



WHAT DOULAS SHOULD KNOW ABOUT MILK BANKS

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A little history

For thousands of years, wet nursing was a common practice for a variety of reasons. In 19th century Europe, however, concerns arose about wet nurses' lifestyles, the separation of the birth mother and her baby, and the wet nurses' own babies not thriving due to the effects of milk sharing. As a result, researchers began studying alternative nutrition for babies. In the early 1900s, Theodor Escherich, of the University of Vienna, was one of these researchers. His studies showed that breastfed babies' intestinal bacteria were quite different from those of babies fed in other ways. In 1909, Escherich opened the first human milk bank in Austria. Shortly afterward, in 1911, doctors in the United States opened a milk bank at the Boston Floating Hospital for Children, to help infants survive a disease caused by animal milk and unclean water that led to severe diarrhea. They then began to collect and dispense human milk when a mother's milk was not available. Soon, milk banks started opening nationwide.

Over the decades, breastfeeding was still the norm. Although powdered formula became available in the late 1800s, it was very expensive. In the early 1950s, commercial concentrated formula was offered. By 1960, ready-to-feed formula was marketed, resulting in a drop to only 30% of American women nursing. In the 1970s, women returning to work further reduced breastfeeding rates and milk banking. In 1973, the World Health Organization (WHO) was quoted as saying, "The U.S. trend toward formula is deplorable, and it is being diffused around the world." Again, in 1980, WHO, joined by the

United Nations Children's Fund (UNICEF), maintained that donor breast milk was the best alternative to the mother's own breast milk. However, the HIV epidemic led to a further drop in milk banking, and the need for costly screening of donor milk forced most milk banks to close.

In response to concerns about the safety of donor milk, the Human Milk Banking Association of North America (HMBANA) was established in 1985 to provide evidence-based strict guidelines and industry standards to ensure the safety of donor milk, in order to improve infant health and save lives. These enhanced screening methods, and the standardization of procedures, made donated milk a viable alternative to mothers' own breast milk.

Today, there are hundreds of milk banks worldwide, with 27 in North America (24 in the United States and three in Canada). The ability to pasteurize and store frozen breast milk for many months has meant that milk banking can expand beyond a local area.

One shining example showing the tremendous benefits of human milk banking is Brazil, with over 200 milk



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banks. When a mother is released from a Brazilian hospital, she is assigned to a milk bank, not only for milk donation or receipt but to take advantage of other services related to childbearing and postpartum. The combination of milk banking and these services has led to a drop in the country's infant mortality rate.

The process

In general, the steps in milk processing are as follows.

1. Milk arrives at the milk bank frozen in bags or bottles.
2. Prior to processing, the milk is thawed in a refrigerator.
3. The thawed milk, sometimes from several donors, is mixed and bottled.
4. The bottles are placed in water bath pasteurization units.
5. All HMBANA milk banks use the Holder Method of Pasteurization (62.5°C, or 145°F, for 30 minutes), which eliminates pathogens while maintaining as much of the bioactivity as possible.
6. After pasteurization is complete, the bottles are cooled and labeled.
7. A random bottle from each batch is sent to a lab for bacterial culturing.
8. Milk analysis and drug testing are done if the milk bank has those capabilities.
9. Processed milk is stored and shipped frozen.
10. Milk that has reached its expiration date is no longer available to recipients. It can be used for research to examine things like milk microbiome, infant gender impact on

11. Donor milk is distributed by prescription or hospital order only and may be picked up at the milk bank or shipped overnight.



Milk processing at a HMBANA milk bank.

Donors are healthy mothers who make milk beyond the needs of their own baby. All donors go through a screening process that includes a phone interview, completion of a medical history form, a statement of health from the mother's/ baby's health care providers and blood screening. Milk produced from birth to 15 months is generally accepted by most milk banks and, often, a minimum of 150 ounces is the requested donation amount in order to cover the cost of its screening. The expiration date on donated milk is one year after it was pumped when stored in a freestanding freezer. It is less if the milk was kept in some combination of a refrigerator and a freezer.

