



## Expressing milk for your baby

- When babies are born sick or early, they might not be able to drink milk from the breast (or a bottle)
- Your milk is very good for your sick or premature baby, it helps to protect them against infection and is good for their brain
- Lots of mothers/parents find it hard to express milk (get milk out of the breasts) when their baby is sick or premature
- This pack of information cards is designed to give you simple advice on how to express milk
- The back of each card tells you about the evidence (research) for the advice. You don't have to read this
- The information in these cards was gathered as part of a PhD degree by neonatal doctor, Ilana Levene. It was approved by the Neonatal Nurses Association (NNA)

FUNDED BY

**NIHR** | National Institute for  
Health and Care Research

EXPRESS is funded by the National Institute for Health Research (NIHR).  
The views expressed are those of the author(s) and not necessarily those of  
the NIHR or the Department of Health and Social Care.



---

## Questions covered in the cards:

- How often should I express? ..... 1
- How much milk should I express? ..... 2
- Do I need to express at night? ..... 3
- How can I express more?
  - More skin to skin cuddles ..... 4
  - Things that help you relax ..... 5
  - Using your hands ..... 6
  - Both breasts at the same time ..... 7
  - Taking medicine ..... 8
  - Other things people recommend ..... 9
- How long should I express for? ..... 10





## How often should I express?

- **Expressing more often is linked to getting more milk**
- **Try to express eight times a day or more**
- **Most women/people who express less than six times a day do not get enough milk to give their babies only breastmilk for a long time**
- If you have breastfed before you may be able to express less often
- Some women/people find it hard to get much milk even if they express often. Any amount of milk is good for your baby



### WHY?

- If milk is sitting in the breast for a long time, the body sends signals to make less milk. If you express often, the body sends signals to make more milk

### TIPS

- Expressing doesn't have to be at regular times – if it works for you, try putting two sessions close together in the morning or in the evening

1

# EVIDENCE

- Lots of studies have shown that expressing more often is linked to getting more milk, both early after birth and in later weeks
- Several studies have shown that expressing at “high frequency” (more than 5, 6, 7 or 8 times a day) is linked to an amount of milk that is thought to be a “full milk supply” (see next card for more on the amount of milk)



“ I needed a lot of reassurance to keep going. It felt like a lost battle for the first two weeks, so it was important for people to keep telling me I was doing OK. ” – Aarti, gave birth at 27 weeks

## References:



Lai  
2020



Levene  
2024



## How much milk should I express?



- **At first you will get very tiny amounts of ‘milk’ (colostrum)**
- **On average it takes 2-3 days from birth for milk to ‘come in’** (being able to express more than 20ml at a time, milk may become more white).
- **Expressing early and often is linked to bringing your milk in**
- **Your baby will not need much milk at first. Even small amounts are really good for them**
- If you want to give your baby only your milk for a long time (“exclusive breastfeeding”), then **try to express more milk than your baby needs** in the first weeks. See the back of the card for targets
- Women/people have different challenges with expressing milk. You may find it hard to get a lot of milk whatever you do and **this isn’t your fault**

### WHY?

- Your body might not fully develop its milk-making ability if you are expressing a small amount in the first weeks after birth

