare providers promote the use of nipple shields, claiming that against the background of their clinical experience, there are situations in which only a nipple shield can make the breastfeeding relationship work, including a good latch. If we tried to omit the nipple shield at all cost, wouldn't we deny mother-baby dyads a useful intervention? First of all, I would say that the baby does not get a good latch with the nipple shield. A baby on a nipple shield is not latched on at all. I disagree with this „based on my clinical experience only the nipple shield will work“ and as I wrote in a letter to editor of the Journal of Human Lactation back 20 years ago, one of the problems

of using nipple shields is that the health care provider never gets the experience necessary to helping the mother breastfeed without a nipple shield. As the months and years go on, the nipple shield becomes the first choice because that health care provider does not have the experience to help the mother without the nipple shield. I know the following is not a typical situation, but one of our patients a few weeks ago, was given a nipple shield while she was still on the delivery table, before she even tried the baby on the breast. But in Toronto, a mother getting a nipple shield on day one is not a rare occurrence.

Do you manage to consult mother-baby dyads without ever using nipple shields? Could you share with us your „how-to“ of always avoiding nipple shields? Absolutely, we help them without nipple shields. In fact, a lot of our time in the clinic is spent getting babies off a nipple shield. Our lactation consultants are very experienced and have used the approach to latching on that I have been recommending for 30 years. Nipple shields ultimately decrease the milk supply and make it more difficult to get the baby off the nipple shield than if the mother pumps and feeds by bottle, another situation which should not be left without early help.

L&B Thank you very much for answering our questions and for your valuable contributions on your website / on facebook



Dr. Jack Newman

(in this case, sufficient medical analgesia with breastfeeding-compatible medication should also be considered), then its use is, in my view, a sensible intervention, always provided that the pain score with and without the nipple shield is determined. If the breastfeeding position and the latch-on are optimized to rule out pain during breastfeeding and there are no anatomical (posterior or anterior tongue tie) causes for the pain, it can help create pain-free breastfeeding.

Conclusion

In the last few months of intensive examination, the analysis of the various perspectives related to the nipple shield and the literature search have taught me much. I have acquired a great deal of knowledge for my professional practice, observed more carefully, scrutinized and transferred knowledge. One of the most important pieces of learning for my practical work is the immense significance of follow-up.

How do mothers breastfeed after a few weeks, what sort of infant weight gain pattern can be observed, how many breastfeed without the nipple shield - and when, what was their experience with the nipple shield? Certainly there is still a need for optimization for my practice. I think that the quite optimal "baby-friendly" conditions of my working environment actually led to the expectation that our nipple shield rate would be lower. Nevertheless, every third mother in our hospital receives a nipple shield. The rate of mothers who leave the hospital with a nipple shield is not recorded in the statistical monitoring. This fact may be connected with the institutional philosophy: "Better to keep the baby at the breast with a nipple shield than pumping and cup- or bottle-feeding."

The goal of this article is to examine and present the topic of nipple shields in the most differentiated way possible. In full awareness that this way of looking at this is not the last word and that questions can

only be answered conditionally, the critical and aware readership is warmly invited not to keep disagreements or opinions and points of view to themselves, but rather to open up the professional exchange on the topic through feedback, letters to the editor or further representations.



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Colostrum – Liquid Gold for Babies

You are pregnant or have just given birth? Perhaps you are just now thinking about how you want to feed your baby. However you decide or whether everything goes as you had imagined it would, Nature is preparing a very special gift for the newborn – colostrum!



Foto: © Andrea Hemmelmayr

Your breasts are already producing this first, valuable milk - the colostrum - in late pregnancy. The small amount is just right for the newborn who is gradually adjusting to life outside the womb.

Sucking has to be learned and, at first, the digestive tract only tolerates small portions. Therefore, frequent but small meals make more sense. These small amounts also contain the necessary nutrients, minerals, fluid and, above all, numerous antibodies, which protect the newborn from infections – a first passive immunization. Furthermore, the colostrum is rich in growth factors, which support the maturation and the lining of the digestive tract and, thereby, hinder colonization by disease-causing germs, so that a healthy intestinal flora can develop. Colostrum speeds up the excretion of the first bowel movement (meconium) so that bilirubin is thoroughly excreted and newborn jaundice is prevented. Moreover, the metabolism is stimulated by the colostrum and the blood sugar level is stabilized.

The milk of mothers whose babies are born too early is called “pre-term milk”. Even with increasing production, it remains for some time in the stage of pre-milk and thus, supplies antibodies to the particularly vulnerable pre-term baby for longer.

If you start breastfeeding with no problems, be happy about this lovely gift of Nature.

But what if you don't want to – or cannot – breast-feed, if you are separated from your baby, if the breastfeeding start doesn't go as well as you expected or, if perhaps you have even already experienced a problematic breastfeeding period? It is almost always possible to provide a newborn with colostrum. He doesn't even need to suck at the breast. Hand-expression of colostrum in the first few days also does not interfere with a desired weaning before abundant milk production.

On the other hand, early colostrum expression and giving the baby that colostrum can positively support the future course of breastfeeding and possibly make the early use of infant formula unnecessary.

When does colostrum expression make sense?

- › If your baby cannot (yet) suck correctly or it is simply hard to wake him up
- › If you and your baby are separated early – especially with pre-term or sick babies
- › If you are not sure whether there is milk (colostrum) available
- › If you want to wean - particularly quickly after the birth
In some cases, it makes sense to begin expressing the colostrum during the pregnancy and freeze it (not before the 37th week)
- › If you suffer from diabetes or gestational diabetes, the baby can better stabilize his blood sugar with early colostrum feeding.
- › If you have struggled with the problem of “too little milk” in a previous breastfeeding period.
- › If you have had breast surgery
- › If your hormone state has made getting pregnant difficult.

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IBCLC

International Board Certified Lactation Consultants are the only internationally approved breastfeeding and lactation specialists having a medical background.

The decision to breastfeed or not to breastfeed has short- and long-term impact on the health of child and mother. However, breastfeeding sometimes turns out to be difficult and perhaps professional, competent assistance is needed.



