

Breastfeeding Truth

Factual, clear-minded breastfeeding support and information

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Part 1: The complex evolution of breastmilk

Human breast milk is not reproducible, but can be collected from donors.

Breast milk is full of active proteins and other complex biomolecules. As a scientist who struggles to purify stable, soluble, biologically active proteins (or even small fragments of them), I know how difficult and expensive it is to do this. Figuring out how to produce even one milligram of one protein that is still folded (shaped properly) and active (able to work like a tiny machine) can take a year.



The protein content listed on a formula label refers to what's left of once-active proteins that are now unfolded, inactive, and simply a source of amino acids. Formula provides protein as well as carbohydrate and fat for food calories, it's cheap and easy to produce, and it's nothing like breast milk.

[Breast milk actually evolved as part of the immune system](#), not as a method for feeding. It started as an antimicrobial fluid, not a food. This ancestral substance was composed primarily of complex immune-related proteins and biomolecules and acted then as it does today - as a system for properly establishing the immune system of a newborn under the direct guidance of the parental immune system. Mammals now produce breastmilk that also contains lactose and lipids, which provide sustenance (a later evolutionary flourish).

Infant formula is not synthetic breastmilk. Creating synthetic breastmilk would be a feat comparable to making synthetic blood. Anyone who considers the problem will quickly realize that, like blood, there is only one way to get breast milk - from a donor.

Since breast milk is such a precious, useful substance I wasn't surprised to learn that, like [Telacris](#) and [CSL Behring](#), companies that make therapeutics from blood plasma, another company has figured out what a commercial goldmine donor breast milk - processed and sold as a biotherapeutic - could be.

Enter [Prolacta](#), a company that has spent an enormous amount of time and effort [researching human breastmilk](#) - what's in it, why it's medically important, how it can be effectively collected, safety checked, pasteurized, processed, and sold at a profit.

The work Prolacta does is good for breastfeeding science, and for the image of breast milk. Prolacta supports an excellent charity (the [IMBP](#)). It also helps a lot of severely premature babies, because they sell a breast milk version of human milk fortifier (HMF) - an additive that boosts the calories in milk fed to those babies in the NICU. Unfortunately, the way they get the milk is pretty devious.

Part 2: The Prolacta Milk Bank Story Recap

Breastfeeding moms planning to donate milk to Prolacta (including those who donate to the [National Milk Bank](#), [Milkbanking.net](#) banks, and 75% from those who donate to the [IBMP](#)) generally only read that their milk goes to "critically ill babies in the US" or to "severely premature babies." On most of these sites for these banks ([Milkin' Mamas](#) being a notable exception), no mention is made that the milk is processed into a



specific line of products (HMFs) and sold by a very specific company (Prolacta) and provided to "critically ill babies" whose parents are lucky enough to be able to afford and have access to Prolacta's HMF products.

This is not a new story - Prolacta was in the news a lot when they began collecting milk in 2006 and in 2007 after the fact they collect 75% of the milk donated to the International Breast Milk Project (IBMP) came under scrutiny.

10/20/06 Blisstree.com [Milk Donors Beware – Choose a Milk Bank Carefully!](#)

05/22/07 The Lactivist [Is The International Breast Milk Project a Scam?](#)

09/02/07 Breastfeedingsymbol.org [Thinking of Donating Your Breastmilk? Read This First.](#)

Recently, Prolacta has been in the news again, both for research that shows the benefits of human breast milk HMF and for their business partnership with Abbott Nutrition, makers of Similac. I learned about Prolacta from this on from The Motherwear Breastfeeding Blog: [Formula maker to sell human milk product](#). I also found a post by blogger Valerie W. McClain [Human Milk Patent Pending](#) and some discussion at the [Mothering Magazine forums about Prolacta](#).

Now, I understand that the profitability of Prolacta allows them to do more research and help more premature babies. I also understand that the more breast milk Prolacta gets, the more HMF products they will be able to supply for premature babies. For severely premature babies, a system for increasing the caloric density of their mother's milk without exposing them to cow milk or soy proteins can make a critical difference. For them, HMF is not a formula supplement - it's a biotherapeutic medication.

So why does Prolacta think they need to hide behind the curtain and hand-wave about where the milk goes? Why is there no mention of Prolacta or HMF or developing breastmilk-based biotherapeutics on the National Milk Bank website? Why does the IBMP speak so hesitantly and defensively about their relationship with Prolacta?

