Alberta Health Services

PROCEDURE

TITLE
BREASTMILK SAFE MANAGEMENT

SCOPE
Provincial: Acute Care

DOCUMENT #
PS-16-01

APPROVAL AUTHORITY
Alberta Health Services Executive Team

INITIAL EFFECTIVE DATE
June 3, 2013

SPONSOR
Vice President, People, Health Professions & Information Technology

REVISION EFFECTIVE DATE
March 31, 2022

PARENT DOCUMENT TITLE, TYPE, AND NUMBER
Breastmilk Safe Management Policy (#PS-16)

SCHEDULED REVIEW DATE
March 31, 2025

NOTE: The first appearance of terms in bold in the body of this document (except titles) are defined terms – please refer to the Definitions section.

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OBJECTIVES

- To facilitate the safe management of **breastmilk** from a **birth parent** in Alberta Health Services (AHS) Acute Care settings.
- To establish consistent practices that are essential for providing quality and safe care for infants in Alberta Health Services (AHS) Acute Care settings.
- To outline processes that will ensure the infant is fed the correct breastmilk.
- To standardize safe management processes for the safe collection, labelling, storage, retrieval, verification, and feeding of breastmilk.

APPLICABILITY

Compliance with this document is required by all Alberta Health Services employees, members of the medical and midwifery staffs, students, volunteers, and other persons acting on behalf of Alberta Health Services (including contracted service providers as necessary).

ELEMENTS

1. Donor Human Milk

1.1 For the safe management of **donor human milk**, **health care providers** shall follow the AHS *Pasteurized Donor Human Milk* Procedure.

2. Hand Hygiene

2.1 When handling breastmilk, health care providers shall perform **hand hygiene** as per the AHS *Hand Hygiene* Policy and Procedure.

a) If there is potential for health care providers to come in contact with breastmilk, health care providers shall wear non-sterile gloves.

2.2 The **health care professional** shall instruct **guardians** to perform hand hygiene before and after pumping or hand expression.

3. Breast Pump Equipment

3.1 To help the guardian prepare to use the breast pump, the health care professional shall:

a) gather the breast pump equipment and supplies for the guardian (see Appendix A: *Breastmilk Collection Equipment and Supplies List*);

(i) Breast pump kit components (breast shields, valves, membranes, and tubing) are **single patient-use medical devices**. Containers and lids to store breastmilk must be clean and are considered a **single-use medical device**.

b) provide the guardian with privacy for pumping; and

c) instruct the guardian on how to:

(i) visually inspect the breast pump kit's individual components for cracks, chips, tears, discolouration, or deterioration prior to use;

(ii) assemble and attach the kit's components, and how to operate the breast pump, according to the manufacturer's instructions;

(iii) place lids on containers when pumping or hand expression is complete;

- When freezing breastmilk, ensure the container is no more than three-quarters (¾) full to allow space at the top of the container for expansion.

(iv) clean and store the kit's components (refer to Section 5.1 below).

3.2 If breastmilk spills on the outside of the container, the health care provider or infant's guardian shall:

a) clean the outside of the container with water or a wipe; and

b) disinfect the container using an AHS-provided, low-level **disinfectant**, and rinse with clean water as per manufacturer's instructions.

4. Labelling of Breastmilk Containers

4.1 The health care professional shall verify with the guardian the accuracy of the information on the infant's **patient** identification label or, where available, a label generated from the **bar code scanning system**.

a) At a minimum, the label must contain the infant's first and last name, date of birth, and their hospital identification number.

b) If the expectant guardian brings **antenatal colostrum** into the health care facility, the health care professional shall label the container/syringe with the guardian's patient identification label.

(i) Once the infant is born, the container with antenatal colostrum shall be re-labelled with the infant's patient identification label as per Section 4.1 a) above.

4.2 The health care professional shall instruct the guardian to place the infant's patient identification label on the breastmilk container immediately after filling and placing the lid on, and to write the date and time of expression on the label.

4.3 If the guardian is pumping for multiple infants, each infant's patient identification label shall be placed on the guardian's same breastmilk collection container(s).

a) Each infant must have their individual feed container labelled with their own patient identification label prior to feeding.

