

## Milk Collection an Alternative in Human Breastfeeding

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### Abstract

Multiple scientific evidences certify that feeding with milk from the mother is the best and safest option for human infants, in their first years of life. Breastfeeding must be exclusive from birth to the first six months and continued with complementary feeding until reaching prolonged lactation, for two years or more, so that infants, young children and mothers enjoy the benefits it offers and that guarantee maternal and child health, optimal growth and development, survival and food security.

In the lactation stage, multiple situations can be confronted that hinder or impede the transfer of milk from the mother to the newborn or infant, because this cannot be directly placed at the mother's breast. In all these situations there is the alternative of collecting human milk, as a strategy to overcome them. It is required that the mothers be timely and properly trained, by health personnel trained in this practice.

In the present work we offer pertinent and practical information on the extraction, conservation and supply of extracted human milk, which, as a guide, contributes to providing support to mothers who need to have this alternative to achieve successful breastfeeding.

**Keywords:** Human Milk; Extraction; Conservation; Supply; Homemade Milk

The collection of human milk constitutes a fundamental strategy to consolidate, maintain and prolong breastfeeding, since it allows that the extracted milk can be provided in a timely manner to the newborn or infant when it cannot be directly placed at the mother's breast or when for some reason it has to be temporarily separated from the mother.

### When is milk collection useful?

It can be very useful in the following situations:

- Feed the newborn or infant that requires learning the proper grip to the breast to achieve effective suction. In case of presenting oral motor dysfunction due to: a) Teat-nipple confusion. b) Prematurity or low birth weight. c) Incoordination suction-swallowing. d) Oro-facial malformations. In case of severe traumatic injury in the maternal nipple (fissure or laceration), conditioned by inadequate grip and that makes difficult the placement to the chest.
- Feeding the newborn or infant that cannot be placed directly to the breast due to special situations that temporarily separate it from the mother, such as hospitalization in intensive care or intermediate care units, surgery or maternal disease, among others.
- Maintain or increase milk production. The greater the emptying of the breast the greater the production.
- Prevent or treat plethora or breast engorgement.
- Relieve a blocked duct by inadequate chest emptying.

- Maintain milk production in mothers who return to work or studies, so that their own milk is delivered to the infant by the person who takes care of it, when she has to be temporarily absent; In this way, mothers can implement the lactation or bank of homemade milk.
- Combine with expressed milk the food, when initiating the introduction of complementary feeding from six months of age.
- Prevent or treat dryness or inflammation of the nipple and / or areola. Topical use of human milk for its moisturizing, emollient, healing and anti-inflammatory characteristics.
- Increase production in case of relactation. Restart breastfeeding, in those cases where for some reason the mother abandoned it or is supplementing with formulas or other foods (before four to six months of age).
- Donation of human milk. In case of excessive production, contingencies or emergencies.
- Temporarily, when the mother consumes a drug for a limited time, or when studies are carried out with radioactive isotopes, contraindicated in the lactation stage in both cases. The mother will implement a temporary lactation prior to the consumption of the medication or to the performance of the examination, to continue the lactation with extracted milk; during the treatment or while the circulating isotope is eliminated, the milk will be extracted to discard it and later, in a prudential time according to the case, breastfeeding will be resumed directly to the breast.

### Steps of the collection of human milk:

1. Extraction.
2. Conservation.
3. Supply.

### Extraction of human milk

The extraction can be manual or with the help of mechanical or electrical extraction pumps. He It can be done in lactaries, lactation rooms or in the home.

The manual extraction of milk is recommended, using the Marmet Technique, which consists of emptying the breast physiologically, imitating the extraction made by the infant, a combination of expression with suction. It requires training, trust and patience. It is necessary that the mother be supported in a timely manner by health personnel duly trained in the execution of this procedure. It is always required, before the extraction, to practice the stimulation of the breast with massage, to activate the ejection reflex of the hormone oxytocin.

### Hygiene measures to be taken into account for the collection of milk

#### From the mother who is going to perform the extraction:

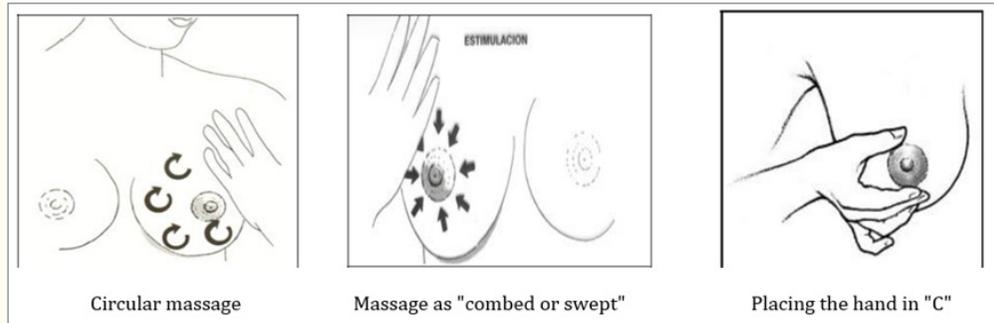
- Wash hands with soap and water before starting the milk extraction.
- Dry hands with a clean towel or absorbent paper.
- It is not necessary to wash the breasts. Enough with the bathroom and daily change of clothes.
- In case of extraction in milk bank, breasts will be washed only with water. Do not use soap.