Breastfeeding moms tend to be well-educated women who are very capable about making decisions based on complete information. Who decided these women can't handle the facts and instead should know nothing more than the milk goes somewhere that "helps babies" (now run along, ladies, it's time for man-talk)? It's not like the milk is being turned into high priced hand-cream or something.

Biotherapeutics from breast milk make sense. Some smart people looked at the amazing medical treatments that can be made from human blood and realized that breast milk could also have important medicinal properties. They invested a lot of time and money into researching whether medically relevant therapeutics could be derived from human breast milk. They found that yes, this is the case. They made those products. They charge money for these products, just like all companies who develop and manufacture medical treatments do. Why are they afraid of making their mission a clearly stated goal of the many milk banks they run?

The only answers that make sense are

- A. They think that breastfeeding moms will stop giving them milk
- B. They don't want to have to pay donors for breastmilk

Option A: Yes - some women may choose to provide milk to a non-profit bank instead, like the [HMBANA](#) which provides breast milk (in milk form) to babies in need. Others may choose to provide milk to a company interested in developing biotherapeutics. For every mom who wants her milk to be non-profit all the way, there will be others who don't really care as long as they are helping someone with their extra milk (probably the majority) and still others who want to see as many lifesaving medications developed from human breast milk as possible. The point is, Prolacta milk banks should be called Prolacta milk banks. All of this "processing partner" stuff is ridiculous.

Option B: I'll discuss this in my final post on this topic.

My next post will be more about how the earthquake in Haiti inspired a great call to arms (or boobs). The subsequent news - that the donor milk flowing in could not get to Haiti and might not be as helpful as we'd thought - has made me ([and others](#)) question the great hue and cry for milk donations to help third world orphans from institutions who know most of the donated milk will never get to them.

Part 3. The Haiti Milk Mix-up

What happened to all the milk donated for Haiti?

Soon after I started this blog and got a Twitter account, I saw a flurry of requests for donor milk to save Haitian orphans (this was shortly after the earthquake). A [press release asking for milk](#) was "going viral" in the breastfeeding community - one from some very trustworthy sources, including [La Leche League](#), [HMBANA](#), and the [ILCA](#). Like many, I was really moved by these requests and sorry that since my youngest is two and nurses mostly for comfort, I don't make enough milk to donate.



Later on, I started to see reports that donor milk might not actually be able to get to Haiti. After that, I read this great article in the [Sustainable Mothering](#) blog about why donated breastmilk may not be the best way to help Haiti - for numerous reasons: [Haiti, Hell, Good Intentions, and Breast Milk Donations](#). So there was a big misunderstanding, it seems. That total disconnect is described in an article from MSNBC excerpted below:

from [Call for breast milk donations in Haiti goes bust](#)

"Tell them not to send it," said Eric Porterfield, a spokesman for the American Red Cross. "I'm 100 percent sure we didn't ask for that."

The international Emergency Nutrition Network has asked one group, the Human Milk Banking Association of North America, to retract a press release this week that issued an "urgent call" for breast milk for orphaned and premature infants in Haiti, saying the donations contradict best practices for babies in emergencies.

Such donations pose problems of transportation, screening, supply and storage and create an "unfeasible and unsafe intervention," according to a statement from the Office of U.S. Foreign Disaster Assistance, or OFDA.

Simply trying to fill a need

Pauline Sakamoto, executive director of HMBANA, said the group was simply trying to help fill a need, if not in Haiti, then elsewhere. Donated milk that doesn't make it to Haitian babies will be diverted for use in the U.S. and Canada, she said.

"We don't want to waste an ounce of milk. It's very precious," she said, adding.

The confusion started earlier this week when the milk bank group and several organizations — including heavy hitters like La Leche League International — urged nursing mothers to donate milk. While representatives for aid agencies such as the American Red Cross, Doctors Without Borders and World Vision said there never was a need for donated milk, some agencies said they heard from workers at orphanages in Haiti who indicated that babies were going hungry.

"This was very grass roots," said Amanda Nickerson, executive director of the International Breast Milk Project.