5. Cleaning Breast Pump Equipment

5.1 The health care provider shall instruct the guardian to clean the breast pump kit parts (i.e., shield, membranes, and valves) immediately after breast pumping as follows:

a) place the kit parts in a clean, single patient-use basin labelled with the infant's patient identification label;

b) rinse with cool water to remove the milk residue;

c) wash with warm soapy water (use non-antibacterial liquid dish soap), rinse thoroughly, and place on a clean paper towel;

d) clean and dry the basin with a clean paper towel; and

e) place a dry paper towel in the basin, and place the kit parts in the basin to fully dry and store.

5.2 If the breast pump kit tubing is contaminated, wipe it down with an AHS-provided low-level disinfectant. Ensure moisture does not get into the tubing. Do not wash the tubing.

6. Storage of Breastmilk

6.1 Breastmilk and antenatal colostrum shall be stored in a designated refrigerator and/or freezer.

a) Within that refrigerator/freezer, breastmilk and antenatal colostrum shall be stored in individual, patient-labelled storage bins.

6.2 Designated refrigerators and freezers shall be:

a) **secured**; therefore, a health care provider with access to the refrigerator/ freezer will need to store and retrieve the breastmilk; and

b) temperature-monitored (see Appendix B: *Storage Requirements and Usage of Breastmilk in Hospitals*).

(i) Follow unit processes for daily documentation of refrigerator and freezer temperatures. Immediately report any temperatures that are not in the required range.

6.3 Prior to leaving the infant's room and placing the breastmilk in the storage bin, the health care provider shall verify that the label on the breastmilk container(s) contains accurate, legible, and complete information as per Section 4.1 a) above.

a) Discard any unlabelled, mislabelled, or expired breastmilk.

(i) Unlabelled and mislabelled breastmilk containers are considered a **close call**. Refer to the AHS *Recognizing and Responding to Hazards, Close Calls and Clinical Adverse Events* Policy Suite for management of the close call and using the Reporting and Learning System for Patient Safety (RLS).

6.4 Health care providers shall follow the breastmilk storage requirements outlined in Appendix B: *Storage Requirements and Usage of Breastmilk in Hospitals*.

a) If not planning to feed fresh breastmilk within four (4) hours following expression, immediately refrigerate or freeze the breastmilk.

b) If breastmilk has been left at room temperature for more than four (4) hours, the breastmilk must be discarded.

c) Do not store breastmilk in the door of the refrigerator or freezer; the temperature is more stable in the interior compartments.

7. Retrieving, Thawing, Warming, Verifying, and Feeding Breastmilk

7.1 Retrieving Breastmilk:

a) In preparation for feeding, the health care provider shall perform hand hygiene as per the AHS *Hand Hygiene* Policy and Procedure and retrieve

the infant's breastmilk from the infant's labelled storage bin in the designated refrigerator or freezer.

b) The health care provider shall verify the label on the breastmilk container, confirming the infant's first and last name, date of birth, hospital identification number, date and time it was pumped.

(i) If a secondary label is applied, the health care provider shall verify the secondary label as well, confirming the date and time it was removed from the freezer, if applicable (see Section 7.2 c) below), and if any additives were mixed in (see Section 9.3 a) (iii) below).

(ii) See Appendix B: *Storage Requirements and Usage of Breastmilk in Hospitals* for information on the duration of storage.

7.2 Thawing Frozen Breastmilk:

a) Do not thaw breastmilk in a microwave.

b) Breastmilk may be thawed:

(i) at room temperature;

(ii) in the refrigerator, in the infant's labelled storage bin;

(iii) in a milk warmer, a device designed to thaw or warm breastmilk (follow manufacturer instructions for use); or

(iv) in a warm water bath. Place warm water in a clean container, place the breastmilk container in a protective cover (e.g., plastic bag, procedure glove) to protect the label, and place in the warm water bath. Discard the protective cover after a single use.

- Do not thaw breastmilk in a milk warmer or a warm water bath that contains another infant's breastmilk container.

c) The health care provider shall write the date and time when the breastmilk is removed from the freezer on the container's label or on a separate patient identification label and place the secondary label on the container.

d) Thaw the entire container of breastmilk prior to removing any amount of breastmilk.

e) If the breastmilk will not be used right away, then the health care provider shall re-refrigerate the breastmilk before it is completely thawed (while ice crystals are still present).