This is how you express colostrum:

- 1 After washing your hands, begin with a comfortable breast massage
- 2 Perhaps someone can help you collect the few, but valuable, drops with a small syringe or a small cup
- 3 Place your thumb and your index finger about 3–4 cm away from the mamille (nipple)
- 4 Press the breast tissue gently, but firmly, in the direction of the chest or rib cage.
- 5 Now, when you shorten the distance between the thumb and index finger, a milking, rolling movement occurs.
- 6 Repeat the movement and, after a little while, change the position of the fingers (i.e., instead of 12 o'clock and 6 o'clock – 9 o'clock and 3 o'clock)

With a little practice, the first drops of colostrum can soon be collected.

You can either dribble these drops into the baby's mouth immediately or store the colostrum in the refrigerator in the syringe or in a well-sealed cup or, possibly, store it temporarily in the freezer

Ask for help and have someone show you how the method works practically. Certainly IBCLCs* and midwives will gladly be of help

Contact your IBCLC

A Plea for Instruction on Hand Expression of the Breast in the early Postpartum

Prenatal Colostrum Expression Author: Bettina Kraus



Photo: © Andrea Hemmelmayr

Prenatal expression of colostrum is increasingly being reported in current publications. As background are considerations about making the breastfeeding start easier for risk groups, such as mothers with a diabetic metabolic state or babies with a cleft lip or palate. As previously reported in our own publication ^[1], we have already had very positive experiences with prenatal colostrum expression for many years in our

Level 1 perinatal center with an attached diabetes center. Two effects are worthy of mention here: First, we observe clinically significant hypoglycaemia less often and second, our initial results indicate a significantly better breastfeeding start among diabetics. Our colleague, Ulrike Giebel, in her work, has specialized in “cleft babies” and their mothers and also reports on notable successes with pre-partum colostrum expression. ^[2]

Also, in the last issue of “Lactation and Breastfeeding”, Dr. Gina Weissman, a colleague from Israel, reported on her experiences with pre-partum colostrum expression which, in her working group, has been expanded to include further indications, such as severe hypoplasia, surgical breast reduction and IVF. ^[3]

In our experience, the idea of laying the initial foundation even before the birth, has generated great interest and has met with approval among the women affected and enthusiasm among colleagues. It is, therefore, all the more surprising that the topic of hand expression of colostrum in the postpartum period is frequently neglected.

“Liquid Gold”

The use of colostrum for newborns is not controversial – there are countless reports on the positive effect of colostrum. We mention here only the laxative character, also the related reduction of the risk of hyperbilirubinemia, the perfect composition, its effect on the immune system and on the metabolic situation of the newborn, especially in respect to hypoglycemia, ^[4] as well as the reduction of the NEC rate among premature infants ^[5]. Nevertheless, we know that the amount of milk increases if colostrum is given directly from the breast within the first hour of life and then at regular intervals. On this aspect, we again refer to the reports of Dr. Gina Weissman.

Increased initial breast engorgement – an exception?

Increased initial breast engorgement, with the accompanying venous and lymphatic congestion and edematous swelling of the entire mammary gland tissue, can be reduced through intensive emptying of the breast in the first hours postpartum. ^[6] If a baby cannot suck at the breast, timely, regular hand expression of colostrum also reduces the risk of increased swelling of the mammary gland tissue because, >

with colostrum remaining in the milk-producing glands (Acini), a lymphedema occurs as a result of increased circulation in the breast, which causes the increased engorgement.

Thus, emptying the breast is an essential component of prevention, but also of therapy. If putting the baby to breast or emptying the breast does not succeed in the first few days, the women are frequently very distressed by the pain and putting the baby to the breast or mechanical expression is often no longer successful.^[7]

If we are dealing with increased initial engorgement, putting the baby to breast or hand expression should follow the measures below in this order: Cooling – yes before! – putting the baby to breast not only after. There is frequently an edematous swelling in the area of the areola, which makes putting the baby to breast impossible. In such cases, we recommend the *Reverse Pressure Softening* technique. Here, the edema around the areola should be pushed back with light pressure to enable a normal erection of the nipple [8b]. If that is not sufficient, lymph drainage, in the form of a deep pressure massage in the direction of the arm pit or in the form of taping, is occasionally necessary. A new attempt to put the baby to breast should follow or, in case this does not succeed, expressing the breast by hand or the using a pump.

The bulging feeling of the woman's breast and the engorgement of the breast are not caused by the milk that is being produced,^[8] but by the blocked lymph. Every attempt to express milk in the direction of the mamille increases the symptoms because the lymph must flow in the direction of the arm pit. The word "expressing" for the extraction of mother's milk by hand should, in any case, be strictly avoided and replaced by the word "squeezing". "Expressing" implies a gliding, "stroking" movement on the skin. But it is the compression of the breast tissue that triggers the milk ejection reflex.

Indications for Hand Expression of the Breast

There are numerous reasons for problems with putting the baby to breast, many of which would not occur at all with intensive bonding and good support for attaching the baby (in the best case, "hands-off").^[9] Whoever does not separate mother and baby, does not dress the baby and put him in a bed of his own, must use far less en-

ergy and time later on to bring the two of them together again. If women put the baby to breast properly and the babies suck correctly, sore nipples can be avoided^[10] and, in general: where normal, physiological births take place, bonding and the first breastfeed succeed significantly better. We must always keep this in mind when we speak about expressing the breast by hand as an alternative for the baby to get the valuable colostrum.

The best breastfeeding promotion does not consist of instructing the mother on expressing the breast by hand, but in supporting a physiological birth, creating possibilities for ample bonding, avoiding separation and ensuring enough time for explaining all the processes around breastfeeding, ideally during the pregnancy when a hungry baby is not yet lying in the woman's arms. In our society women – at least when they have their first babies – have, as a rule no to very limited experience and only little knowledge about breastfeeding on which to fall back.

