

Human milk saves lives.

Up to 70% of mothers who have infants in the neonatal intensive care unit (NICU) are unable to provide all of their baby's needs¹, at least initially, despite adequate lactation support and effort. When Mother's Own Milk (MOM) is not available, The American Academy of Pediatrics² (AAP) along with the World Health Organization³ (WHO) continue to emphasize the use of safe Pasteurized Donor Human Milk (PDHM) for its benefits to both individual infants and public health.

These are just some of the reasons you want to partner with a tissue bank you can trust. As an HMBANA³ accredited, FDA registered⁴ non-profit, **The Milk Bank** exemplifies the safety, ethics, and evidenced-based standard of care required by neonatal intensive care units and families alike.



- **EVIDENCE-BASED** pasteurization methods maximizing bioactive benefits
- **ETHICAL SOURCING** through a 100% volunteer donor pool alleviates concerns with exacerbating health disparities and safety issues associated with donor compensation
- **RELIABLE TISSUE SUPPLY** supported by a network of member banks
- **COMMUNITY-BASED** partner you can rely on for pro bono services such as individual medical relief funding, policy samples, bereavement and lactation supports and clinical education



For more information or to order milk visit:

theMilkBank.org



Not Just Lifesaving, Cost Saving

Reliable cost models indicate that every dollar spent on donor human milk results in \$11 savings for the NICU.⁵ In fact, an analysis of very low birth weight (VLBW) infants suggested an exclusive human milk diet was shown to save \$8,167.17 per infant.⁶

Donor human milk reduces healthcare expenses by dramatically reducing the incidence of necrotizing enterocolitis (NEC) and other infections in the preterm infant. A single case of medical necrotizing enterocolitis averages \$74,004 in additional care, while one case of surgical necrotizing enterocolitis balloons to \$198,040 or more.⁶

Leaders in Accuracy, Quality & Safety

The Milk Bank exceeds national standards by offering infrared nutritional analysis utilizing the Delta LactoScope Fourier Transform Infra-Red Technology Advanced by Perten Instruments with calibration for human milk.⁷

All donors approved by **The Milk Bank** are extensively screened which includes serology testing for HIV-1, HIV-2, HBV, HCV, HTLV; and RPR.

A random sample of each batch is sent for bacteriological culture analysis by an independent, third-party lab before dispensation.

Methods Matter: Compare the Benefits

While retort sterilization utilized by profit driven corporations is an effective way to eliminate bacteria, retort processing may significantly alter and destroy bioactive components critical for the infant immune system and microbiome. Research demonstrates the Holder pasteurization method used by **The Milk Bank** preserves more of the protective immune factors essential for infants.

Table 1. Holder versus Retort Pasteurization^{8,9,10}

Attributes	Meredith-Dennis (2017) ⁸	Lima (2017) ⁹ , (2018) ¹⁰
Types of Milk	Holder, shelf-stable	Raw, Holder, shelf-stable
Study Design	Cross-sectional (each milk type was from different donors and had a different pool size)	Cross-over (each milk type was from the same combined milk pool of 60 donors)
Lactoferrin	*Higher in Holder vs. shelf-stable	Not measured
Immunoglobulins	*Higher IgM and IgG in Holder vs shelf-stable	Holder retained 87% sIgA; shelf-stable retained 11% sIgA ⁹
Lysozyme	*No difference between Holder vs. shelf-stable	Holder retained 54%; shelf-stable retained 0% ⁹
HMO	*Higher in Holder vs shelf stable	Not measured
Lysine	Not measured	Raw= 0.85 mg/100 mL Holder = 0.77 mg/100 mL shelf-stable= 0.68 mg/100 ml ¹⁰
Thiamine	Not measured	Raw= 0.24 mg/L Holder = 0.26 mg/L shelf-stable= 0.14 mg/L; p < 0.01 ¹⁰

Ethical Sourcing and Services Combat Health Disparities

HMBANA prohibits donor compensation of any type due to ethical¹³ and safety considerations. No family, especially marginalized communities threatened by disproportionate infant mortality rates, should have to choose between the health benefits of breastfeeding their child and selling human milk.