#### Of the containers that will be used as container containers of the extracted milk:

- Wash the containers with plenty of water and soap and sterilize them in boiling water for 10 minutes (time counted from the start of the boil).
- Let them drain, placing them face down, on a clean cloth, without touching the inside.

**Pre-extraction stimulation phase**

Destined to favor the descent of the milk. A massage is performed on both breasts, for 20 to 30 minutes, slow and consistent. First in a circular form and then from the base of the breast to the areola, as a “hairstyle or sweep”. Additionally, gently shake the breasts by standing and tilting the body forward.



**Figure 1**

**Manual milk extraction technique**

1. Place your hand in a “C” shape, with your thumb on top and your other fingers underneath, approximately 3 or 4 cm behind the nipple.
2. Push your fingers towards the rib cage avoiding to separate them.
3. Press the chest with the fingertips, between the thumb and forefinger, rhythmically, without slipping. Turn the fingers as if printing the fingerprints, rotating both fingers around the areola, to empty all the lactiferous ducts that are at the same level.
4. Extraction for 3 to 5 minutes. Alternate the breasts successively. Total duration: 20 to 30 minutes.
5. The frequency of extraction can be every 2 to 3 hours (if necessary day and night). Depending on the reason for the extraction, if it is to complete shots in case of poor suction or if it is to feed a newborn or infant that cannot be placed directly to the breast.
6. The extraction can start from the first day of life, six hours after birth.
7. After extraction, it is recommended to apply milk extracted in nipple and areola.
8. Avoid maneuvers that can cause injuries such as: abruptly tightening the breast (causes bruising), pulling or pressing the nipple (promotes the formation of cracks) or rub the chest with your fingers (causes skin irritation).



**Figure 2**

### Conservation of extracted milk

1. **Storage:** For the storage of the extracted milk, plastic or glass containers with plastic screw caps should be used. Use a different and clean container each time the milk is extracted.
2. **Labeling:** Using a label where the day and time of extraction is recorded.
3. **Refrigeration:** At a temperature of 1 - 5°C. Placing the container in the coldest part of the refrigerator, in the upper and rear area, never in the door, due to changes in temperature. In the refrigerator it is kept maximum for 1 day.
4. **Freezing:** At a temperature of -18°C. If the milk is going to be frozen, the container should be filled up to 0.5 to 1 cm from the edge since the milk expands when frozen. In the freezer it is kept maximum for 1 month.

The refrigeration and freezing times are those established in the processing and quality control update of the National Program of Human Milk Banks and Institutional Lactaries of Venezuela (2011), to guarantee nutritional quality and avoid contamination of the milk extracted.

5. **Defrosting:** The container is removed from the freezer and placed directly in a container containing warm water (temperature approximately 40°C). The temperature of the milk to be consumed should be that of the mother, 37° Celsius. It is important to take into consideration: a) It should never be heated directly to the fire or in a micro-wave oven. b) After warming it should be shaken gently with an enveloping movement, so that all the milk fractions are homogenized and supplied in a maximum period of 30 minutes, if it is not used it should be discarded. c) After thawing it can only be refrigerated for 24 hours and cannot be frozen again.

### Supply of extracted milk

It must be given to the newborn or infant with a cup, teaspoon, injector, nursing supplementer or through a feeding tube (naso-gastric or oro-gastric). A bottle should not be used for its supply, in order to avoid the nipple-nipple confusion that alters the suction pattern and hinders human breastfeeding [1-12].

### Conclusions

All breastfeeding mothers should receive timely information and support from health personnel trained in breastfeeding, so that they can reinforce their confidence in their natural capacity to breastfeed, know how breastfeeding works and the appropriate technique of breastfeeding, to achieve a successful performance and a prolonged lactation.

It is very important that mothers additionally have the strategy of collecting their milk, since in general, at some stage of lactation they will be useful, so all of them should additionally be trained in the extraction, conservation and supply of their milk. own milk. Manual milk extraction is recommended because it is the most physiological, easy to learn, available at any time and free of charge.

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