Listed here are some examples of problems, for which it should be a required program for medical personnel to take the time to explain and make hand expression of colostrum possible:

With mother-baby separation: Even if the mother regularly stimulates the breast with a pump, the beginning combination

of pumping and hand expression ensures a greater amount of milk^[11] in the case of prematurity, with pediatric hypoglycemia or hyperbilirubinemia, with "cleft" babies, babies with trisomy^[12] or other syndromes, such as Pierre-Robin sequence, but, in the end, with all babies whose sucking is weak, such as after vacuum extraction, or with babies who still have difficulty grasping the breast well, such as those with a tongue tie. Maternal indications for early problems with the baby's attachment to the breast can be inverted nipples. Early use of nipple shields also makes little sense for a number of reasons. At this juncture it should be mentioned that here the certain transfer of the colostrum is not guaranteed and support through hand expression is a good possibility to give the colostrum to the baby.

Or there are still handling difficulties, with multiples, for instance.

And if everything goes well?

Even without further indication, it makes sense, in view of the woman's later breastfeeding relationship, to provide her with the necessary knowledge about how she can empty the breast by hand. Over the course of time, there are, again and again, reasons why the woman "sits on her milk": the first nights when the baby sleeps through, the baby's first cold, an unspecific "breastfeeding strike"...



Photo: © Andrea Hemmelmayr

Technical aids are – also at our latitudes – not always immediately available to bridge a sudden involuntary breastfeeding pause and it is not just a few women for whom pumping is unappealing and awkward. At this point, the midwife, if there was one post-partum, has not been involved for a long time and frequently, women no longer think about contacting her again. So it is good to have been made acquainted with the elementary technique of hand expression in the early post-partum period. Even without current attachment problems, it has become standard in our hospital to instruct the women on emptying the breast by hand. For this, two particular points in time suggest themselves:

1. The woman says something like: “No milk has come in for me yet.”

This is a wonderful opportunity to take five or ten minutes to explain the massage and the hand position for expressing and to ensure that she has the technique correct (the women tend – see above - to stroke the breast in the direction of the mamille or also to pull on the nipple). Using a demo-video ^[13] when giving instructions on collecting colostrum can be helpful. In my experience, it almost always happens that a drop of colostrum presents itself and the women are thrilled by this because the milk is made “visible” so. “There, something is coming after all...” It is not unusual for this insight to trigger real euphoria. Women don’t put babies to the breast regularly enough because they believe that it is not worthwhile before the milk “comes in”. Or until it does, they want to “bridge the gap” with a breast-milk substitute, on the assumption that the baby urgently needs something to eat.

2. The U2 (second pediatric examination) for metabolic screening lies ahead.

Latest at this point, we explain the routine expression of the breast to collect a few milliliters of colostrum, which can then be taken by the mother - drawn up in a syringe - to the examination. Here, the colostrum can be given instead of glucose to reduce the pain of drawing blood for the screening. For the new mother, it is often not so easy to see the baby suffer from having blood drawn and so she can provide a practical contribution to minimize this, which often strengthens her feeling of self-worth as a mother.

When the baby is not breastfed

Furthermore, it should be mentioned that the instruction on colostrum collection by hand is offered to all those women who do not plan to breastfeed their babies. Here, as always with a mother’s wish to wean, particular tact is required as is sensitive open discussion. Babies whose mothers don’t want to breastfeed also profit from the colostrum. However this should never be justification for putting pressure on mothers. They themselves must and may decide what they find the best for their babies. I have already mentioned at the beginning that colostrum collection with conservative weaning can also positively affect problems when the milk “comes in”. Pumping is contraindicated because the stimulation of the mamilla leads to an increase in the prolactin release and to the establishment of milk production (lactogenesis 2)

Summary

In closing I can summarize that there are many reasons to take the time to instruct women in collecting colostrum by hand (and, thereby, also for the later collection of mature mother’s milk) and only two reasons why not: as the first measure for the intense initial engorgement or if the mother does not want to do it.



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Meeting ELACTA With Swilacta on 27th January 2017 in Zurich, Switzerland

Report by Dr. Stefanie Rosin



From left to right:
Luzia Felber (Swilacta),
Barbara Finderle (ELACTA),
Mirjam Pot (ELACTA),
Maja Recic (ELACTA),
Brigitte Benckert (Swilacta),
Karin Tiktak (ELACTA),
Nicole Toffol (Swilacta),
Marliese Pepe (Swilacta)



From left to right:
Nicole Toffol,
Luzia Felber,
Brigitte Benckert,
Marliese Pepe

On the occasion of our ELACTA board meeting in Zurich from 26 – 29 January 2017, we invited the Swilacta president and further representatives to our meeting. Nicole Toffol, the president, Brigitte Benckert, Luzia Felber, and Marliese Pepe, a former president of VELB in 2000, followed out invitation and appeared at our meeting. First we made an introduction round to exchange about our manifold activities to support breastfeeding, be it in a voluntary, professional or political scope of action.

Nicole Toffol as the president reports a constant growth of Swilacta members, rep-

resenting a positive development. ELACTA therefore looks forward to welcome new members at the CERPS conference in Salzburg, Austria from 24-28 May 2017. This year another BSS conference will take place from 15-16 September in Alten, Switzerland, with a planned participation of ELACTA board members

Brigitte introduces herself as the author of a book titled “Das besondere Stillbuch” (The special breastfeeding book) in German language on breastfeeding premature, sick or disabled babies for practitioners in breastfeeding support, with the first edition published in 2001; and a new issue in 2016.

We further discuss the planned ELACTA conference in Rotterdam, The Netherlands, from 17-19 May 2018. ELACTA hands over Rotterdam conference announcement cards to Swilacta, to distribute to their members. Further we exchange and brainstorm with regards to the cultural and entertainment program of the conference, looking forward in anticipation ... to be continued.

After an intense exchange and an enjoyable dinner together, representatives of ELACTA and Swilacta part, both looking forward to continuing their good cooperation in the future.

Impressions of the Second World Breastfeeding Conference

11 – 14 December in Johannesburg, South Africa Author: Dr. Stefanie Rosin

I felt very lucky to be able to participate in the Second World Breastfeeding Conference last December in Johannesburg, South Africa, to represent ELACTA with a booth, and also to present my research on breastfeeding and integrated care recently published in IBJ.

IBFAN organized the conference, which aimed at advancing breastfeeding protection and promotion globally and included representatives of relevant international organizations, such as WHO and UNICEF. The conference motto was “Babies need mom-made, not men-made”. Accordingly, numerous projects on breastfeeding protection and promotion were presented, which provided participants the perfect framework for networking with protagonists and getting to know them personally. Africa and Asia seemed to be strongly represented, but participants also came from all other areas of the world.

