Ergonomic Supportive Breast Pumping Systems for Postpartum Women

Restful Pump

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Postpartum breastfeeding and breast pumping mothers often face medical challenges that hinder their ability to meet the recommended breastfeeding 6-to-12 month milestones identified by the American Academy of Pediatrics.

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Benefits of Breastfeeding

According to the American College of Obstetricians and Gynecologists, breastfeeding initiation rates in the United States are increasing, and many women are aware of the maternal and infant health benefits of breastfeeding.

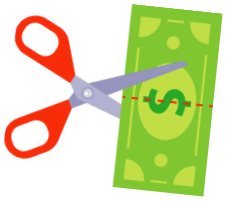
More than 83% of infants are breastfed at birth, and women are choosing to breastfeed longer. (1)

Breast milk is the most important functional food. It is a dynamic food with both nutritional and health benefits for neonates and infants.(25)

Breastfeeding offers numerous advantages for both mothers and infants. Breast milk adapts to the baby's nutritional needs as they grow and contains antibodies that boost the infant's immune system, protecting them from illnesses (1)(2).

Breast milk provides the ideal balance of nutrients, including easily absorbed carbohydrates and proteins, supporting the baby's brain development and overall growth.

Costs of Not Supporting Breastfeeding



Promoting Human Milk in NICUs: A Cost-Effective Strategy

Ensuring that very low birth weight (VLBW) infants in the Neonatal Intensive Care Unit (NICU) receive human milk (HM) can have substantial medical and economic benefits. Here are key takeaways from the medical journals regarding human milk in NICUs:

Reduced Risk of Necrotizing Enterocolitis (NEC): Early feeding of breast milk is associated with a significant reduction in the risk of necrotizing enterocolitis (NEC) in VLBW infants. Enteral feeding containing at least 50% HM within the first 14 days of life results in a sixfold decrease in the odds of NEC (16).

Necrotizing enterocolitis (NEC) is the leading cause of death from gastrointestinal disease in premature infants, affecting newborn babies at a rate of 1–3 per 1000 births per year in North America, with an average total treatment cost of US $500,000 per patient in the USA in current charges. (27)

A study in Breastfeeding Medicine, resulted in the mean costs of donor human milk at $27 for infants of mothers who provided sufficient breast milk through to discharge, $154 for infants of mothers who had insufficient milk supply during admission, $281 for infants of mothers who went home on formula but received any volume of mom's own milk (MOM) during admission, and $590 for infants who received no MOM during admission. (27)