So maybe this was all just a big misunderstanding. Or maybe the visceral reaction a nursing mother has to the type of horrific images of human suffering caused by the earthquake in Haiti was seen as an opportunity to stock up on milk (a point raised by blogger [Valerie McClain](#)). I trust the organizations who signed off on the original press release had the earnest intent of helping Haitian orphans. But who got that release underway? Was it really "very grass roots," as the director of the [Prolacta](#)-partnered IMBP stated? Perhaps it was. It certainly was a big misunderstanding.

My concern is that the breastfeeding institutions and banks involved should have made more detailed plans and policy agreements with those on the ground in Haiti before sounding the call-to-boobs. The thing that really bothers me is the idea that - hey, no big deal because "donated milk that doesn't make it to Haitian babies will be diverted for use in the U.S. and Canada."

That's the same type of thinking behind showing donors pictures of needy children (in Africa or in the NICU) and then using their milk to make an unmentioned product that's sold by an unmentioned company ([see the previous post, Part 2](#)).

Potential milk donors should not be told whatever it takes to get them in the door (or on the pump). They should be respected as valued members of the process that brings breast milk or breast milk-derived therapeutics to those in need.

This means banks should do their homework and provide a complete description about where the milk is going. Fully inform and include breastmilk donors and the public- don't just show them pictures of sick babies and call it a day. This applies to the Haiti solicitation, to Prolacta collection banks, and to any milk banks. Women who donate breastmilk are handing over liquid gold ([see Part 1](#)), and they don't need to be tricked or manipulated, they need to be respected.

Next, Part 4: Will informing breast milk donors about the manufacture of costly therapeutics from their milk mean paying them as well?

Part 4: Milk Money

Will informing donors about the manufacture of costly therapeutics from their milk mean paying them, too?

This question is hard to answer. First, because I have no idea whether Prolacta has far more milk than they need or just enough to squeak by. Of course, if the donor milk supply is exceedingly high, there will never be any need to pay donors.

How much milk?

So, how much breast milk does Prolacta currently have in its possession? For that matter, how much total milk is collected in the US every year? What percentage of that milk is processed and sold back to hospitals at cost by non-profits and what percentage goes to the development and manufacture of Prolacta products? If anyone out there has access to these numbers, I'd love to know them. I can only find the odd report here and there - nothing comprehensive.



One number I can find is on the IBMP website, which says they've collected 262,682 oz. of milk for Africa. If the milk split described on their [How It Works / Donation Process](#) page holds true ([25% to Africa and 75% to "critically ill babies in the US,"](#) aka Prolacta), than that particular bank has provided Prolacta with 788,046 oz (=6,156 gallons =22,305 L) of breast milk. Add to that 100% of the milk collected at all the other Prolacta milk Banks, and that could be a lot. Or maybe it's barely enough?

How will donors feel?

The next question is - how will donors feel about giving milk to a for-profit enterprise that is also a life-saving one? This is hard to predict. I hold to my statement in [Part 2 of this post](#): For every mom who wants her milk to be non-profit all the way, there will be others who don't really care as long as they are helping someone with their extra milk (probably the majority of moms) and still others who want to see as many lifesaving medications developed from human breast milk as possible.

Will the milk river dry up if moms learn more about where it's been flowing? I think there would likely still be plenty of donor milk forthcoming. Let's assume, however, that if Prolacta milk banks started being called just that (with little displays of Prolacta products inside and "Prolacta Bioscience" T-shirts and totebags for all the donor moms) that the moms would stop giving milk without compensation. Would it be so bad?

Can Prolacta afford to compensate donors?

Would it really hurt Prolacta to compensate donors? I'm sure they've invested a lot in establishing so many milk banks across the US. With this milk collection infrastructure already in place, it would seem the cost of compensating donors, if necessary, wouldn't break the bank. And what about those T-shirts? Wouldn't Prolacta benefit greatly from being out in the open, happily marketing their brand and making donor moms feel like part of the Prolacta team? If the fear of paying for milk (as other for-profit "bioscience" companies pay for human plasma) is what's keeping Prolacta in the closet, it hardly seems worth all the hiding.

A recent [study published in The Journal of Pediatrics](#) shows the valid medical benefit Prolacta's HMF has for severely premature babies. This paper, paired with their [recent agreement with Abbott Nutrition](#) (makers of the Similac cow-milk HMF) will make hiding in the shadows of their milk banks not only wrong but also exceedingly difficult for Prolacta.