On the first morning, there was a pre-conference training on human rights and breastfeeding. The World Breastfeeding Conference was officially inaugurated in the afternoon with a variety of dances and songs, reflecting African culture.

A conference highlight was the launch of the World Breastfeeding Trends Initiative WBTI, led by Dr. Arun Gupta, Coordinator of the IBFAN/Asia Breastfeeding Promotion Network of India (BPNI). 84 countries voluntarily contributed their breastfeeding statistics. Another highlight was the movie “Tigers”, which showed how unscrupulously Nestlé still markets its products today, by recruiting health personnel and salespeople, and exerting pressure on them. The protagonist of the film was a salesman from Pakistan, who revealed that, as part of this system, the poorest of the poor families are given prescriptions for formula by local pediatricians, which leads to serious illness and often deaths of the babies targeted. At a certain point, the protagonist saw through this practice, took appropriate action and no longer wanted to participate, only to experience mafia-like harassment: He was mercilessly pursued and threat-



Stefanie Rosin at the ELACTA-Infostand during the Second World Breastfeeding Conference

ened, lived in fear for his life and that of his family and had to go into hiding. Today he lives in exile.

Another conference highlight was a Skype conference, with a representative of the World Bank, on financing breastfeeding promotion. The presence of the World Bank at the World Breastfeeding Conference should be seen as a positive signal. A further positive development is that the UN has dedicated the next decade to nutrition promotion, including investment in improving global nutrition through, for instance, the Bill and Melinda Gates Foundation. However, breastfeeding promotion represents only a small percentage of this approach, as one conference participant noted critically during the discussion. Therefore, placing breastfeeding higher on the global agenda remains a priority for



above: African children's choir
below: the Indonesian delegation



the international breastfeeding support community. Let us hope that we can make progress toward this objective by the next World Breastfeeding Conference in 2019 in Rio de Janeiro.



Dr. Stefanie Rosin
1. Secretary of the ELACTA Board and presenter at the conference)

Statistical facts about early postpartum

Land	AICPAM Italy	BDL Germany	BLL Luxemburg	DACL Denmark
Annual birthrate	2014: 502,596 births with a presumed drop in 2016 to 465,000 which represent 8.7 births/1000 population	ca. 730.000	6.700	2016: 60,000.
What percentage are • home births • hospital births • other birthing possibilities	<ul style="list-style-type: none"> home births: 0.1% (1500 mothers); not supported by the Scientific Societies (SIP), the Italian society of Pediatrics and neonatology hospital births: 99% 	<ul style="list-style-type: none"> home births: 2% hospital births: 96% birthing centers 2% 	<ul style="list-style-type: none"> home births: 0,2% hospital births: 99,8%, 	<ul style="list-style-type: none"> home births: 1%; hospital births: 99%;
Percentage Cesarean Sections	National levels are around 36%, tough substantial gap exists among Centers of Northern part of Italy. In certain southern regional hospitals may even be 60-70%.	30–32%	30–31%	22%
Average post-partum stay • after a vaginal birth • after a Cesarean Section	<ul style="list-style-type: none"> vaginal: 2 days Sesarean Section: 3–4 days 	<ul style="list-style-type: none"> vaginal: 2 days cesarean section 3–4 days 	<ul style="list-style-type: none"> vaginal: 3–4 days Cesarean Section: 3–5 days 	<ul style="list-style-type: none"> Multipara: 3–6 hours Primipara 2–3 days Cesarean Section: 2–3 days (or earlier if the mother wants). In the case of complications (e.g. breastfeeding): longer stay possible
Rooming in	not mandatory but provided in many hospitals. The definition varies also from only day time to 24 hrs or separated in the nursery and taken to the mother's room every 3 hours.	Frequently yes, but not established all over	generally	obligatory
Breastfeeding counselling after homebirths, in hospitals?	no in service lactation consultation except for some very few hospitals in Milan, or in Friuli with many IBCLCs. Counselling is provided by neonatologists, other health professionals (rather incompetent); midwives, neonatal nurses. Some organisations provide pre-partum preparatory courses. After discharge theoretically every baby in the Italian Health-system has it's own local family pediatrician. First visit usually after 2 weeks (the most crucial time), whis is the reason for considerable drop in exclusive BF rate. Poor, uneducated people start off immediately with formula.	<p>Postpartum midwives both for home births as well as after hospital births. Breastfeeding counselling by IBCLCs almost only on a private basis</p> <p>In (most) hospitals, breastfeeding counselling is offered by the nursing staff of the maternity unit.</p>	<p>After home births: midwives</p> <p>After hospital births: maternity unit staff – nurses' aides, nurses, pediatric nurses, midwives, a few of them with IBCLC qualification</p>	<p>In the first week after birth the hospitals provide service by calling or visiting, either at home or the mother comes to the hospital. The service is carried out by a midwife or a nurse.</p> <p>Between 4 – 6 days p.p. or earlier on demand, the health nurse visitor contacts the family for home visits and continues this until the baby is 10 months old.</p> <p>General Practioners are allways to call. This is the general care and support for all type of post partum care.</p>