Milk can be dropped off at the milk bank or shipped. Some milk banks have depots in different areas that accept donated milk. All donation costs are paid by the milk bank, and while donors receive no payment for their contribution, milk banks often host events to thank donors in other and thoughtful ways.

The cost of donated milk is about \$4 per ounce. Some insurance companies or Medicaid may cover the cost, but many do not. Sometimes, donors are bereaved

mothers who have experienced a stillbirth or infant death. They pump and donate in honor of their lost children to benefit other babies, much like organ donation. Some milk banks offer perinatal loss resource lists, support groups, annual remembrance gatherings, or special on-site tributes commemorating these "Angel Babies."

Most donor milk is used by infants cared for in NICUs. One in nine infants in the United States is born prematurely — one of the highest rates in developed countries. Up to 12% of significantly premature babies will develop an inflammation of the intestines called NEC (necrotizing enterocolitis). Half of these babies require surgery. An exclusive human milk diet has been shown to decrease the incidence of NEC by up to 80% and the rate of surgical NEC by 90%. It is estimated that NEC results in hospitalizations that cost \$5 billion

per year, totaling 19% of all neonatal health care expenditures in the United States. It is projected that for every \$1 spent on donor milk, \$11 of health care costs related to NEC can be saved. Other problems in the NICU include infection, sepsis, retinopathy of prematurity and bronchopulmonary dysplasia. So, donated milk is reserved for the highest priority cases and then made available to other recipients. About 23% of donated milk is used in outpatient treatment, for conditions such as gastrointestinal issues, cardiac issues, malabsorption disorders, allergies and problems with formula.

Unfortunately, nearly 70% of families with a baby being cared for in the NICU are unable to provide all the milk for their baby's initial needs. Bridge milk can be used until their own milk is available. Lactation specialists can help mothers establish a milk supply, so they can then transition the baby from a bottle of donated milk to the breast when possible. The use of donor milk is associated with exclusive maternal breastfeeding at discharge, which is an important accomplishment and a step toward maintaining a baby's longer-term health.



What doulas can do

Here are suggestions for what doulas can do to increase awareness about milk banks, provide education about the benefits of human milk banking and offer support of this lifesaving option.

- Take a tour of your area milk bank or know where milk can be shipped.
- Be able to describe the basic donation standards and screening process.
- Provide educational materials from the milk bank to your clients.
- Inform other birth professionals about donor/recipient options.
- Volunteer to help with office or milk processing duties.
- Hold a fundraiser or participate in an established milk bank event.
- Advertise in an event booklet, donate a gift basket and/or attend the fundraiser.
- Attend an educational offering at the milk bank to earn contact hours if offered.
- Rent space to hold a meeting, class or workshop if available.
- Be mindful of maternity/lactation related legislation that may be pending in your state.

- Encourage and support your client's decision to donate.
- Connect your clients with a milk bank, if needed, for an in-patient or outpatient reason.
- Celebrate World Breastmilk Donation Day on May 19 in a special way.

Nonprofit milk banks exist to optimize health outcomes — in other words, to save babies' lives! The use of donor milk for medically necessary supplementation in a hospital's NICU setting is associated with fewer complications and infections, shorter hospital stays, fewer readmissions, better long-term outcomes and increased

rates of maternal breastfeeding success. For these babies, human milk is truly lifesaving medicine. 🌸

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Over the past 40 years, Jan Mallak has been a childbirth educator, birth and postpartum doula, doula trainer/mentor, doula service founder/coordinator and author ("Doulas' Guide to Birthing Your Way"). She is also a member of the founding board of directors for the Mid-Atlantic Mothers' Milk Bank, which opened in Pittsburgh in 2016. Most recently, Jan was asked to write a children's book about milk banks, to be published in 2019. The book will be given to donors, recipients, NICUs and medical professionals, and will be available to the public for purchase. Jan has been lovingly supported throughout her career by her husband Frank, of 47 years, and their adult children plus a grandson named Zeev. She was his doula 10 years ago!