Other issues related to compensating donors

Of course, there are more important issues than money when it comes to paying breast milk donors. One is the concern that non-profit milk banks will never see another ounce after donors hear about the awesome deal down the road. I don't think this would be a major problem because many moms feel strongly about giving milk as a charitable donation. Many women in the US who currently breastfeed are well-educated, fairly well-off, and in a position and a mind-set to make this kind of charitable donation.

The non-breastfeeding community

Now let's consider the women in the US who aren't breastfeeding (the majority of mothers), and the general public. Sadly, [unscrupulous members of the food industry](#) have been very successful in portraying breastmilk as a questionable, cheap, and even gross alternative to the gold standard of formula to many of these people.

Maybe Prolacta paying moms for milk, because it can be used to make valuable, life-saving medical treatments, would help to change that. Maybe the only force powerful enough to fully stomp out the bad image of breastfeeding perpetuated by the corporate powers-that-be will come from the corporate powers-that-are-coming - like [Zeus defeating Cronus](#). It's not ideal, but it's practical.

Placing a monetary (and medical) value on breast milk would have a positive impact on how "Joe Public" regards breastfeeding. Mothers who now consider formula an expensive but worthwhile investment in their child's health (and there are lots of moms like this) may start to think twice when they hear the news that breastmilk is valued at some dollar amount per ounce and used to make medicinal products.

Some of these same moms may also benefit from the extra income their own extra breastmilk could earn. Paid milk donation would then doubly encourage these moms to work hard at establishing and continuing breastfeeding their own children, not only to have highly-valued, premium nutrition for their babies but also to be able to donate milk for extra income. Whatever the motivator is, the numerous benefits of breastfeeding will be enjoyed by each new mom willing to try (and her baby).

Would moms sell their milk and feed formula?

The argument that moms who would have breastfed otherwise will instead sell all their breastmilk and feed formula doesn't make sense. Why would they spend an enormous amount on formula when they can make more breastmilk, which they know is superior, for free. A strict screening process for paid donors and limits to the volume a donor can provide could also be imposed to ensure that this is not a problem.

Other Issues related to compensated donation of human fluids

The arguments against compensation of blood donors don't seem to apply here either - these are the possibilities of over-donation causing severe bodily harm and payment attracting a disproportionate number of desperate, diseased drug addicts.

First of all, moms can't risk their lives by over-donating milk as a blood donor could, and with only one company in this business it would be easy to impose and enforce the limits and pre-screening mentioned above. Milk donation is certainly less physically taxing and risky than blood plasma donation, which is legally compensated by many plasma banks.

The plasma collection process takes only part of a donor's blood, and it occurs both with compensation (when given to for-profits) and without (when given to non-profits) in the US. Interestingly, the collection of both plasma and blood products without compensation by the Red Cross [has also come under fire](#) – demonstrating on a much bigger and more complicated scale how unhappy donors are to find that their donations are being used in an undisclosed or poorly disclosed way to turn a profit. My thanks to a commenter (Lindsay) for bringing this up.

It's also easier to prevent the spread of pathogens through breast milk (which is naturally safer and can be pasteurized) than through blood. Although I might worry about desperate souls selling off their blood, I find it hard to envision the same people hatching a plan to become pregnant and bear a child for some limited amount of milk money.

Bankers - breast milk bankers, that is

So although I wince a bit at the phrase "corporate breast milk bank," I realize they are already out there. At the same time, I see the potential for positive outcomes from these banks and the company behind them. Run properly, they could help reshape the way many in our culture view breastmilk and breastfeeding and possibly improve breastfeeding rates, not to mention develop important therapeutics from breast milk both now and in the future.

I just hope that Prolacta is dedicated to biotherapeutics. I hate to think of a future with very expensive formulas made from processed human milk - like a wet nurse in a can (with many key components long since destroyed during processing, plus an unhealthy dose of can-liner chemicals).

If this ever did move away from therapeutics and toward food products, I hope moms would realize that they can make real "liquid gold" far superior to anything processed in a plant. Remember that Prolacta, or any company making pasteurized, processed human milk products still cannot keep many of the critical antimicrobial biomolecules (which our mammary glands originally evolved to deliver) viable and active through processing.

<http://breastfeedingtruth.com/topics/prolacta>