

INFANT FEEDING BEHAVIOURS AND OTHER PATTERNS (SLEEP, ELIMINATION)

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Objectives

- Describe the 'normal' breastfeeding patterns and its variants
- Describe the 'normal' elimination patterns from birth onwards
- Describe 'normal' sleeping patterns
- Discuss the total duration of breastfeeding

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2

PLAN

- **Introduction & resources**
- Feeding patterns
- Stooling patterns
- Sleeping patterns
- Conclusion

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3

Resources



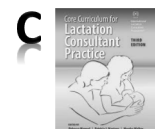
'Supporting Sucking Skills'
Catherine Watson Genna,
2nd Ed. (2013)

Kellymom.com
(evidence-based information on
breastfeeding and parenting)



'BF and Human Lactation'
Jan Riordan & K. Wambach
5th Edition (2016)

'The BF Atlas'
Wilson-Clay & Hoover,
4th Edition (2008)
and CD from 2nd edition



'Core Curriculum'
ILCA
3rd Edition (2013)



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4

PLAN

- Introduction & resources
- **Feeding patterns**
- Output patterns
- Sleeping patterns
- Conclusion

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Feeding Data Collection

- If BF, frequency (/24 hrs, / day, / night)
- On demand of who (baby, mother, clock)?
- Duration of feeds (range)?
- Behaviour at breast (sleepy, pulling, loud gulping, choking, on & off, gumming, biting?)
- Takes how many breasts per feed?
- If unilateral BF: maternal or infant's preference?
- Use of nipple shield?
- If EBM? How much received?
- Any other milk? Which type/ Quantity / frequency?
- Which method of feeding?

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Feeding Frequency

- 'On demand', 'early cues' → difficult for most mothers to give a number
- Newborns until the first 6-8 weeks: most need to feed between 8 to 12 times in 24 hours
 - Avoids/reduces engorgement
 - Establishes good milk production (prolactin receptors)
 - Nourishes an infant with small stomach size to double his weight by 4-6 months
 - Ensures emotional closeness

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Duration of Feedings

- Varies between babies (personality, presence of challenge, mother's storage capacity, flow, fat-content...)
- Varies for the same baby, according to:
 - Age (newborns take usually more time)
 - Hunger, thirst
 - Degree of breast fullness,
 - Time of the day
 - Sleep/awake state
- Anything between 5 to 30 minutes per breast could be 'normal'...

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After the Initial Weeks...

- As babies grow, stomach capacity increases, suckling efficiency increase
- feeding frequency/duration decreases,
- feeding pattern may become more regular

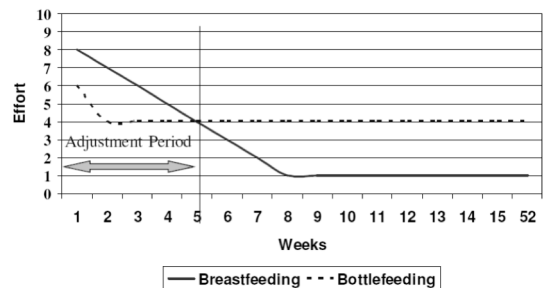


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<http://www.nancyrohrbacher.com/articles/2010/08/13/the-magic-number-and-long-term-milk-production-part-1.html>

Workload Decreases...



Reproduced with permission from Nancy Mohrbacher

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10

A Study from Sweden



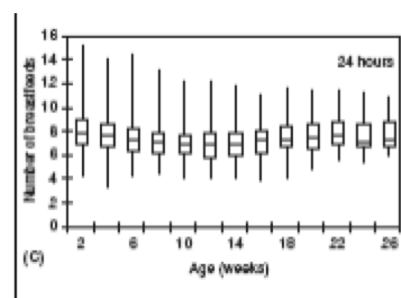
- How do exclusively breastfed infants feed?
- Study by Hornel et al (1999):
 - 506 exclusively breastfed Swedish infants,
 - longitudinal record during six months (26 weeks)
 - Sweden: breastfeeding is the norm
 - Inclusion criteria: having breastfed at least one infant for at least 4 months, and breastfeeding on demand

'Breastfeeding & Human Lactation p.107

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11

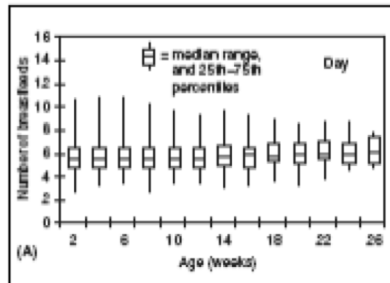
➤ Median Frequency: 8 per 24 hours



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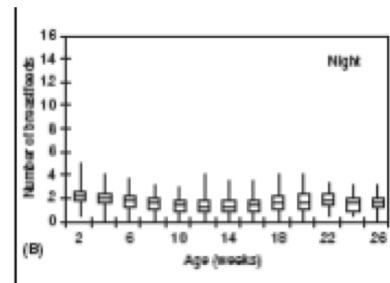
12

➤ Median for Day Time:
Slightly Below 6



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Median for Night Time:
2.2 at 2 wks, 1.3 at 12 wks, 1.8 at 20 wks



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Feeding Patterns (cont.)