### TIPS

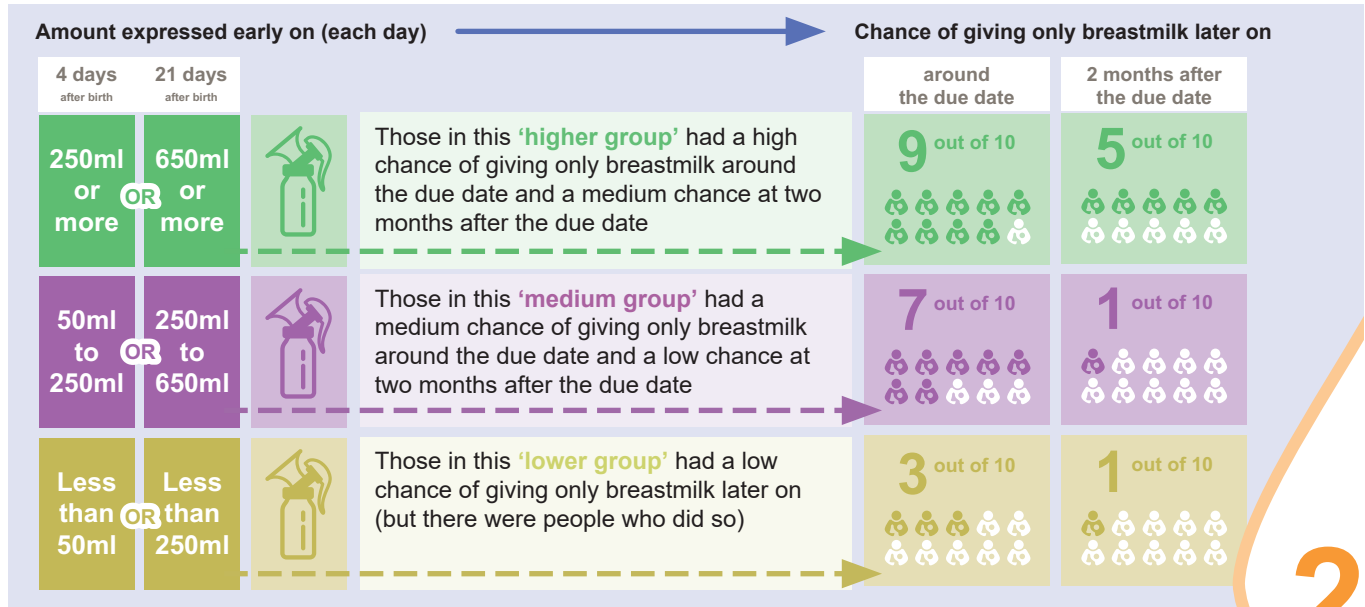
- Ask for more help from staff in the baby unit (and look at the other cards in this pack) if:
  - Your milk hasn’t ‘come in’ after three days
  - You are expressing less than 50ml (in the whole day) on day four after birth
  - You are expressing less than 250ml (in the whole day) three weeks after birth

2



- One study compared the **amount of milk** expressed early on with the chance of giving **only breastmilk** later on. The results apply to twins as well as single babies. This study was for babies born very early (before 32 weeks of pregnancy)
- Remember, giving only breastmilk is not the only thing that matters to families. There are lots of things you can do to help your baby as well as giving breastmilk (like having skin to skin cuddles, talking to your baby, getting to know your baby's signs of being well and unwell, changing nappies and so on)

# EVIDENCE



“ Try not to compare your progress with other mums on the unit. We are all different. It's ok to have less.

– Faiza, gave birth at 34 weeks ”

## References:



Levene  
2024



## Do I need to express at night?

- A long gap between expressing sessions is linked to getting less milk
- Try not to leave any gaps of more than six hours, including at night
- Most women/people who have gaps of more than six hours do not get enough milk to give babies only breastmilk for a long time
- The night time session **doesn't have to be** at a particular time
- You can plan around when you like to go to bed. For example you could express at 10pm and 4am, or midnight and 6am
- Some find night expressing hard because it reminds them they are not with their baby. See the tips below for how to make this session easier



### WHY?

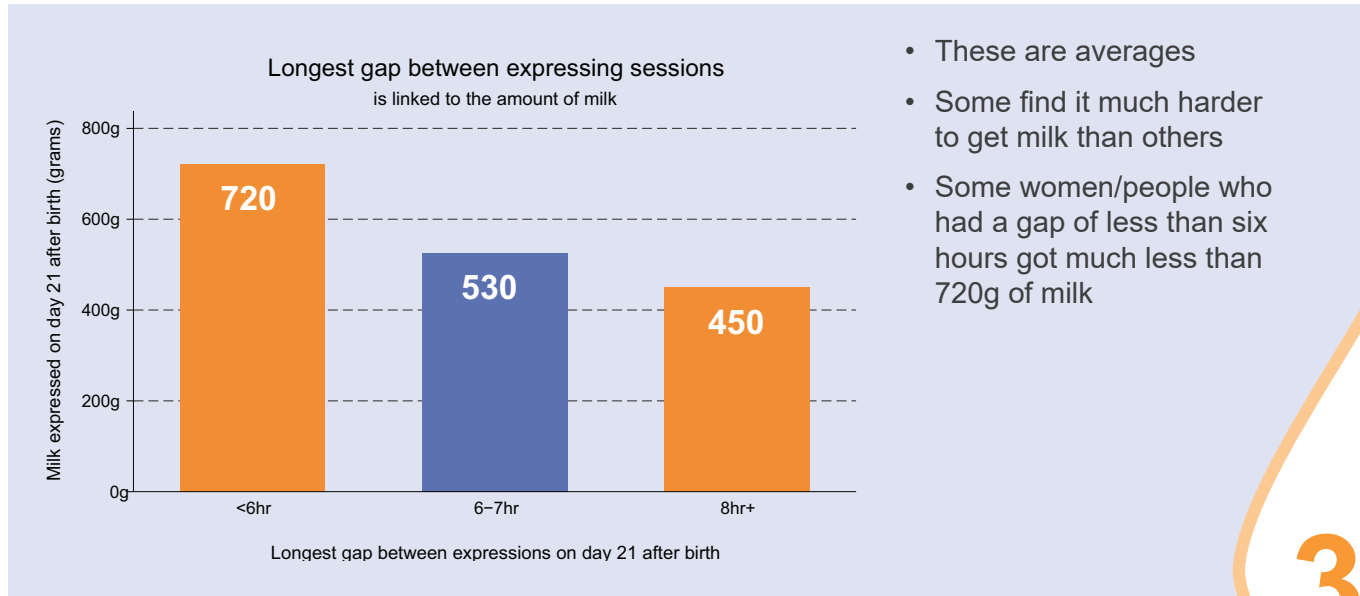
- If milk is sitting in the breast for too long, the body sends signals to make less milk