(i) If the breastmilk has fully thawed, then it shall be fed or discarded within 24 hours of being stored in the refrigerator.

(ii) In the absence of ice crystals, breastmilk is considered to be fully thawed and shall not be refrozen.

(iii) If the breastmilk has become partially thawed (less than 50% thawed) and there are ice crystals within the container, then the breastmilk may be refrozen.

f) Gently roll thawed breastmilk container to ensure even mixing of fat and micronutrients.

7.3 Warming Breastmilk:

a) Do not warm breastmilk in a microwave.

b) Breastmilk may be warmed in a:

(i) milk warmer, a device designed to warm or thaw breastmilk. Follow manufacturer instructions for use (this is the preferred method to warm breastmilk); or

(ii) warm water bath. Place warm water in a clean container, place the breastmilk container in a protective cover (e.g., plastic bag, procedure glove) to protect the label, and place in the warm water bath. Discard the protective cover after a single use.

- Do not warm breastmilk in a milk warmer or a warm water bath that contains another infant's breastmilk container.

c) Only warm the amount of breastmilk required for one (1) feed.

d) For infants that are term or older, breastmilk does not need to be warmed (e.g., may be served at room temperature, body temperature, or straight from the refrigerator).

7.4 Verifying the Breastmilk Prior to Feeding:

a) Prior to feeding, the breastmilk shall be verified through the process of a **double-check**.

b) To perform a double-check, two (2) or more patient identifiers (as per the AHS *Patient Identification* Policy) on the breastmilk container label shall be matched to the infant's identification band (at the infant's bedside) by:

(i) two (2) health care professionals;

(ii) one (1) health care professional and one (1) health care provider; or

(iii) one (1) health care provider and the bar code scanning system, where available.

c) Once the match is performed, the identities of the verifiers shall be documented in the infant's **health record**. See Section 12 below for details on documentation.

(i) The verifiers do not confirm the breastmilk in the container is the infant's guardian's breastmilk; rather, the verifiers acknowledge that the patient identification on the breastmilk container matches the infant's identification band.

7.5 Feeding:

a) The appropriate amount of breastmilk for each feeding is determined by the infant's **most responsible health practitioner's (MRHP)** order or per unit practice, and is dependent on the infant's feeding tolerance and growth needs over a period of time.

b) When an infant is exclusively bottle-fed breastmilk and the volume is not entirely used, the remainder shall be discarded. Do not save the remainder until the next feed.

(i) Any amount of unused, warmed breastmilk shall be discarded after one (1) hour when sitting at room temperature. Do not return to the refrigerator or save until the next feed.

c) When an infant is bottle-fed and enterally-fed breastmilk, the remainder of the bottle may be fed enterally immediately following the bottle feed or within one (1) hour of the bottle feed.

8. Enteral Feedings

8.1 In accordance with the AHS *Invasive Infusion Line and Tubing Verification* Policy, health care providers shall only use supplies designated for enteral administration. Do not use parenteral syringes to prepare, measure, or administer liquids intended for the oral or enteral route.

8.2 If feeding breastmilk via a feeding tube or enteral infusion pump, the health care professional shall label the bag/syringe/tubing/enteral infusion pump devices as per the AHS *Invasive Infusion Line and Tubing Verification* Policy.

a) To assess the risk of potential tubing/line entanglement of enteral feedings for an infant, refer to the AHS *Medical Tubing Entanglement: Prevention Strategies and Interventions for the Pediatric Patient* Guideline.

8.3 The health care professional shall identify and trace tubing from the infant to the bag/syringe/enteral infusion pump as per the AHS *Invasive Infusion Line and Tubing Verification* Policy.

8.4 The health care professional shall replace administration sets every four (4) hours.

8.5 Enteral syringes used to administer feeds are single-use. A new syringe is needed for each feed. Each syringe shall not contain more than a four (4) hour volume of feed.

9. Breastmilk with Additives

9.1 An **independent double-check**, as per the AHS *Independent Double-Check* Guideline, by two (2) health care professionals is required if:

a) additives are mixed into the breastmilk; and/or

b) breastmilk is transferred from the original container to a new container, for the purpose of mixing in additives.