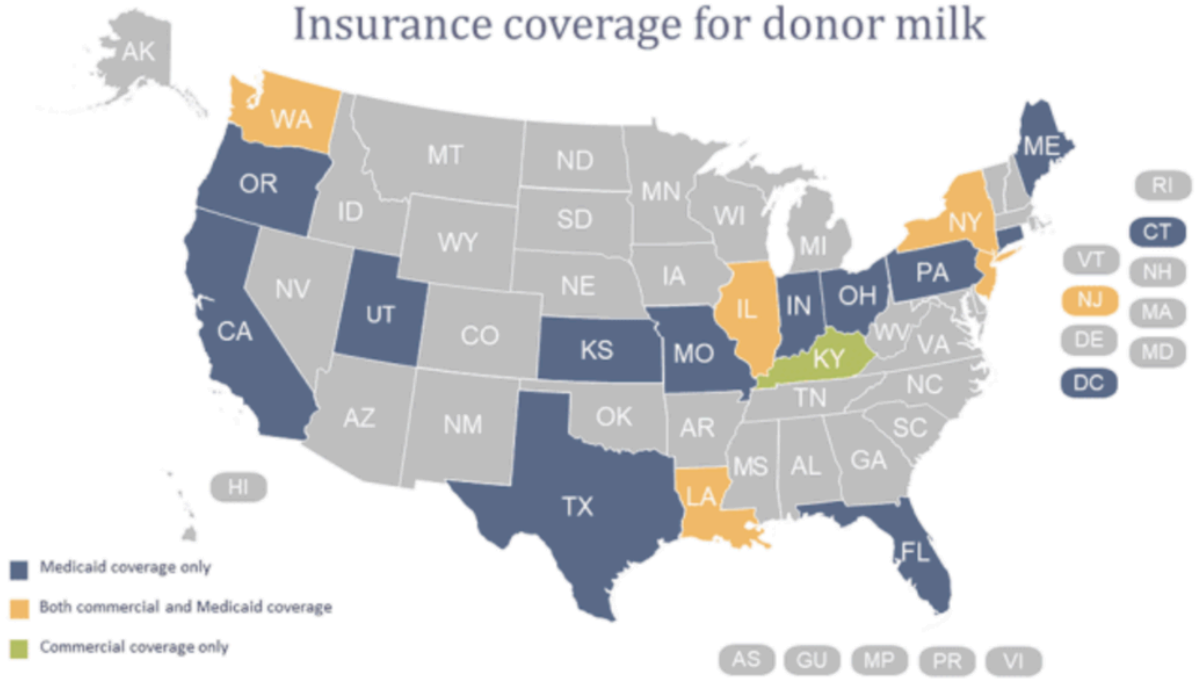
In this same study, most NICU mothers (72%) of very preterm infants were unable to provide all the milk necessary for an exclusively human milk diet. Few infants (15%) received exclusively donor milk. The cost of human donor milk per NICU infant ranged from $27 to $590 and was influenced by the mother's willingness or ability to provide human milk. (27)

Providing, safe, comfortable convenient spaces in the NICU for mothers to use a breast pump will save insurance companies from the purchase of Human Milk from Donators and overall save the hospital money from expensive extended NICU stays, if the infant is able to consume Mom's Own Milk (MOM). (15)

Significant Impact of Donor Milk: Donor milk plays a critical role in advanced neonatal care units. Hospitals often access donor milk from accredited milk banks, and its importance is underscored by its increasing use (17). In 2022, the Human Milk Banking Association of North America dispensed nearly 10 million ounces of donor milk. (28)

Cost Savings with Maternal Milk: Providing spaces in the NICU for mothers to express breast milk is not only beneficial for infants but also cost-effective for healthcare facilities. Access to adequate amounts of breast milk from the infant's own mother is crucial, as it can reduce the incidence and severity of costly prematurity-specific morbidities, including sepsis and NEC (15).

Data from NIH reveals that the cost of HM from the infant's own mother ($0.95–$1.55) is less expensive than donor milk ($13.59), specialty formula ($1.06), and ready-to-feed formula ($2.97) that are commonly used in the NICU for this population. (15)



Data from Journal of Perinatology and NCSL Maternal and Child Health Database.

Economic Barrier: Despite the substantial health benefits, the cost of providing human milk is often not reimbursed by payers, creating an economic barrier for many mothers. The cost of human milk from the infant's own mother is significantly lower than donor milk or various types of commercial formula commonly used in the NICU. This highlights the potential for cost savings by supporting mothers in providing their own milk (15).

Removal of Economic Barrier: Eliminating the economic barrier to accessing effective lactation equipment should be a priority. Providers, payers, and healthcare facilities can utilize these findings to justify the reimbursement of costs for breast pump rental fees, breast pump equipment, and collection kits for mothers of VLBW infants. This step can help ensure that all mothers of VLBW infants have access to the equipment needed for breastfeeding success (15).

In conclusion, promoting the use of maternal milk for VLBW infants in the NICU is not only medically essential but also cost-effective. Providing mothers with the necessary support and resources for breastfeeding not only benefits infant health but also offers economic advantages by reducing the need for costly treatments associated with NEC and other morbidities.

Donor milk is a necessity for infants, especially in the NICU. Hospitals and milk banks have an increased demand to provide donor milk. This irreplaceable donor milk can be collected when women are still in the hospital or at home. It would be advantageous for hospitals and milk banks to offer the Restful Pump® Chair for its breast milk donors to increase their donated supply.