### TIPS

- Can you get a second set of pump parts so you can save the cleaning until the morning?
- Can someone else set the pump up and do the cleaning at night?
- If you like distraction, find people who are up at night to talk to while expressing (an online support group? A friend in a different time zone or working shifts?), or ring the baby unit to talk to your nurse
- If you prefer to stay sleepy, listen to relaxing music or do some breathing exercises while expressing

3

- There have not been many studies looking at gaps between sessions. In one study, those who had smaller gaps between sessions, expressed more milk
- There is more of the milk-making hormone called prolactin in the blood at night. In this study, women/people didn't get any more milk during night time expressing sessions. Keeping the gap between sessions under six hours was more important than the exact time of night-time expressing



- These are averages
- Some find it much harder to get milk than others
- Some women/people who had a gap of less than six hours got much less than 720g of milk

“ I found pumping at night hard as it made me think about my baby not being there. I stayed in bed while expressing and put towels over the bed clothes in case of leaks. ”

– Jenny, gave birth at 25 weeks

#### References:



Levene  
2024



Q

## How can I express more?

A

### More skin to skin cuddles

- **Having as much skin to skin time with your baby is one of the best things you can do to increase the amount of milk you express**
- Having skin to skin also has other positive effects on you and your baby
- Having skin to skin can help other people like a partner or the baby's brothers and sisters as well



*This photo was taken without blankets to show how you can express while having skin to skin. A small baby should always be covered up to stay warm during skin to skin*

### TIPS

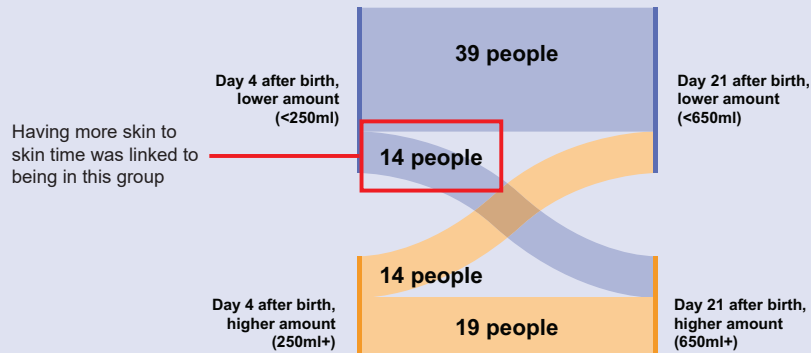
- If your baby is too sick for skin to skin, don't be afraid to keep asking doctors and nurses when they will be ready
- Go to the toilet before you start having skin to skin, and have a drink/snack with you if these are allowed on your baby unit
- It is possible to express milk while you have your baby skin to skin if you want to try – see the photo
- Babies can sometimes have procedures like blood samples during skin to skin if you are happy with it, ask your medical team

4

- Lots of studies have shown that having more skin to skin time with baby is linked to having more milk and breastfeeding for longer. It's also linked with faster growth and less infections for the baby
- In one study, each extra hour of skin to skin time was linked to around 80ml or more milk each day, in the first month after birth



In one study, having more skin to skin time was the most important predictor of moving from having a lower amount of milk on day four after birth to a higher amount of milk three weeks after birth



See card 2 for more on why these amounts of milk were chosen to study

“ my secret ingredient is to wear a button up shirt so I don't feel totally undressed. I would also say, don't wait for an ideal time to get them out, just do it. Most cares and feeds can happen during skin to skin ”

– Annabel, gave birth at 29 weeks

References:



Agustin Conde-Agudelo 2016



Levene 2024



Daniels 2023

# Q How can I express more?

# A Things that help you relax

- **Relaxation increases the amount of milk for some women/people**
- **Relaxation reduces stress for some women/people**
- It is likely that the earlier your baby was born and the more anxious you are, the smaller the effect of relaxation
- It is possible that using relaxation more often, has a bigger effect
- It is possible that looking at pictures of your baby (or at your baby!) at the same time as relaxation has a bigger effect



