

Handling of breast milk by neonatal units: Large differences in current practices and beliefs

Translated and adapted version of the stratified questionnaire. Conditional branching is not depicted.

Abbreviations: BM, breastmilk; CMV, cytomegalovirus.

Q1: What level of neonatal care are you providing?

- a) Level III (highest level of neonatal care)
- b) Level II
- c) Level I
- d) Other

Q2: How many inborn infants below 1500 g birth weight were treated in your unit in 2015?

Q3: Does your perinatal center perform antenatal maternal CMV screening until a certain postmenstrual age?

Q4: Do you perform CMV inactivation in BM under certain circumstances?

Q5: Until which postnatal body weight (not birth weight) of the infants do you perform CMV inactivation?

- a) Not depending on body weight
- b) < 1000 g
- c) < 1250 g
- d) < 1500 g
- e) < 2000 g

Q6: Until which postmenstrual age of the infant do you perform CMV inactivation?

- a) Not depending on postmenstrual age
- b) 26 weeks
- c) 28 weeks
- d) 30 weeks
- e) 32 weeks

Q7: Do you feed raw colostrum of CMV seropositive mothers?

- a) No, colostrum will be subjected to CMV inactivation
- b) Yes, until day 2 of life
- c) Yes, until day 4 of life
- d) Yes, until day 6 of life
- e) Other

Q8: What methods are used for CMV inactivation in your unit?

- a) Freeze/thawing
- b) Holder-Pasteurisation (62.5 [\pm 0.5] °C /30 min)
- c) Short-time pasteurisation (< 30 min)
- d) None
- e) Other

- Time (s):
- Temperature (°C):
- Others/comments:

- Days:
- Weeks:
- Months:
- Another timeframe:

- Postmenstrual age (weeks):
- Body weight (g):
- Others/comments:

a) Yes
b) No

- a) Expressed in the hospital
- b) Expressed at home
- c) Both

- Yes
- No, contaminated milk will be discarded if a certain bacterial BM threshold level is exceeded

| Evidence of | Not tested for | No pasteurisation needed | Bacterial count limits (colony-forming units/mL) | | | | |
|------------------------|----------------|--------------------------|--|-------------------|-------------------|-------------------|-------------------|
| | | | > 0 | ≥ 10 ² | ≥ 10 ³ | ≥ 10 ⁴ | ≥ 10 ⁵ |
| Skin commensals | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Staphylococcus aureus | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Gram-negative bacteria | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Bacillus cereus | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

Q 16: Until which postnatal body weight of the infant (not birth weight) do you perform a bacterial count reduction?

- a) Not depending on body weight
- b) < 1000 g
- c) < 1250 g
- d) < 1500 g
- e) < 2000 g

Q 17: Until which postmenstrual age do you perform a bacterial count reduction?

- a) Not depending on postmenstrual age
- b) 26 weeks
- c) 28 weeks
- d) 30 weeks
- e) 32 weeks

Q18: What methods are used for bacterial count reduction in your unit?

- a) Holder-Pasteurisation (62.5 [\pm 0.5] °C /30 min)
- b) Short-time pasteurisation (< 30 min)
- c) Freeze/thawing

Q19: What is the bacterial cut off level for the indication of discarding of breast milk according to the respective bacteria?

| Evidence of | Not tested for | No pasteurisation needed | Bacterial count limits (colony-forming units/mL) | | | | |
|------------------------|-----------------------|--------------------------|--|-----------------------|-----------------------|-----------------------|-----------------------|
| | | | > 0 | $\geq 10^2$ | $\geq 10^3$ | $\geq 10^4$ | $\geq 10^5$ |
| Skin commensals | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Staphylococcus aureus | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Gram-negative bacteria | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Bacillus cereus | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q20: Where is frozen BM stored within your unit?

- a) Neonatal ward/NICU
- b) Separate "milk kitchen"
- c) Breast milk bank (also preparing donor milk)
- d) (Main) hospital kitchen
- e) Others

Q21: Please detail the temperature and duration of storage for BM.

- Temperature (°C):
- Duration (months):
- Others/comments:

Q22: At what location are the actual breastmilk handling procedures (defreeze, portion...) performed?

- a) Neonatal ward/NICU
- b) Separate "milk kitchen"
- c) Breast milk bank (also preparing donor milk)
- d) (Main) hospital kitchen
- e) Others

Q23: Who is performing the actual breastmilk handling procedures (defreeze, portion...)?

- a) Nursing staff (also taking care of patients)
- b) Designated personnel for "milk kitchen" or milk bank
- c) Main hospital kitchen personnel
- d) Dietician/nutritionist
- e) Lactation consultant
- f) Others

Q24: Who is in charge of the "milk kitchen" or the breast milk bank or milk bank services for the NICU?

- a) Nursing staff (explicitly, but not necessarily exclusively designated)
- b) Medical staff (explicitly, but not necessarily exclusively designated)
- c) No one is explicitly in charge
- d) Others

Q25: Do you perform BM nutrients analysis using bedside near infrared analyzers?

- a) No
- b) Regularly, as part of a nutritional regimen
- c) In individual cases
- d) In clinical trials
- e) Others

Q26: Do you add nutrients to BM in addition to standard fortification using multicomponent fortifier (e.g. FM85)?

- a) No
- b) Protein
- c) Lipids
- d) Carbohydrates
- e) Others

Q27: How do you proceed in this regard?

- a) Individual decision
- b) Target fortification (after BM nutrient analysis)
- c) Adjusted fortification (after BM nutrient analysis and infant's metabolic response)
- d) Others

Q28: What is the incidence of breast milk administration errors in your unit per year?

- a) None recorded
- b) > 10 per year
- c) 6-10 per year
- d) 1-5 per year
- e) Others