period

IPPD Slovakia	NVL Netherlands	PALC Poland	ProMama Romania	Swilacta Switzerland	VSLÖ Austria
55 139 births (in 2015) in 53 obstetrical hospitals	166.733	Average 400,000, 350,000 (2015)	ca. 182.359		2015: 84.381 births
<ul style="list-style-type: none"> hospital births: 100 % 	<ul style="list-style-type: none"> home births: 13.1 % hospital births: 84.5 % other birthing possibilities: 2.4 % 	<ul style="list-style-type: none"> home births: 0.05 % hospital births: 99.9 % other birthing possibilities: no data 	<ul style="list-style-type: none"> home birth: a few % (our legislation does not permit assistance of birth at home by doctors hospital births: 99 %. 		<ul style="list-style-type: none"> home births: ca. 2 % hospital births: 98 %
30,20 %	16.6 %	34.6 % – 46 % depends on province, on average 40 %	36.9 % (dates in 2010 by europeristat) and a study from 2014 (Lion Mentor Association) was 44.4 %.		About 30 % – with an upward tendency (statistical data Austria)
<ul style="list-style-type: none"> vaginal: 3–4 days Cesarean Section: 5–7 days 	<ul style="list-style-type: none"> vaginal: 0–3 days Cesarean Section: 3 days 	<ul style="list-style-type: none"> vaginal: 3 days Cesarean Section: 4 days 	<ul style="list-style-type: none"> vaginal: 3 days Cesarean Section: 3 days 	Basel University Hospital as an example: <ul style="list-style-type: none"> vaginal: 3–4 days Cesarean Section: 4–5 days 	<ul style="list-style-type: none"> vaginal: depending on the hospital 3–4 days Cesarean Section: depending on the hospital 5–7 days
obligatory	not obligatory	Yes	In the majority of Maternities Rooming-in is obligatory, but there are some Maternities (more in the capital, Bucharest and in some private hospitals) without rooming-in	Rooming-in yes, (BFHI) but the offer is made to many women to take the baby out during the night so that they can sleep. Mothers often ask for this	In normal cases, obligatory. Staff care overnight is frequently offered
Breastfeeding counselling in (most) hospitals: Health care workers, (pediatric nurses, lactation consultants, midwives, doctors)	After homebirth we have a maternity nurse (kraamzorg) who provides home-care for 8–10 days postpartum and helps mother and baby to initiate breastfeeding, checks mother and baby and does low profile household chores In (most of) the hospitals counselling is done by the nurse or the Lactation consultant	Midwives	Primary health care, nurses	Women are cared for by midwives or nurses post-partum. Officially, midwives and nurses may visit them for up to 56 days p.p. There are guidelines for first-time mothers, twins, premature births etc. 10–16 visits paid for by their own health insurance, can also be extended with a doctor's prescription. Midwives and nurses are currently also IBCLCs	Breastfeeding counselling after home births: midwives; Among midwives there are only a few IBCLCs Breastfeeding counselling in (most) hospitals: Nurses, midwives. On almost all maternity units, there is at least one IBCLC.

Land	AICPAM Italy	BDL Germany	BLL Luxemburg	DACL Denmark
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<p>Extra costs for Breast-feeding counselling?</p>	<p>Dedicated public free lactation service are very rare and not easily accessible. Generally speaking there is lack of competence, except in LLL (free consultations) or IBCLC if available. In my Region (Campania-Naples) I am the only IBCLC, and of course my consultation is private and of expensive fee (for many families).</p>	<p>No</p>		<p>No. (part of the Danish national health care)</p>
<p>Breastfeeding data</p>	<p>In literature rates of any breastfeeding seem to be between 82.8 and 88.5% In the opinion of the president of AICPAM this is quite optimistic and not accurate</p>	<p>Exclusive breastfeeding 76–92%</p>	<p>92% of mothers begin breastfeeding 77.5% of all babies are exclusively breastfed at discharge, 11% partially breastfed, 11% fed with a breast milk substitute</p>	<p>98–99% start to breastfeed exclusively; 66–78% breastfed after 4 months; 19% breastfed partially; weaning/lactation suppression: 1–2%</p>
<p>Special characteristics</p>	<p>The paradox is that the Italy Health System theoretically seems to be the best in the world, provides free comprehensive care to all the newborns. Unfortunately poor organisation, lack of academic training in human lactation, not to say strong formula marketing influences the BF support and protection of BF.</p>	<p>Midwifery care paid by the health insurance up to 8 weeks post-partum. In special cases, also beyond. Family midwives for problem cases up until the 12th month.</p>		<p>Mothers groups, which are managed by the health nurse visitors also support successful breastfeeding. After the first meeting held by the health visitor the group is managed by its members. The Nordic countries in general and Denmark in particular have a cultural breastfeeding history. Maternity leave for one year. Fathers leave 2 weeks postpartum and later 3 months. IBCLC: about 280 IBCLC in Denmark, around 100 midwives and 100 hospital nurses in maternity and neonatal care (all employed by the region/hospitals) and 100 Health Nurse Visitors doing home visits (employed by the commune/municipality).</p>

IPPD Slovakia	NVL Netherlands	PALC Poland	ProMama Romania	Swilacta Switzerland	VSLÖ Austria
no	no	Except the visit of an LC or IBCLC when needed	No, but basically only one home visit of the family doctor after 1–2 days discharge from the hospital is included. Other home visits need to be payed. The following basic visit takes place at the cabinet of the family doctor for evaluation and vaccination at 2 months. In the case of an illness the consultation at the cabinet is free at any time.	Follow-up care in the post-partum is paid by the health insurance. 3 breastfeeding consultations are paid by the health insurance during the breastfeeding period. There are problems if a midwife, who is not an IBCLC, bills for breastfeeding counselling and then, if the mother wants a consult later, she has no more credit.	No additional costs in the hospital. Home visits by midwives have recently been paid for all mothers. Many mothers have difficulty finding a midwife. A home visit by an IBCLC must be paid privately.
No relevant data	Exclusive breastfeeding: 84.4%; partial breastfeeding: 2.3%; weaning/lactation suppression: 13.3%	Exclusive breastfeeding no data, but 98% of the women start breastfeeding; partial breastfeeding: 33%+ (different data); weaning/lactation suppression - no data	The data is from 2010: early initiation of breastfeeding after an average of 9.3 hours, even at BFH after 6.8 hours. The average duration for any breastfeeding was 8.83 months. 12.6% was the national exclusive breastfeeding rate (In the region with the most Baby-Friendly Hospitals this rate is at 16.1%); 93% of children were ever breastfed		Breastfeeding data: Data from the "Infant Feeding Today" study of 2006 According to estimates by the hospitals, the percentage of fully breastfeeding mothers at discharge was about 85% (+/- 5%). The open answers of 17 hospitals reported 77% of mothers fully breastfeeding at discharge, 13% partially breastfeeding and about 10% non-breastfeeding mothers.
We have a maternity nurse (kraamzorg) who provides home-care for 8–10 days postpartum and helps mother and baby to initiate breastfeeding, and does low profile household chores.		Obligatory (on the NHS) labour and stay in hospital, 4 visits of the midwife, 1 visit of the paediatrician at home in the first 2 weeks and in emergencies 6 weeks care of the hospital (place of childbirth)	Even in the BFH skin-to-skin after birth is not a routine practice or just for a very short time (5–10min) and the practice of mother-baby separation in the first hour for examination and cleaning of the baby is a norm. Non-indicated supplementation of breastfed infants using bottles is frequent (limited staff time, less personnel).	In the University Hospital a team of 7 works daily from 8:00–17:00. They look after the women's clinic, the children's hospital and Neo and also emergencies from other units. In the afternoons, mostly ambulatory care.	