## TIPS

- You can use any way of helping you relax – like relaxing music, meditation, mindfulness or breathing exercises
- Some like using relaxation while expressing at night, others like doing it when they are with their baby
- There are some recordings for parents of sick and premature babies that you can download or listen to



Supplementary  
Audio file 1



Multimedia  
tab

5

- Looking at about 450 women/people in 9 research studies showed that asking them to practice relaxation while feeding or expressing, increased the amount of milk by about 120ml each day (on average)
- This is comparing those given relaxation and those not given relaxation. It doesn't mean that milk supply goes up by 120ml for one person after using relaxation
- The studies of those who had given birth the earliest (28 to 30 weeks of pregnancy on average) showed the smallest effects. For example, 75ml each day in one study (which could have been down to chance rather than an effect of relaxation)
- Most women/people liked using relaxation and said it made them feel more relaxed



“ Because my birth felt rather traumatic, using a pumping meditation reminded me to focus on the things that I can do right now and being present while I'm expressing, focusing on the love I have for my child. ”  
 – Aurelie, gave birth at 26 weeks

“ For me, the smell or some clothing from my daughter was very important. ”  
 – Leena, gave birth at 39 weeks

“ I preferred to be in the expressing room away from the incubator and the sounds of monitors as I found those stressful. ”  
 – Sofia, gave birth at 23 weeks

“ I needed to be near my baby or in a relaxed environment. I expressed more when I wasn't on my own. ”  
 – Tendai, gave birth at 33 weeks

References:



Levene  
2024a



Levene  
2024b



How can I express more?



*Using your hands*

- **Massaging the breasts before you start expressing is linked to getting more milk**
- **Massaging the breasts during expressing may help you get more milk**

### WHY?

- When babies feed, they get milk out by massaging the breast with their tongue (pushing the milk out), as well as suction (pulling the milk out)
- Breast pumps only make suction (pulling the milk out), they don't do the massaging action that a baby would do

### TIPS

- You could stick a reminder note to the pump parts if you are forgetting to use massage
- There are a few different ways of going "hands-free" to help you massage while pumping. See the back of this card for pictures and links to videos. You can also buy a hands-free pumping bra

6

- In one study, those who used massage **before** expressing got 30 to 40ml more milk at each session than those who didn't use massage
- How it's done: "a hand action that rolled the knuckles downward over the breast, beginning at the ribs [the side of the chest] and working towards the areola [the darker area of skin around the nipple]"
- In one study, those who used "hands-on pumping" could express a lot of milk, and increased the amount of milk they could express for at least 8 weeks. There was no comparison group so we can't be sure that this was because of the "hands-on pumping"
- How it's done: "compressing the breasts and massaging firmer areas" while pumping, using the sprays of milk to guide where and how to use the hands.
- When milk flow stops, they also advised to stop pumping, massage for a few minutes and then pump or hand express some more.
- Using a nursing bra to hold the pump parts, watch a video here.
- This is a video showing techniques for "hands on pumping"



Using a piece of large "tubigrip" (support bandage, ask your midwife). Watch video here.



Using a "CTG" belt (ask your midwife). A towel under the breasts might help



Propping the bottles up

Image Credits: Morton 2009, Sheffield neonatal unit, Oxford neonatal unit

## References:



Jones  
2001



Morton  
2009



## How can I express more?



## Both breasts at the same time

- **Expressing both breasts at the same time is linked to getting more milk than expressing one after the other**
- **Expressing both breasts together also takes less time**

### WHY?

- When you start expressing, it takes some time for your body to “let down” (milk flow starts or gets stronger). The more “let downs” you get, the more milk comes out
- If you express both breasts at the same time (“double pumping”), you get double the benefit for each “let down”

### TIPS

- Double pumping makes some people feel awkward but this often gets better with time. You could try using a feeding cover, or distracting yourself
- Some women/people don't like to see the milk going into the bottles when double pumping as it might seem like a small amount. You could try covering the bottles up with baby socks or mittens
- You can double pump and still use your hands for other things. See card number 6 for ideas, links and pictures on going “hands free”

7

- In one study, those who expressed both breasts together got 35 to 45ml more milk at each session than those who expressed one after the other
- Two other studies did not show a difference in the amount of milk, so we don't know for sure that double pumping increases the amount of milk
- One study showed that expressing both breasts together reduced the amount of time spent expressing by half an hour each day



“

I feel like double pumping gets it done quicker and leaves more time to spend with my baby. I bought a cheap pumping bra online.