Wide variation among mothers (Hornell et al):

Frequency:

- Range for daytime feeds at 2 weeks: 2.9 to 10.8
- Range for night feeds at 2 weeks: 1.0 to 5.1

Duration:

- Daytime: 20 minutes to 4 hours
- Night feeds: from 0 to 2 hours 8 minutes

- Variations can be explained by:
 - breast milk-storage capacity
 - lifestyle and mothering choices (e.g. study among La Leche League mothers: average daily number of feeds → 1.5 per day)

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Cluster Nursing

Common feeding pattern during the early months:

- Feeds closer together at certain times of the day (usually the evening)
- Going longer between feedings at other times



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Growth Spurts

- Also called 'frequency days'
- Babies seem more hungry, need to feed more often
- Common times for growth spurts:
 - the first few days at home
 - around 7-10 days, 2-3 weeks, 4-6 weeks,
 - 3 months, 4 months, 6 months and 9 months (+/-).
- Usual duration: 2 – 3 days (sometimes 1 week)

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The 'Magic Number'

- Between 1 and 6 months: amount of milk per day babies need stays remarkably stable (on average between 750-1050 mL per day).
- 'Magic number' (Nancy Mohrbacher): number of times each day a mother's breasts need to be well drained of milk to keep her milk production stable.
- Due to differences in breast storage capacity, some mothers' "magic number" may be as few as 4-5 or as many as 9-10.

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PLAN

- Introduction & resources
- Feeding patterns
- **Output patterns**
 - Stools
 - Urine
- Sleeping patterns

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Output Data

- Crucial information in early days & weeks
- Stools: frequency / colour / quantity
 - Urine: colour, heavy nappies?
- N-B: Frequency (urine) usually difficult to appreciate.

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Output Patterns

Day	Milk Intake/Day (ml)	Voids (min.)	Stools (min.)
1	5-100 (aver. 30)	1 wet diaper	1 black tarry stool
2	10 -120 colostrum	2 wet	1-2 <i>black tarry</i>
3	200	3 wet	Some green stools
4	400	4 wet	4 loose yellow
5	600 +	6 wet	3-4+ yellow
6 da – 6 mo	550 – 950 ; average 750	6 + wet	3-5+ yellow or 1/several days (after 3 weeks)

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21

➤ **Stools Aspect (day 1-2)**



Meconium stool

'The Breastfeeding Atlas' fig. 61

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➤ **Stools Aspect (day 2-4)**



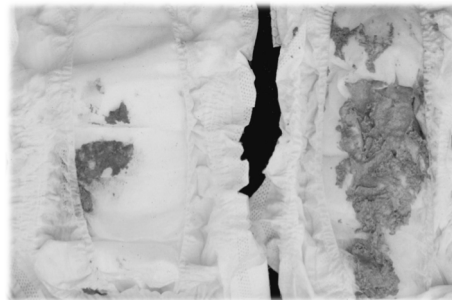
Transitional stool

'The Breastfeeding Atlas' fig. 62

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➤ **Size Also Counts**



Size comparison

'The breastfeeding Atlas' fig. 65

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24

Stools Aspect (from day 4-5)

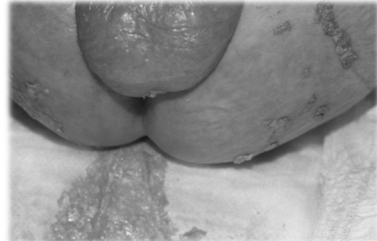


Yellow (watery) stool
'The Breastfeeding Atlas' fig. 67

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25

Stools Aspect (variations)

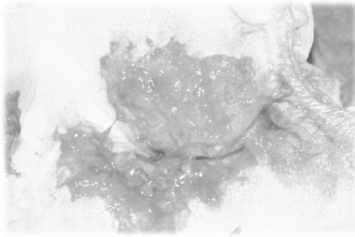


Yellow (seedy) stool
'The Breastfeeding Atlas' fig. 68

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26

Stools Aspect (variations)



Yellow (curd-like) stool
'The Breastfeeding Atlas' fig. 69

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27

Stools Aspect (variations)



Green stool
'The Breastfeeding Atlas' fig. 70

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28

Stools Aspect (variations)



Blood in stool
'The Breastfeeding Atlas' fig. 73

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29

Different from...