9.2 To prepare breastmilk with additives, health care professionals shall:

a) clean the preparation area with an AHS-provided, low-level disinfectant;

(i) Perform hand hygiene with soap and water, as per the AHS *Hand Hygiene* Policy and Procedure.

b) independently verify the additives are correct by checking the MRHP's orders;

c) independently verify the correct breastmilk is used to mix the additives in by checking the infant's label on the container with the MRHP's order in the infant's health record;

d) prepare additives and breastmilk using aseptic technique;

(i) Health care professionals shall wear non-sterile gloves if there is potential for contact with breastmilk.

e) ensure breastmilk is at room temperature or cooler prior to mixing in the additives;

f) mix the smallest amount required for the current feeding; and

g) roll the container between their hands to ensure additives are well-mixed in the breastmilk.

9.3 Verifying and Labelling Breastmilk with Additives:

a) When breastmilk is transferred from the original container to a new container, for the purpose of mixing in additives:

(i) two (2) health care professionals shall ensure it is identified and verified by an independent double-check;

(ii) a new patient identification label shall be added to the new container;

- Labelling shall include the infant's first and last name, birth date, and hospital identification number or where available, the bar code scanning system label.

(iii) a second label with the following information shall be added to the new container:

- type and amount of additive(s);
- date and time additive(s) was prepared; and
- the initials of the health care professionals performing the independent double-check.

b) For infants of multiple gestations, each infant must have a separate container that is individually labelled, as above, including the infant's own patient identification label.

9.4 Storing and Using Breastmilk with Additives:

a) Breastmilk with additives is stored using the same process as other breastmilk (see Appendix B: *Storage Requirements and Usage of Breastmilk in Hospitals*).

b) Breastmilk with additives must be used within 24 hours of being added. If not used within 24 hours of being added, it must be discarded.

10. Guardian Education

10.1 Health care professionals shall educate the infant's guardian(s) regarding safe management of breastmilk. This shall, whenever possible:

a) occur upon admission and orientation to the care unit; and

b) be reinforced throughout the hospital stay.

10.2 Verbal education for guardians shall be enhanced with printed materials (as available), including:

a) the importance of providing breastmilk whenever possible, for the infant's health;

b) how to collect, label, store, retrieve, verify, and feed breastmilk while their infant is in hospital;

c) the bar code scanning system (where available);

d) the importance of verifying the accuracy of the breastmilk being fed to the right infant, to mitigate the potential risk for viral transmission if an infant unintentionally is fed incorrect breastmilk; and

e) the importance of a guardian advising a health care professional if their infant received incorrect breastmilk (considered a **clinical adverse event**) or if there was a close call.

10.3 While providing education, health care professionals shall:

a) encourage questions and engage with guardian(s);

b) assess for understanding (e.g., ask the guardian[s] to explain the provided education in their own words and practices) and the need for reinforcement/further teaching; and

c) be sensitive and aware of potential challenges to family care related to cultural, language, and literacy differences.

11. Clinical Adverse Events or Close Calls

11.1 For clinical adverse events or close calls related to breastmilk, the health care provider shall refer to the AHS *Recognizing and Responding to Hazards, Close Calls and Clinical Adverse Events* Policy Suite.

a) For clinical adverse events related to when an infant unintentionally receives incorrect breastmilk, the health care provider shall also refer to the AHS *Breastmilk Safe Management: When an Infant Unintentionally Receives Incorrect Breastmilk* Procedure.

12. Documentation

12.1 Health care professionals shall document the following information in the patient's health record:

a) the date, time, and signatures of the two (2) verifiers who completed the double-check prior to feeding;

(i) If the bar code scanning system label was used, the health care professional shall indicate this in the infant's health record.

b) the date, time, and signatures of the two (2) health care professionals who performed the independent double-check, when additives were mixed in breastmilk (as per the AHS *Independent Double-Check* Guideline);

c) the feeding type (breastmilk or breastmilk with additives), route (oral [breast/bottle/syringe/cup] or enteral), and volume per route;

d) all guardian education, including printed materials provided, and related follow-up, if required; and

e) facts specific to a breastmilk-related clinical adverse event or close call as per the AHS *Recognizing and Responding to Hazards, Close Calls and Clinical Adverse Events* Policy Suite.