Additionally, studies have shown that nearly 75% of milk purchased online was contaminated with significant amounts of bacteria and viruses,¹¹ and 1 in 10 bottles even contain cow's milk¹².

As evidence mounts for the use of donor milk to effectively treat more diagnoses and populations, researchers have identified significant racial disparities in the availability and utilization of donor milk. Non-white NICU infants experience higher rates of prematurity, mortality, and morbidity, along with poorer outcomes when they encounter NICU complications.¹⁵ At the same time, breastfeeding rates are lower and donor milk is less likely to be used in NICUs primarily serving communities of color or Medicaid recipients.^{13, 14} As a mission-driven, non-profit human milk donor bank, **The Milk Bank** is uniquely positioned to assist families in need through a robust medical relief fund. Our priority is serving the most vulnerable members of our community, not creating a profit for shareholders.

1. Carroll K, Herrmann KR. The cost of using donor human milk in the NICU to achieve exclusively human milk feeding through 32 weeks postmenstrual age. *Breastfeed Med*. 2013;Jun 8(3):286-90. 2. Section on Breastfeeding, American Academy of Pediatrics (AAP). Breastfeeding and the Use of Human Milk. *Pediatrics* 2012;129(3):e827-e841. 3. https://www.who.int/elena/titles/donormilk_infants/en 4. <https://www.fda.gov/science-research/pediatrics/use-donor-human-milk> 5. Wight N. Donor human milk for Preterm Infants. *Journal of Perinatology* Jun2001, Vol. 21 6. Ganapathy V, Hay JW, Kim JH. Costs of necrotizing enterocolitis and cost-effectiveness of exclusively human milk-based products in feeding extremely premature infants. *Breastfeed Med*. 2012; Feb 1(1); 29-37. 7. Smilowitz, Jennifer, et al Rapid Measurement of HumanMilk Macronutrients in the Neonatal Intensive Care Unit: Accuracy and Precision of Fourier Transform Mid-Infrared Spectroscopy. *Journal of Human Lactation* 2014. 8. Meredith-Dennis RD, Xu G, Goonatilake, E. Composition and variation of macronutrients, immune proteins, and human milk oligosaccharides in human milk from non-profit and commercial milk banks. *Journal of Human Lactation* 2017; June. 9. Lima, HK, Wagner-Gillespie, M, et al. Effect of Holder Pasteurization and retort processing on bioactive components and nutritional content of human milk. *The FASEB Journal* 2017;31(1). 10. Lima H et al. (2018) Nutritional comparison of raw, Holder pasteurized, and shelf-stable human milk products. *J. Pediatr Gastro-enterol Nutr*, doi: Jul 30. doi: 10.1097/MPG.0000000000002094 11. Sarah A. Keim, Joseph S. Hogan, Kelly A. McNamara, Vishnu Gudimetla, Chelsea E. Dillon, Jesse J. Kwiek and Sheela R. Geraghty. Nov 2013. Microbial Contamination of Human Milk Purchased Via the Internet. *Pediatrics*. 12. Sarah A. Keim, Manjusha M. Kulkarni, Kelly McNamara, Sheela R. Geraghty, Rachael M. Billock, Rachel Ronau, Joseph S. Hogan and Jesse J. Kwiek. Apr 2015. Cow's Milk Contamination of Human Milk Purchased via the Internet. *Pediatrics*. 13. Thibeau S, Ginsberg HG. Bioethics in Practice: The Ethics Surrounding the Use of Donor Milk. *Ochsner J*. 2018;18(1):17-19. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5855414/> 14. Parker, M.G., Burnham, L.A., Kerr, S. et al. Prevalence and predictors of donor milk programs among U.S. advanced neonatal care facilities. *Journal of Perinatology* 40, 672-680 (2020) 15. Goldstein, G.P., Pai, V.V., Liu, J. et al. Racial/ethnic disparities and human milk use in necrotizing enterocolitis. *Pediatric Research* 88, 3-9 (2020).