Bloody vaginal discharge
'The Breastfeeding Atlas' fig. 74

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30

And from...

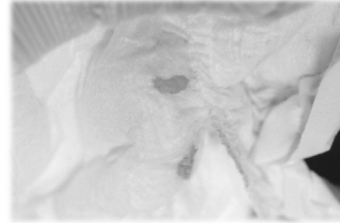


White vaginal discharge
'The Breastfeeding Atlas' fig. 75

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31

Urine Aspect (variations)

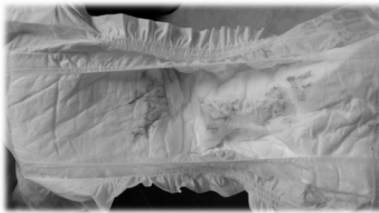


"Brick dust" urine on day 2
'The Breastfeeding Atlas' fig. 72

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32

Urine Aspect (pathological)



"Brick dust" urine on day 5
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33

PLAN

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34

What is 'Normal'?

- Wide range of normal (like between adults)
- Many factors play a role
- Similarities:
 - Newborns: sleep around 15 to 18 hours from 24 hours
 - With 6 to 8 of these hours during day time
 - 'Happily awake span': 45 minutes to an hour or two at a time
- Realistic expectations: night feeds are normal
 - Babies have small stomach capacity
 - Breastmilk is easy to digest
 - Immature sleep system (need help to get asleep)

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Sleep Deprivation


- One of the biggest challenges for parents
- Many myths, misconceptions, unrealistic expectations (sleeping through the night...)
 - multitude of 'sleep-training' methods (letting baby cry more and more until he gives up...)
- Other more physiologic strategies can help parents to cope better...
 - E.g.: observing sleeping cues, co-sleeping

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36

http://kellymom.com/parenting/nighttime/newborn-sleep-a-discussion-with-elizabeth-pantley/

Expectations



“[...] it is **perfectly natural, absolutely normal, and totally expected** for your baby to wake up in the night and need nourishment or your help to fall back to sleep. Sleeping all through the night, every night, without needing a parent’s assistance, is like learning to walk or talk or drink from a cup —

— all kids get there, but they do so at their own speed, a little bit at a time, and in their own unique way.” Elizabeth Pantley [The no-cry sleep solution for newborns]

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‘Baby Sleep Info Source’


<https://www.basionline.org.uk/>



This website presents research evidence about biologically normal sleep for human babies.

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‘ABM protocol for Co-sleeping’



ABM Protocol

**Bedsharing and Breastfeeding:
The Academy of Breastfeeding Medicine Protocol #6,
Revision 2019**

Peter S. Blair,¹ Helen L. Ball,² James J. McKenna,^{3,4} Lori Feldman-Winter,⁵ Kathleen A. Marinelli,^{6,7} Melissa C. Bartick,⁸ and the Academy of Breastfeeding Medicine

<https://www.liebertpub.com/doi/pdf/10.1089/bfm.2019.29144.psb>

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‘Bedsharing and Breastfeeding – Excerpts’ (cont.)

“Overall, the research conducted to date on bedsharing and breastfeeding indicates that night-time proximity facilitates breastfeeding duration and exclusivity (levels 2–3). [...] Existing evidence does not support the conclusion that bedsharing among breastfeeding infants (i.e., breastsleeping) causes sudden infant death syndrome (SIDS) in the absence of known hazards (level 3) (see Table 1).”

ABM Protocol 6, 2019 40

‘Bedsharing and Breastfeeding – Excerpts’ (cont.)

TABLE 1. HAZARDOUS RISK FACTORS OR CIRCUMSTANCES DURING BEDSHARING

These are factors that increase the risk of SIDS and fatal sleeping accidents, either alone or when combined with bedsharing.^{11,26,41,42}

- Sharing a sofa with a sleeping adult (“sofa-sharing”)
- Infant sleeping next to an adult who is impaired by alcohol⁹ or drugs
- Infant sleeping next to an adult who smokes
- Sleeping in the prone position
- Never initiating breastfeeding
- Sharing a chair with a sleeping adult
- Sleeping on soft bedding
- Being born preterm or of low birth weight

^aAmounts of alcohol causing impairment are discussed in the text. SIDS, sudden infant death syndrome.

ABM Protocol 6, 2019 41

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‘Bedsharing and Breastfeeding – Excerpts’ (cont.)