Extend the Breastfeeding Journey: Optimizing Breastfeeding & Pumping Efficiency

How do we increase productivity with breastfeeding & breast pumping?

Improving productivity in breastfeeding and breast pumping involves addressing various factors.

Relaxation: Increased psychological distress can disrupt milk flow and affect milk synthesis. In contrast, relaxing during breastfeeding may significantly increase milk yield (19).

Infant Feeding Challenges: Several factors, such as prematurity, immaturity, jaundice, infection, heart disease, birth and surgical medications can impact a baby's ability to latch and breastfeed effectively.

Breastfeeding and breast pumping productivity involves addressing various factors:

- Relaxation During Pumping
- Infant Feeding Challenges
- Simultaneous Pumping and Breast Massage
- Hands-Free Pumping
- Supporting Breastfeeding Mothers in the Workplace
- Supporting Breastfeeding Mothers in the Clinic or Hospital Settings
- Breast Pump Positioning Challenges

Stay tuned for Restful Pump®'s space saving, ergonomic positioning systems. Perfect for small residential, clinical and hospital NICU spaces.

Breast pumping and massage at the same time is beneficial, but how?

One observational study and one randomized clinical trial have suggested that the combination of simultaneous pumping (e.g., both breasts at the same time) with an electric breast pump and breast massage, either with or without hand expression, increases human milk output during pumping. (21)

Performing self-guided and effective, therapeutic breast tissue massage indicates that women would need to be hands-free to use a breast pump, without the use of a pump bra.

Breast Massage for Increased Breast Milk Output

- Emptying breasts often by hand expression
- Frequently feeding, pumping and feeding in different positions to **efficiently express breast milk.**
- Therapeutic breast massage taught by a certified lactation consultant

Hands-Free Pumping: To effectively perform therapeutic breast tissue massage while pumping, women require a hands-free pumping solution that does not necessitate the use of a pump bra. (21)

In summary, optimizing breastfeeding and breast pumping involves promoting relaxation, corrective postpartum restoration positioning, addressing infant feeding challenges, ensuring consistent and comfortable pumping sessions, and adopting evidence-based techniques like simultaneously pumping while performing therapeutic breast tissue massage .

The implementation of a hands-free ergonomic positioning system can further enhance breast pumping sessions for a hands-free experience to perform therapeutic tissue massage for efficient and effective breast milk output while using gravity.

Restful Pump®'s mission is to improve the breast pumping experience by providing forward leaning, ergonomic positioning systems. Now lactating women can be hands-free (and pump bra free) to perform self-guided tissue massage, rest, or multitask while using any type of breast pump.

Supporting Breastfeeding Mothers in the Workplace

Support of breastfeeding mothers returning to work is crucial for their ability to continue the breastfeeding journey while being productive. Below is a summary of key provisions and solutions to ensure that this population of mothers is supported during their breastfeeding journey:

Fair Labor Standards Act (FLSA): The FLSA requires employers to provide reasonable break time for employees to express breast milk for up to one year after the child's birth. These breaks should be given as needed and in a location other than a bathroom, ensuring privacy and comfort (22).

PUMP Act: The Consolidated Appropriations Act, 2023, includes the PUMP Act, which extends the rights of nursing employees to receive break time and a private place for pumping at work for 12 months postpartum. This legislation enhances the support provided to nursing mothers in the workplace (22).

"Employees are entitled to a safe, private place to pump at work, other than a bathroom, with a lock on the door, that is shielded from view and free from intrusion from coworkers and the public."

Critical Postpartum Period: Recognizing the importance of the postpartum period for women and their infants' long-term health, it's essential to provide a balance between work and breastfeeding. This allows postpartum women to focus on their physical and mental well-being while maintaining productivity.

Lactation Suites: Offering lactation suites, whether corporate or private, provides breastfeeding mothers with a dedicated and comfortable space for pumping and breastfeeding at work.

Public or Private Venue Lactation Suites: These facilities can be established in various public or private settings, ensuring that breastfeeding mothers have convenient and private spaces to express milk.