12.2 The most appropriate health care professional may submit a report in the RLS, as per the AHS *Recognizing and Responding to Hazards, Close Calls and Clinical Adverse Events* Policy Suite, for both breastmilk-related clinical adverse events and close calls.

DEFINITIONS

Antenatal colostrum means colostrum which is expressed and collected during pregnancy.

Bar code scanning system means the unique bar code applied to breastmilk containers, validating the correct milk is fed to the correct infant and verifying the contents have not expired or were meant for another infant.

Birth parent means the individual who gave birth to the infant and produces breastmilk that is given to the infant.

Breastmilk means breastmilk coming from the infant's birth parent; this includes antenatal colostrum (colostrum that is expressed and collected during pregnancy).

Clinical adverse event (CAE) means an event that reasonably could or does result in an unintended injury or complications arising from health care management, with outcomes that may range from (but are not limited to) death or disability to dissatisfaction with health care management, or require a change in patient care.

Close call means an event that has potential for harm and is intercepted or corrected prior to reaching the patient.

Disinfectant means a product that is used on healthcare surfaces or non-critical medical equipment and results in low-level disinfection of the equipment. Disinfectants are applied only to inanimate objects and may combine a cleaner with a disinfectant. The surface must stay wet for the required contact time of a disinfectant to be effective.

Donor human milk (DHM) means human milk that is pasteurized and cultured post pasteurization by a Human Milk Banking Association of North America (HMBANA) approved milk bank to ensure safety after collection from a lactating individual who has met rigid screening criteria, including a medical and lifestyle history, blood testing for HIV, HTLV I and II, hepatitis B and C, and syphilis. The pasteurized donor human milk is frozen for storage and transported as per HMBANA guidelines.

Double-check means a verification process to ensure the infant is fed the correct breastmilk. It occurs prior to feeding breastmilk to an infant, whereby a health care professional, at the infant's bedside, matches two (2) or more patient identifiers (as per the AHS *Patient Identification* Policy) on the breastmilk container label with the information on the infant's patient identification band with another health care professional, a health care provider, or the bar code scanning system.

Guardian means, where applicable:

For a minor: a guardian as defined by the *Family Law Act* (Alberta), a divorced parent with custody of the minor, or a person appointed pursuant to a will, personal directive, court order, agreement or by authorization of legislation (e.g., *Child, Youth and Family Enhancement Act* [Alberta]).

For an adult: an individual appointed by the Court in accordance with the *Adult Guardianship and Trusteeship Act* (Alberta) to make decisions on behalf of the adult patient when the adult patient lacks capacity.

Hand hygiene means proper practices which remove micro-organisms with or without soil from the hands (refers to the application of alcohol-based hand rub or the use of plain/antimicrobial soap, and water hand washing).

Health care professional means an individual who is a member of a regulated health discipline, as defined by the *Health Professions Act* (Alberta), and who practices within scope and role.

Health care provider means any person who, within their role, provides goods or services to a patient, inclusive of health care professionals, staff, students, volunteers and other persons acting on behalf of or in conjunction with Alberta Health Services.

Health record means the collection of all records documenting individually identifying health information in relation to a single person.

Independent double-check means a verification process whereby a second health care professional conducts a verification of another health care professional's completed task. The most critical aspect is to maximize the independence of the double-check by ensuring that the first health care professional does not communicate what they expect the second health care professional to see, which would create bias and reduce the visibility of an error.

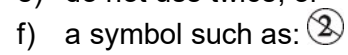
Most responsible health practitioner (MRHP) means the health practitioner who has responsibility and accountability for the specific treatment/procedure(s) provided to a patient and who is authorized by AHS to perform the duties required to fulfill the delivery of such a treatment/procedure(s) within the scope of their practice.

Patient means all persons, inclusive of residents and clients, who received or have requested health care or services from Alberta Health Services and its health care providers. Patient also means, where applicable:

a) a co-decision-maker with the person; or
b) an alternate decision-maker on behalf of the person.

Secured means accessible only by AHS staff or in a location that is visible by AHS staff at all times (e.g., unit desk, clean utility room, medication room).