TABLE 2. ELEMENTS OF SAFE BEDSHARING ADVICE, IN ORDER OF IMPORTANCE

1. Never sleep with infants on a sofa, armchair, or unsuitable surface, including a pillow (level 3).¹¹
2. Place infants to sleep away from any person impaired by alcohol or drugs (level 3).¹¹
3. Place infants supine for sleep (level 3)¹¹ (level 4)⁴³ (level 5).⁴⁴
4. Place infants to sleep away from secondhand smoke and away from a caregiver who routinely smokes (level 1)²⁸ and clothing or objects that smell of smoke (thirdhand smoke) (level 5).⁴⁵ (In cases where the mother smokes, this will not be possible).
5. The bed should be away from walls and furniture to prevent wedging of the infant’s head or body (level 1).⁴⁶

ABM Protocol 6, 2019 42

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'Bedsharing and Breastfeeding – Excerpts' (cont.)

6. The bed's surface should be firm, just as with a crib (level 3),⁴¹ without thick covers (e.g., duvets, doonas), pillows, or other objects that could cause accidental head covering and asphyxiation.
7. The infant should not be left alone on an adult bed (level 1).⁴⁷
8. Adoption of the C-position ("cuddle curl"), with the infant's head across from the adult's breast, adult's legs and arm(s) curled around the infant, infant on their back, away from the pillow, is the optimal safe sleeping position (Fig. 1) (level 4).^{48,49}
9. There is insufficient evidence to make recommendations on multiple bedsharers or the position of the infant in bed with respect to both parents in the absence of hazardous circumstances.^{50,51} Each locality should consider the cultural circumstances unique to its situation with respect to sleep conditions.

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'Bedsharing and Breastfeeding – Excerpts' (cont.)



FIG. 1. C-position or "Cuddle curl." Breastfeeding mothers adopt a characteristic position (Protective C or Cuddle Curl) in which they make a safe space for their baby to sleep with their bodies. Mother's arm is above the baby's head preventing him/her moving up the bed into the pillows, and her knees are tucked under his/her feet to prevent him/her moving down the bed. Baby is positioned flat on his/her back on the flat mattress for sleep, and next to the mother's breasts for easy feeding. © Baby Sleep Information Source, licensed for use under Creative Commons, 2016. Color images are available online.

ABM Protocol 6, 2019

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'Bedsharing and Breastfeeding – Excerpts' (cont.)

TABLE 3. RISK MINIMIZATION STRATEGIES FOR FAMILIES IN WHICH BEDSHARING IS HIGH RISK

- Increased promotion and support of breastfeeding (level 1)^{12,42,52} (level 3).⁵²
- Referral for smoking cessation and alcohol and/or drug treatment (level 1)⁵³ (level 3).¹¹
- Enhanced repeated multimodal messaging regarding risks of sofa-sharing, bedsharing where hazardous factors are present, including sleeping next to an impaired adult and smoke avoidance. Text messaging and e-mail, including use of video and social media may be helpful if available to parents (level 2).^{34,53,54}
- Sidecars or in-bed devices (e.g., Pēpi-Pod[®], *wahakura*) can be considered (level 2).^{1,55}
- Emphasize room-sharing where and when bedsharing cannot be done safely.
- Take into account the importance of the partner and other support persons' involvement in the infants' sleep time activities.

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'Bedsharing and Breastfeeding – Excerpts' (cont.)

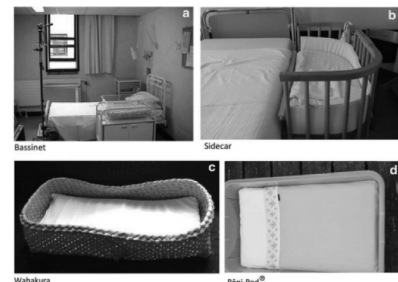


FIG. 3. Bassinet, sidecar, *wahakura*, and Pēpi-Pod[®] (a) bassinet, (b) sidecar, (c) *wahakura*, (d) Pēpi-Pod. Color images are available online.

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'Bedsharing and Breastfeeding – Excerpts' (end)

"Accidental suffocation death is extremely rare among bedsharing breastfeeding infants in the absence of hazardous circumstances (levels 2–3),²⁰ and must be weighed against the consequences of separate sleep. There are consequences to breastfeeding with separate sleep (even with room-sharing) that include the risk of early weaning, the risk of compromise to milk supply from less frequent nighttime breastfeeding, and unintentional bedsharing (levels 1–3)."

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47

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PLAN

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48

So Many Individual Variations

- Knowledge of most common patterns useful
- Empowering mothers to trust their baby and their body (e.g. on demand feeding)
- In the same time, basic red flags should be well-known by mothers: constant feeding, decreased stools or urine, sleepiness,...
- At the end of a consultation, we should be able to empower the mother (either through reassurance or through management plan).

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49
49

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Thank you!



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50