Lactation Pods: These pods may offer hands-free pumping with added comfort features like headrests, making them suitable for traveling moms in locations such as airports, hotels, schools, and communities.

Increase productivity.
Decrease lost time cleaning up spilled milk.

Keeping mom productive and healthy will also help decrease lost time from work as she keeps herself and the baby healthy.

Avoid wearing a pump bra, pump hands-free with a nursing top and multitask in a comfortable and supportive forward leaning position.

Supporting breastfeeding mothers in the workplace not only fulfills legal obligations but also contributes to their physical and mental well-being, promoting a healthier work-life balance and sustained productivity.

Pump leaning forward on our customized fully supported chair and use gravity to assist pumping.

Use any type of breast pump and customize the bottle holders to adjust your personal milk collection system to your body.

Sit in a resting or working position

Ergonomic Supportive Breast Pumping Systems

Currently, breast pumping is not convenient or easy.
Using a breast pump doesn't have to be such an uncomfortable chore.

Restful Pump® has identified an enormous gap in the global marketplace for women's postpartum physical and mental health that also impacts infant health and wellbeing.

Increasing the convenience and productivity of this life task for a busy and fatigued new mother is imperative.

What is needed is a hands-free, forward leaning, ergonomic, restorative positioning system to increase the probability of success for breastfeeding and breast pumping mothers.

Restful Pump® has developed patented and patent pending solutions to assist any mother so they may rest or multitask to extend the pumping journey. The Restful Pump® Chair could be as necessary as a breast pump in the postpartum period. It offers restorative and ergonomic breast pumping solutions to extend infant feeding for their consumption of vital nutrients from breast milk.

Chair Leasing Program: Ease the burden by providing restorative positioning for lactation suites or pods.

If there's a newborn at home and mom has returned to work, it's quite possible she may be sleep deprived. The ergonomics of the Restful Pump Chair physically supports exhausted moms for full body restoration to increase productivity.

Restful Pump units encourage safe, reduced stress and enjoyable pump sessions.

The Restful Pump® product line will be found globally in hospitals and healthcare systems (NICU, MD offices, maternity rooms, lactation groups and centers), at durable medical equipment suppliers, in corporate lactation suites, in private hotel lactation suites and rooms (example: like a crib to be ordered to the room), private lactation pods, and online via RestfulPump.Shop.

Chair Leasing Program: Ease the burden by providing restorative positioning for lactation suites or lactation pods with our leasing programs.

Restful Pump units may be leased for as long as the user continues to use a breast pump. Units may also be purchased in full.

Restful Pump® is also perfect for the corporate office for the user to doze off during a restorative pump session and then be more productive with work, or increase workplace productivity by pumping hands-free while using any device.

Return to work in the office or in the home, working on the Restful Pump® Chair.

The chair has removable knee pads for your convenience.

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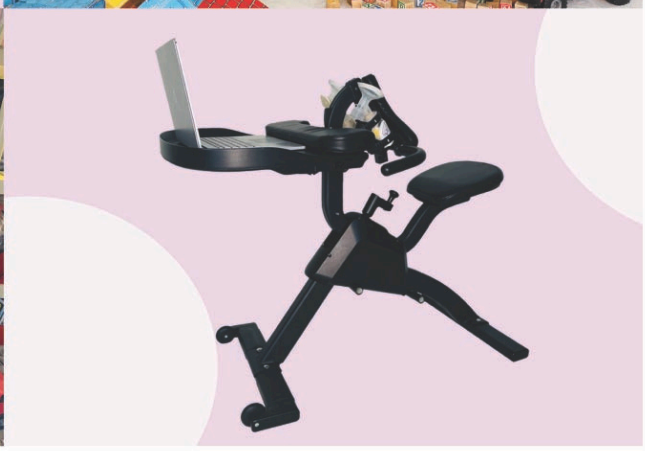

Why Should We Invest in These Systems?