Single-use medical device means a critical or semi-critical medical device designated by the manufacturer for single-use only and may be indicated by, but not limited to, the following terms used for labelling by the manufacturer:

a) disposable;
b) consumable;
c) not for reuse or do not reuse;
d) discard after single use;
e) do not use twice; or
f) a symbol such as: 

Single patient-use medical device means a critical or semi-critical medical device that is designated by its manufacturer for use and reuse on a single patient, but may not be reused on another patient. Examples include, but are not limited to, the following: nebulizers, metered dose inhaler spacers, infant oxygen sensors and Yankauer suction tips.

REFERENCES

- Appendix A: *Breastmilk Collection Equipment and Supplies List*
- Appendix B: *Storage Requirements and Usage of Breastmilk in Hospitals*
- Alberta Health Services Governance Documents:
  - *Breastmilk Safe Management* Policy (#PS-16)
  - *Breastmilk Safe Management: When an Infant Unintentionally Receives Incorrect Breastmilk* Procedure (#PS-16-02)
  - *Critical and Semi-Critical Single-use Medical Devices* Policy (#PS-07)
  - *Hand Hygiene* Policy (#PS-02)
  - *Hand Hygiene* Procedure (#PS-02-01)
  - *Independent Double-Check* Guideline (#PS-60-01)
  - *Invasive Infusion Line and Tubing Verification* Policy (#PS-15)
  - *Medical Tubing Entanglement: Prevention Strategies and Interventions for the Pediatric Patient* Guideline (#PS-89-01)
  - *Pasteurized Donor Human Milk* Procedure (#HCS-294-01)
  - *Patient Identification* Policy (#PS-06)
  - *Recognizing and Responding to Hazards, Close Calls and Clinical Adverse Events* Policy Suite (#PS-95)
- Alberta Health Services Resources:
  - *Single-Use Medical Device List of Approved Exceptions*
- Non-Alberta Health Services Documents:
  - *Family Law Act* (Alberta)
  - Human Milk Banking Association of North America (HMBANA) Website

APPENDIX A

Breastmilk Collection Equipment and Supplies List

- Basin for cleaning and storing breastmilk kits
- Breast pump
- Clean breast pump kit components (single or double as required)
- Breastmilk containers and lids
- Pre-printed patient identification labels with infant's name, birth date, and hospital identification number
- Indelible marker
- Non-sterile gloves
- Food-safe, low-level disinfectant
- Patient-labelled storage bin(s) for refrigerator and/or freezer

APPENDIX B

Storage Requirements and Usage of Breastmilk in Hospitals

Type and State	Location	Storage Temperature	Duration of Storage
Fresh Breastmilk	Room Temperature	15ºC to 20ºC	Feed milk or refrigerate prior to 4 hours
	Refrigerator	0ºC to 4ºC	NICU: Feed milk or freeze prior to 72 hours Non-NICU: Feed milk or freeze prior to 96 hours
Fresh Breastmilk with Additives	Room Temperature	15ºC to 20ºC	Feed milk or discard after 4 hours. Preferably kept in refrigerator until time to warm and feed
	Refrigerator	0ºC to 4ºC	Feed milk, or if not used within 24 hours of being added, discard milk
Frozen Breastmilk	**Freezer** with door inside the door of the refrigerator	Less than 0ºC	2 weeks
	Freezer attached to a refrigerator with separate door	Less than 0ºC	3 months
	Deep Freezer or chest freezer at home	-18ºC to -20ºC	NICU: 6 months Non-NICU: 12 months
Thawed Breastmilk*	Refrigerator	0ºC to 4ºC	Feed milk or discard after 24 hours
Thawed Breastmilk with Additives*	Refrigerator	0ºC to 4ºC	Feed milk, or if not used within 24 hours of being added, discard milk

* Do not refreeze.

* If breastmilk has become partially defrosted due to freezer failure and there are still ice crystals within the container, the breastmilk is only partially thawed (less than 50% thawed) so the breastmilk can be refrozen.

In the absence of ice crystals, breastmilk has completely thawed and shall not be refrozen.

If breastmilk has fully thawed, it shall be fed or discarded within 24 hours of being stored in the refrigerator.