On the Influence of PDA on the Physiological and the Sensitive Bonding Behavior of the Mother-Baby Unit in the First Two Hours Postpartum.

A summary of a thesis for a Master of Science of Midwifery ^[1]



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Keeping the baby in skin-to-skin contact after birth, so-called “bonding”, has more and more support and significance in the clinical setting. However, this kind of “personal care” is only possible if there is sufficient time and energy left over to support it after the routine work has been completed. Support for bonding is not a fixed parameter in the clinical task area of a midwife or nurse, which is given due consideration and for which enough time and resources are planned. Frederick Leboyer (1981) ^[2] and Michel Odent (1976) ^[3] created the term “gentle birth” (receiving the baby postpartum in skin-to-skin contact between mother and baby calmly, with subdued lighting, without disturbance or intervention). In general, the research reports little

about the possible effects of obstetrical interventions, such as peridural anaesthesia (PDA), on the bonding behavior of mother and baby

Thus, the question could be asked whether a “gentle birth” can happen only after a physiological birth or also after a birth with peridural anaesthesia (PDA), which is offered as pain medication in the clinical setting. This effective method, which minimizes the pain of the contractions ^[4], is frequently used not only for difficult and extremely painful birthing processes, but also for normal physiological births if the mother wants it.

Researched effects of the PDA on the mother and baby postpartum

There is no clear statement on the effects of epidural anaesthesia on the baby. These

are hard to measure in the baby. Nevertheless, the epidural drugs remain in the baby’s immune system longer than in that of the adult. ^[5] Some aspects of the baby’s behavior after a birth with PDA have been studied, based on scores. No clear determination about the influences on the baby’s explorative or sucking behavior could be found. ^[6, 7, 8]

The effects of PDA on the breastfeeding behavior have also been studied. ^[1] It was hard to draw significant conclusions on breastfeeding behavior after PDA. Differing conclusions and difficult-to-interpret statements about breastfeeding behavior after PDA could be observed. On the one hand, no serious differences between women with and without PDA, with respect to the duration and the initiation of breastfeeding could be determined in one study ^[7]. In

Riordan ^[11], poorer sucking behavior was observed immediately and in the first few days after birth, but after six weeks, no differences in the duration of breastfeeding could be determined. Frequently, no differentiation between breastfeeding and partial breastfeeding was made. Details on uninterrupted skin-to-skin contact between mother and baby postpartum were mostly not collected ^[9]. On the other hand, in some studies, the PDA seems to cause less active breastfeeding behavior in the early postpartum period. ^[6, 10, 11, 12] Also increased partial breastfeeding was observed, which was often followed by more rapid weaning. ^[13, 14, 15]

Different changes in the baby's temperature with and without PDA were found both during the contact after birth as well as during breastfeeding postpartum.

The attachment behavior of mother and baby after PDA was scarcely a subject of the research. But it is precisely the effects on the bonding behavior which have long-term consequences. Thus, education on sensitive maternal behaviors is particularly important. Following the bonding theory of Bowlby and Ainsworth (1977), Ainsworth notes that, with the establishment of this so-called "secure bonding", such securely bonded babies show sensitivity and empathy towards other people. ^[17]

The sensitive bonding of mother and baby postpartum is supported by endocrinological activation

The sensitive period of bonding postpartum is a physiological process which is steered by the high hormonal levels which are built up during the birth.

It is not only prolactin, oxytocin, progesterone and oestrogen which are increased postpartum. Cortisol, high levels of catecholamines, as well as endorphins, support the mother and the baby in the initial bonding. ^[18] See Figure 1.

A higher catecholamine level is responsible for the alertness and wide open eyes of the baby ^[5,19] whereby, eye contact represents a powerful trigger for the bonding. ^[20]

Cortisol plays an important role so that the mother can recognise her baby through the smell and associates this with feelings of love and warmth. High oxytocin and adrenaline levels support the baby in imprinting the maternal smell. ^[18] But also, the ecstasy of the mother after the birth, set off by the high endorphin levels is of great significance ^[5] for the mother-baby interaction. The bonding capacity is created through natural opiates. These activate postpartum dependency in interpersonal relationships, similar to that after an orgasm. ^[21] After the birth, the catecholamine level must fall so that the parasympathetic nervous system can become active and the hormone, oxytocin, which is not only responsible for the uterine contractions ^[5], but also triggers the feelings of love and trust, can be set free. ^[18] It is the skin-to-skin contact of mother and baby in particular that activates the oblong C-fibres in the sensory cells of the skin, which reach the hypothalamus directly via the vagus reflex and set the oxytocin free there. ^[22]