The recommendations from the American College of Obstetricians and Gynecologists defines the best postpartum care.

ACOG
The American College of Obstetricians and Gynecologists

The American College of Obstetricians and Gynecologists makes the following recommendations and conclusions to optimize postpartum care. (5)

- To optimize the health of women and infants, postpartum care should become an ongoing process, rather than a single encounter, with services and support tailored to each woman's individual needs. (5)
- Anticipatory guidance should begin during pregnancy with development of a postpartum care plan that addresses the transition to parenthood and well-woman care (5), including long term breast tissue health.
- Optimizing care and support for postpartum families will require policy changes.
- Changes in the scope of postpartum care should be facilitated by reimbursement policies that support ongoing self-care with management of maternal healing, infant development. (5)

Restful Pump

Keeping Both Mom & Baby... Healthy

Restful Pump® is contributing to the success of Women's Health by providing restorative postpartum positioning systems to increase productivity and extend the pumping journey.

Mother's breast milk should be free!

There is demand for hospitals and other medical facilities to provide stress-reduced, comfortable, supportive equipment for mothers to produce their own breast milk.

This will reduce hospital and health insurance expenditure, stress, and prolonged infant admissions in healthcare arenas. Baby formula monthly costs range from about $411 to $874. If you're buying from a milk bank, of which there are about 30 in the United States, that is about $6,000 per month in costs per infant. (24)

Cost of Baby Formula

$0.54 to $1.15 per oz

Baby consumes
~ 25 ounces / day

Families spend between $4,928 and $10,494 in the baby's first year. (24)

Investing in ergonomically supportive, hands-free positing systems will help hospitals and clinics offer a reduced stress procedure to support mothers as they produce and pump breast milk for their fragile, sick infant(s).

Invested in the Future

We believe that consistent usage of Restful Pump(R)'s forward leaning, ergonomic positioning systems will increase productivity and extend the breast pumping journey. Encouraging low impact, safe and convenient postpartum positioning while also supporting infant feeding is urgently and critically necessary for women and infants' long-term health.

Sources:

1. https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2021/02/breastfeeding-challenges
2. https://www.cdc.gov/nccdphp/dnpao/features/breastfeeding-benefits/index.html
3. https://www.hopkinsmedicine.org/health/conditions-and-diseases/breastfeeding-your-baby/breast-milk-is-the-best-milk
4. https://www.mayoclinic.org/diseases-conditions/postpartum-depression/diagnosis-treatment/drc-20376623
5. https://www.acog.org/clinical/clinical-guidance/committee- opinion/articles/2018/05/optimizing-postpartum-care
6. https://pubmed.ncbi.nlm.nih.gov/25165836/
7. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4861949/
8. https://www.aafp.org/pubs/afp/issues/2008/0915/p727.html
9. https://pubmed.ncbi.nlm.nih.gov/26398299/
10 ://pubmed.ncbi.nlm.nih.gov/23323965/
11. https://pubmed.ncbi.nlm.nih.gov/32682581/
12. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5124124/
13. https://www.mayoclinichealthsystem.org/hometown-health/speaking-of-health/managing-plugged-ducts-mastitis-when-breastfeeding
14. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7465810/
15. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2879042/
16. https://pubmed.ncbi.nlm.nih.gov/17443195/
17. https://www.ncsl.org/state-legislatures-news/details/donor-human-milk-more-valuable-than-gold
18. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7068435/
19 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5901002/
20. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9162379/
21. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4920726/
22. https://www.dol.gov/agencies/whd/pump-at-work
23. Stanfordchildrens.org/en/topic/default?id=ineffective-latch-on-or-sucking-90-P02650
24. https://smartasset.com/financial-advisor/the-cost-of-baby-formula
25. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6567207/
26. https://www.nhlbi.nih.gov/health/sleep-deprivation/health-effects
27. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3663453/
28. https://www.hmbana.org/news/blog.html/article/2023/02/20/nonprofit-milk-banks-step-up-during-formula-crisis-dispensing-nearly-10-million-ounces-in-2022