– Annabel, gave birth at 29 weeks

”

7

#### References:



Hill  
1999



Jones  
2001



Grah-Wargo  
1995





## How can I express more?



## Taking medicine

- **A medicine called domperidone is linked with getting more milk (about 90ml per day more)**
- **There are some safety warnings about this medicine so your GP may or may not be happy to prescribe it for you**
- **If your GP is happy to prescribe it, this may only be for a few weeks**

### WHY?

- Domperidone increases the amount of a milk-making hormone called prolactin

### TIPS

- Before thinking about domperidone, make sure you have had good face to face support from the staff in your baby unit
- Before thinking about domperidone, have a look at the other cards to try and boost your milk in other ways
- The effect of domperidone may not last after you stop taking the medicine

8

- Looking at about 200 women/people in five studies, domperidone increased the amount of milk each day by 88ml
- Here are some resources you can show your GP if you would like to discuss domperidone with them. Your GP will think about any other medicines you take and whether you have any heart problems:
- Breastfeeding Network summary



[www.breastfeedingnetwork.org.uk/factsheet/  
domperidone/](http://www.breastfeedingnetwork.org.uk/factsheet/domperidone/)

*(if this link doesn't work, search the  
[www.breastfeedingnetwork.org.uk](http://www.breastfeedingnetwork.org.uk) for 'domperidone')*

- NHS specialist pharmacy service comments



[www.sps.nhs.uk/articles/using-domperidone-for-low-milk-supply/](http://www.sps.nhs.uk/articles/using-domperidone-for-low-milk-supply/)  
*(if this link doesn't work, search [www.SPS.nhs.uk](http://www.SPS.nhs.uk)  
for 'domperidone low milk supply')*



## References:



Grzeskowiak  
et al 2018



## How can I express more?



## Other things people recommend

- **You may get other recommendations for increasing milk supply**
- There is very little research on whether these work
- This includes things like:
  - Getting enough rest
  - Drinking a good amount
  - Eating particular foods
  - Taking herbal medicines
  - Stopping smoking




### WHY?

- It is likely that some foods and herbal medicines affect milk making hormones, but we don't know which ones
- Looking after your body may help it make milk (and is also good for your health!)
- Smoking is linked to having a lower milk supply

### TIPS

- Herbal medicines can have side effects. Always read the information provided with the product

- Studies that have tried to combine all the evidence on herbal medicines have said that no particular ones can be recommended
- There are some small studies suggesting an increase in the amount of milk with:
  - Moringa
  - Torbangun
  - Silymarin (milk thistle)
  - Shatavari
  - Fenugreek
  - Xiong-gui-tiao-xue-yin
  - Bu Xue Sheng Ru
  - Chan Bao
  - Barley malt
  - Galega
  - Pimpinella anisum
- These products might have side effects. Always read the product information and think about any other medicines you are taking. There is very low certainty that any of these products have an effect on milk.
- The Breastfeeding Network have some information about fenugreek here:  
 [www.breastfeedingnetwork.org.uk/factsheet/increasing-milk-supply-use-of-galactagogues/](http://www.breastfeedingnetwork.org.uk/factsheet/increasing-milk-supply-use-of-galactagogues/)  
(if this link doesn't work, search [www.breastfeedingnetwork.org.uk](http://www.breastfeedingnetwork.org.uk) web page for 'galactagogues')



## References:

Foong  
2020Mortel &  
Mehta 2013



## How long should I express for?

- **There is no clear target for how long to express for at each session**
- Women/people often express for between 20 and 30 minutes at a time
- Lots of short expressing sessions are likely better than a smaller number of long expressing sessions



### TIPS

- One way of doing lots of short expressing sessions is called “power pumping”. This is when you express for 10-15 minutes, then take a short break, then express again, take a break and so on
- Another way of doing “power pumping” is to express one breast for 10-15 minutes, then switch to the other breast, and keep switching back and forth
- When women/people are finding it hard to express, they sometimes keep going for very long periods to try and get more milk. In fact, it is likely better to do lots of short sessions instead

10

- Only two studies have looked at this. In both, the total amount of time spent expressing in a day was not linked to the amount of milk
- The number of times women/people expressed each day was linked to the amount of milk they got (more times = more milk)
- The gaps between sessions was linked to the amount of milk they got (longer gaps = less milk)
- Most of the milk expressed at one session comes out in the first 10 minutes
- This is why lots of shorter sessions is likely to be better than a smaller number of long sessions



References:



Levene  
2024



Hopkinson  
1988



Prime 2012