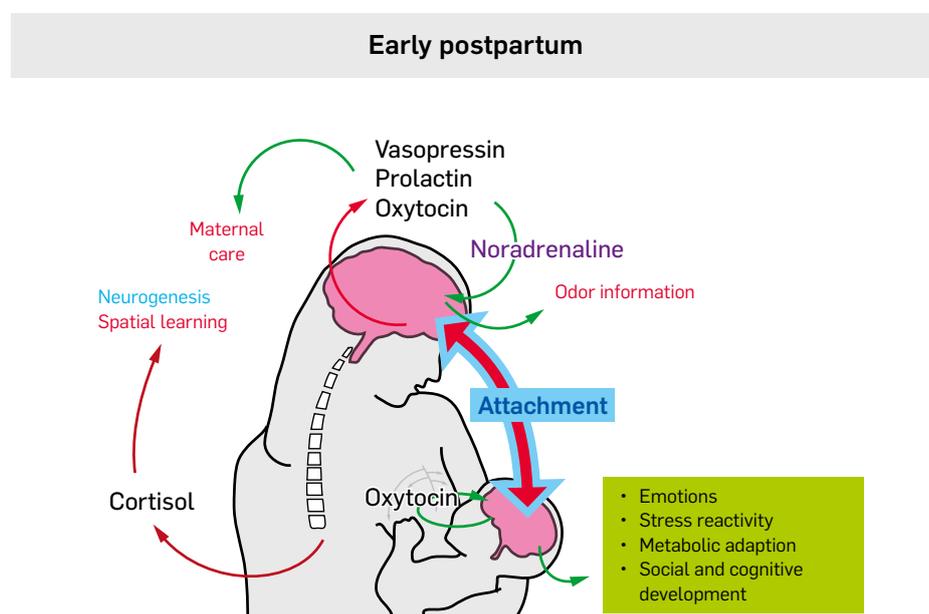
The vagus is the largest nerve of the parasympathetic nervous system. In order to ensure social behavior, the activity of the vagus, which supports the release of bonding-promotion hormones, such as oxytocin, is of decisive importance. ^[23] Thus, after birth, it leads to a conditioning of oxytocin, whereby relaxation is promoted and sensitivity to pain is lowered. ^[22]

Changes in the release of oxytocin in the brain can subsequently influence many social processes. So the vagus system, which only mammals have, is necessary for social engagement ^[23].

The active bonding of the mother-baby pair, guided by the birthing hormones, supports the first breastfeed after the birth.

The baby's behavior triggers solicitous reactions by the mother to her newborn. ^[19] But the mother is also sensitized through the high endorphin, oxytocin and prolactin levels, so that her entire concentration is focused on the baby and she herself is sealed off from the outer world. ^[5] >

Figure 1 Hormones support physiological and emotional bonding, adapted from Olza-Fernandez et al. 2014:460



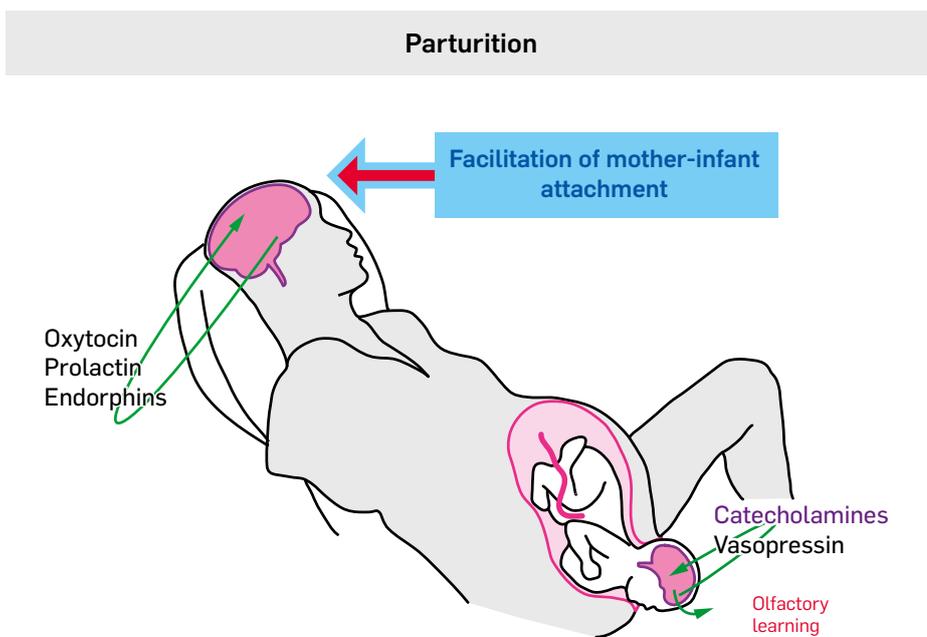


Figure 2 Representation of the hormonal release during the pushing phase of the birth, adapted from Olza-Fernandez et al. 2014:460

I was able to observe changes in the physiological interaction of the mother-baby unit, not only in the case of a prior premature birth, after a Caesarean Section or vacuum extraction or due to necessary or routine interruptions of the mother-baby interaction, such as bathing the infant or transferring the newborn to the paediatric unit. Also after a PDA, despite successful skin-to-skin contact between mother and baby postpartum and no interruptive measures, this special mother-baby interaction immediately after birth seemed to me to be changed.

The bonding hormones postpartum are first activated through the birthing process. Possibly, the altered bonding behavior of the mother-baby pair is triggered by interventions in the hormone balance during the preceding birthing process.

Activation of the bonding hormones through the birthing process

Intermittently perceived labor pain is the first prerequisite for the physiological course of the birth. Activation of the hormones of the parasympathetic system (oxytocin, endorphins and prolactin) and the hormones of the sympathetic system (catecholamines) in alternation during labor is essential.^[24] Through the rhythmic release of the catecholamines during the

first stage of labor, catecholamine peaks occur, which, in turn, lead – paradoxically – to oxytocin peaks and the release of endorphins.^[34] The woman preserves her strength and power through the increase of the catecholamine levels at the end of the first stage of labor, in order to push her baby out.^[25] The oxytocin regime activated through this initiates the bonding postpartum.^[18] See figure 2.

Changes in the physiological birthing process through the PDA

With a PDA, the production of oxytocin is reduced due to the change in the labor pains.^[24] Thus, prostaglandin F2 Alpha and endorphin are also reduced.^[5]

In order to stimulate the contractions, the woman is mostly given synthetic oxytocin (pitocin), the so-called “contraction drip” during the labor. Administration of synthetic oxytocin is tripled during a PDA.^[4] On the basis of a literature search, Plothe (2009) suggests that the pitocin possibly produces changes in the oxytocin system as well as the oxytocin receptor system, with all the possible consequences of the effect of oxytocin on the human psyche.^[26]

As a further effect, a birth with PDA is often correlated with a prolonged pushing stage.^[10, 12, 13, 15, 27, 28, 29] 60 to 120 seconds af-

ter the birth, altered hormonal values were found after a PDA by comparison with a normal, spontaneous birth. The mother showed significantly lower cortisol values after a PDA. By contrast, however, in the infant’s cord blood significantly higher ACTH (adrenocorticotrophic hormone) concentrations as well as higher beta-endorphin values were found.^[30]

Thereby, the question then arises of whether a change in the hormone release after a birth with PDA triggers behavioral changes in mother and baby and whether this changed bonding experience possibly leads to longer-term disturbances in the mother-baby relationship.

