

Traveling with Breastmilk  
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When our country goes to orange alert at the airports, everyone is asked to endure the minor inconveniences required to pass through security checkpoints. One group of travelers in particular faces additional challenges: mothers traveling without their children, but with expressed breastmilk. Primarily this means working, breastfeeding moms traveling for business. Conventional wisdom has been to keep pumped breastmilk on ice, so women often took it in their purse or carry-on bag.(1) Now, however, toting breastmilk in your carry-on bag without a baby in tow is apparently "suspicious"—and thus subject to highly specific packaging guidelines. According to the latest information at the Transportation Security Administration (TSA) [website](#), breastmilk must adhere to the same "3-1-1" carry-on guidelines as other liquids, gels and aerosols: it is required to be in containers three ounces or less and, if you have more than one, all the containers must be placed in a 12 ounce zip top plastic bag. These bags must be declared prior to entering the checkpoint. Only one 12 ounce bag of (three ounce or less) containers is allowed per traveler, thereby rigidly limiting the amount of breastmilk that a mother traveling without her child can carry. Ironically, the TSA policy also notes that breastmilk can be carried on in "unlimited quantities" by a mom traveling with her child—despite the fact that she could nurse baby and therefore wouldn't need to pump and carry precious breastmilk. The bad news is that these carry-on regulations seem to stack the deck against the multitude of mothers who pump and travel without their babies. The good news is that breastmilk, as with other liquids and gels, can be transported in larger quantities in checked baggage.

The even better news is that, according to new findings in the journal *Breastfeeding Medicine* (2), checking breastmilk is actually a fine option. The researchers took frozen breastmilk and thawed it, refroze it, refrigerated it and left it out at room temperature. Essentially, they beat it up. What did they find? Breastmilk is fairly robust and does not grow bacteria easily nor lose vitamins A and C or free fatty acids (FFA) to any degree that would harm a full term baby. Breastmilk fresh from the breast or thawed in a clean container can be left at room temperature for less than 8 hours.(3) (4) This means on a day trip, you can safely pack expressed breastmilk in your checked bag and take it home just as it is. Lets consider the example of Los Angeles to Phoenix and back for a day meeting: you nursed at 7am and headed off to the airport. You pumped at 10 a.m., 1 p.m. and 4 p.m. and were home by 5:30 p.m.—less than eight hours from pumping, at room temperature. The cargo holds of airplanes are cold at 30,000 feet so all the better. Some of the manufactures of polyethylene plastic bags now have zip closures so they won't leak during travel. However, polyethylene bags rob the milk of some of the immune factors (5) so some companies make polypropylene hard plastic bottles with screw or snap on lids for storing breastmilk. A little bulkier, but also won't leak in transport.

Thawed breastmilk can stay in the refrigerator for 24 hours. Fresh breastmilk in a clean container can stay in a refrigerator for less than eight days (6). Fresh breastmilk can stay in an insulated bag with frozen gel packs for 24 hours. (7) Refrigerator temperatures are

38 - 45° F. An insulated pack with frozen gel packs is 60° F (3). Your pumped milk in the hotel refrigerator is fine for a week business trip. The milk coming home in your checked luggage in an insulated pack with frozen gel packs for 24 hours will work also.

What do you do with frozen milk you pumped on your trip? Don't mess with ice. Ice is warmer than frozen milk and will actually hasten to thaw your milk (8)—who knew? This is because water freezes at 32° F and milk freezes at around 0° F. Use frozen gel packs to keep your frozen milk frozen longer in your insulated cooler in your checked luggage. Crumple paper all around the milk and gel packs to further insulate it. The study in *Breastfeeding Medicine* found that even if the milk thaws, it is good to use provided it was not at room temperature for more than eight hours. If it is cool when you unpack it—it is good to go. It is also safe to be refrozen. (9) This is important because moms think they have to use it right away if thawed and may feed it to the baby instead of actually breastfeeding as soon as they get home. Better to get baby on the breast as soon as you return home, and refreeze or refrigerate the pumped milk for the next mother-baby separation.

Some clever working traveling mothers on an extended trip ship their frozen milk home in dry ice. Check with UPS, Federal Express, Airborne, or DHL for how much dry ice they will allow and what the cost will be shipped. The bigger hotels with a business center will arrange shipping for you for an extra fee. One mother opened her own account with one of the shipping companies and then left the package of milk packed in dry ice with the hotel's desk clerk. She called the shipping company to arrange for a pick-up every morning at the hotel and had it billed to her account. She stayed in residence hotels that had a refrigerator/freezer in the unit. Grandma got the expressed package the next day and the milk was still frozen. Expensive you say? If you were to purchase breastmilk from a milk bank, it often costs \$3.00 per ounce from a non-profit milk bank and even more than that from a for-profit milk bank. Dry ice and shipping costs may come close to this cost in value but it is well worth it. Better than cow milk or soy based formulas.

Remember, if you breastfeed and need to travel without your child, you have options. Pack and carry-on according to "3-1-1" guidelines, or store and stow in checked luggage with confidence, based on the research presented above. Concerned about what might happen if your checked baggage is searched? Insulated bags that are foil lined will show up as a black box on x-ray and will have to be looked into. So it is best to use padded insulated bag that does not use metal foil. One mother printed out a note on her computer with her baby's picture on it that said: "This is refrigerated breastmilk for my precious baby girl, Amy. Please handle with care and close the container quickly so it stays cold." She taped the note to the top of the bag. Breastmilk is not a bio-hazard substance so it needs no special handling precautions. (10) Dry ice may not be permitted on airplanes so don't use it in your checked luggage unless the airline says it is OK.

Breast is best, and it is worth following protocol to transport it. Due to reports of some TSA agents not being fully informed on the correct policy, consider printing a [copy of the regulations](#) from the TSA site and carrying them with you when you travel—in the event you encounter any confusion, you can refer directly to them.

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NOTES:

- 1) L. Sterling : "Nursing my Daughter, and Some Grievances," *New York Times*, 10/15/2006.
- 2) D.J. Rechtman, M.L. Lee, H. Berg: "Effect of Environmental Conditions on Unpasteurized Donor Human Milk," *Breastfeeding Medicine*, 1, 1 (2006):24-26.
- 3) W. Pittard, D. Anderson, E. Cerutti, B. Boxerbaum: "Bacteriostatic Qualities of Human Milk," *Journal of Pediatrics* 107, 2 (1985):240-3.
- 4) F. Jones, M. Tully: "Best Practice for Expressing, Storing, and Handling Human Milk in Hospitals, Homes and Child Care Settings 2nd ed," (Raleigh, NC: Human Milk Banking Association of North America, Inc., 2006) [www.hmbana.org](http://www.hmbana.org)
- 5) R. Goldblum, C. Garza, C. Johnson, R. Buford, A. Goldman: "Human Milk Banking I: Effects of Container upon Immunologic Factors in Mature Milk," *Nutrition Research* 1 (1981):449-59.
- 6) see note 4
- 7) *ibid.*
- 8) *ibid.*
- 9) see note 2
- 10) see note 4