Observation of the mother-baby unit after a spontaneous birth with and without PDA in the first 130 minutes postpartum.

In order to study this bonding behavior in the context of the mother-baby interaction in the sensitive period after the birth, the method of analytical baby observation “Infant Observation” according to Esther Bick (1948) was used in my final dissertation.^[31]

With “Infant Observation”, the physical and psychological development of a baby, in combination with the attachment figure, is continuously observed over a long period. Thereby, individual perceptions are also incorporated and collected as empirical data. By contrast to this, with experimental infant research, such as research through video observation, predominantly quantitative data is evaluated.

Some limitations of perception cannot be ruled out with „Infant Observation”. However, through methods of experimental infant observation as well, only selective realities can be captured. It is true that only tendencies can be shown from the observational data, since only some mother-baby pairs were randomly selected. Nevertheless, some relevant statements can be made thereby. Four mother-baby pairs without PDA and three mother-baby pairs with PDA were observed for 90 minutes over a period of 130 minutes, during an undisturbed and planned “bonding” in skin-to-skin contact. One observation with PDA was continued after 60 minutes with the father in skin-to-skin contact because the mother had to be treated medically.

As a limiting factor, I want to note that the mother’s psyche and the relationship of the parents can influence behavior after a birth with PDA.

Results of the observations using “Infant Observation” of mother and baby with and without PDA in the sensitive period after birth

Summarizing, a reduced concentration on her baby by the mother after PDA could be established. The observed mothers were less able to grasp the needs of the baby intuitively. The babies needed longer to calm down. Only after the newborns were relaxed did they begin to actively seek the breast. The mothers, however, were not yet ready for this, at the time. They felt exhausted or could not tune in to the behavior of their babies. The difficulty of establishing a breastfeeding relationship with the baby arose from this, although all babies showed explorative behavior and gave signals that made it abundantly clear that they wanted to suck at the breast. By contrast to this, the babies of mothers without PDA all sucked within two hours after the birth, while the newborns of the mothers with PDA were not breastfed (in this time or at all?_EH)

All of the mothers after a spontaneous birth without PDA were focused on their babies. Immediate intensive eye contact, which was repeated over and over again, followed. The mothers without PDA touched and stroked their babies more frequently than did the mothers with PDA. After birth, these babies were able to be calmed down more easily. Also the mothers' pain perception seemed less without PDA. They allowed their focus on their babies to be disturbed less by the observed pain. It was exactly this focus of the mother on the baby - as if she found herself in another world - that seemed to support the intuitively correct and timely reaction of the mother to her baby.

So it seems that the changed behavior was triggered by the changed hormone release after the birth.

Effects of neuro-endocrinological changes postpartum

Neuro-endocrinological imprinting occurs through the high release postpartum of the birthing hormones. Thus, during the birth, the activation of oxytocin is associated with an increase of the oxytocin levels in the cerebrospinal fluid in the brain.^[18] A special neural system makes social behavior and emotional expression possible.^[23] Oxytocin is of decisive importance for social interaction, reduced anxiety and social memory.^[19] It influences the hypothalamic-pituitary-adrenal axis and its autonomous functioning and, thereby, the ability

to deal with stress.^[23] The effects of PDA inhibit maternal oxytocin.^[26] However, the activation of the vagus is of decisive importance for the stress reaction system, in order to promote a peaceful behavioral state and, as a consequence, to trigger social effects. The relationship can only be consolidated when both partners feel safe.^[23] Changes in the endorphin and catecholamine levels can change the attentiveness and the concentration of the mother on her baby.

The extreme and uniquely high level of bonding-promoting hormones after the birth, has the purpose of, among other things, seeing to it that mother and baby fall in love with each other and, last, but not least, that they get to know each other by smell. This imprinting is also consolidated inter cerebrally.^[18]

The perceptions of the mother when touching her baby, breastfeeding or in skin-to-skin contact are jointly responsible for the mother's future behavior. They determine whether she happily takes her baby to her heart, whether she offers him the breast or wants to be with him frequently or willingly hands him over to someone else.

In animal studies, the effects of PDA inhibit the maternal oxytocin which, in mice, leads to breastfeeding problems and social deficits.^[26]

In my observations, there were changes in the bonding behavior of mother and baby in the first two hours after birth.^[1]

The extent to which changed neuro-endocrinological imprinting effects, in the sensitive phase after the birth, influence the subsequent perceptions and bonding behaviors of mother and baby, has not been sufficiently researched.

Discussion and Outlook

If the mother cannot understand the baby's feelings because she is so preoccupied with herself, she reacts with irritation and feels overwhelmed by his needs.^[32]

Reflected resonances by the attachment figure are, in turn, involved in the development of the baby's ability to be empathetic.^[33] Touching and social experience support the optimal development of the brain. Particularly at certain times, such as when the brain is growing, it is important that the baby's brain function be stimulated.^[5]

A sensitive bond between mother and baby is essential for the baby's future life. Bonding problems often continue throughout the entire lifespan. The stress for the baby, which grows out of this, influences

his hormonal system and can also weaken his immune system because the central nervous system is connected with the hormonal system via complex feedback mechanisms.^[34]

On the one hand, the findings on relationships in the postpartum period should not be overestimated. Every mother brings an individual ability to form relationships, which shapes their relationship life-long and is already being prepared during the pregnancy.

On the other hand, “bonding” in the postpartum period represents a proven learning process, which occurs through early interaction of mother and infant. However an imprinting process along the lines of Klaus and Kennell (1987) has not been confirmed.^[35] For breastfeeding counselling, it is important to consider the perceptions of the mother from the aspect of the neuro-endocrinological research.

Changes in the bonding behavior of mother and baby, which could possibly also be triggered by the PDA, have, among other things, far-reaching effects on health, on the social capability of the newborn and on his future life. Thus, supporting the bonding relationship of mother and baby should occupy a high position when selecting birthing measures and making decisions about them.



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