

## **The Joy of Cloth Diapers**

By Jane McConnell

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I have three children in diapers--a nine month old, a two year old, and a four year old who wets at night. In rough numbers, this means our household has changed more than 20,000 dirty diapers in four years.

Now, I'm not a glutton for punishment, and like all working mothers I don't have a lot of spare time. But I've chosen cloth diapers over disposables from the beginning. Like breastfeeding and drug-free childbirth, cloth diapering has always seemed to me to be the most "natural" approach. Yet, even in an environmentally conscious town like Boulder, Colorado, I'm surprised at how few parents use cloth. Some are put off by the perceived inconvenience; others have argued that cloth diapers are actually more harmful to the environment than disposables. To aid you in your own decision, or to help you educate your friends who are new parents, here is a current look at some of the issues involved in cloth and disposable diapering.

### **Which Is Better for the Environment?**

To most, the environmental impact of disposable paper-and-plastic versus reusable cotton diapers seems clear-cut. But delve into the facts, and things begin to get murky.

The debate started to get heated in 1990, the 20th anniversary year of Earth Day.

Environmental awareness was at a peak, and many states were considering initiatives to tax or ban the sale of disposable diapers. Procter & Gamble, the nation's largest manufacturer of disposable diapers, fearing a loss of market share, commissioned a study by Arthur D. Little, Inc., on the environmental impact of disposable diapers. The study came to the conclusion that, lo and behold, disposables were actually no worse for the environment than cloth diapers. Procter & Gamble followed with an ad showing tree roots in compost, stating, "90 days ago this was a disposable diaper." After several lawsuits based on the fact that composting facilities for disposable diapers do not actually exist, the ad was pulled, but not until millions of parents had read and believed it. Meanwhile, the National Association of Diaper Services sponsored several reports of its own, prepared by consultant Carl Lehrburger, showing that there was a clear environmental advantage to using cloth diapers.

So which study was right? It depends on your bias. Sponsored research, or any research for that matter, is inherently subjective. The set of assumptions you start with--How many diaper changes will a baby go through in a day? Is the life of a cloth diaper 100 uses or 150?--will greatly influence the outcome of the study. Ultimately, the Little study was deemed misleading by the Advertising Standards Authority in Great Britain, and Procter & Gamble was prohibited from mentioning the study in its advertising. However, public opinion had already been influenced.

Some of the facts: 18 billion disposable diapers are thrown in landfills each year, taking as many as 500 years to decompose. Disposable diapers make up the third largest source of solid waste in landfills, after newspapers and food and beverage containers--a significant fact, considering they are a single product, used by a limited portion of the population.<sup>1</sup> It takes upwards of 82,000 tons of plastic and 1.3 million

tons of wood pulp, or a quarter-million trees, to manufacture the disposable diapers that cover the bottoms of 90 percent of the babies born in the US.<sup>2</sup>

Some will argue that in areas where water is scarce, disposables are the better environmental choice. However, carrying this argument to the extreme, we should be wearing disposable clothes, and using paper plates and plastic utensils. Washing cloth diapers at home uses 50 to 70 gallons of water every three days--about the same as a toilet-trained child or adult flushing the toilet five to six times a day. A diaper service puts its diapers through an average of 13 water changes, but because of the economies of scale, uses less water and energy per diaper than one laundry load at home.

Today, as a rule diaper services use biodegradable detergents not harmful phosphates. The waste water produced from washing diapers is benign, while the waste water from the manufacture of the pulp, paper, and plastics used in disposable diapers contains dioxins, solvents, sludge, and heavy metals.<sup>3</sup> Chlorine bleach, whose manufacture is harmful to the atmosphere, is used in whitening diaper service diapers, but the environmental impact is far greater in the paper-bleaching process used in making disposable diapers.<sup>4</sup>

Cotton, of course, is not without its evils. Conventionally grown, it is a major user of harmful pesticides. There are, however, several companies offering organically grown, unbleached cotton diapers as an alternative.

Ultimately, instead of getting bogged down in each side's scientific data, the most commonsense approach is to use commonsense. Weigh the impact of manufacturing and disposing of 8,000 paper-and-plastic diapers over the average diapering period of a child versus that of a few dozen cotton diapers, and decide for yourself which is better for the environment.

#### Which Is Better for the Baby?

With all the focus on environmental issues, the baby often gets overlooked in a discussion of cloth versus disposable diapers. All parents want to do what's best for their baby, but many people aren't aware of, or don't consider, the short-term and long-term health effects of their diapering choice.

Although the disposable diaper industry spends millions of dollars on ad campaigns touting the fact that their diapers feel drier, there is no benefit to the baby in terms of diaper rash. In fact, diaper rash is caused by numerous factors ranging from food irritations to soaps used on the baby's skin, and the number one factor in preventing it is frequent diaper changes. For this reason, babies in disposable diapers may experience more diaper rash; because the diapers feel dry, parents tend to change them as infrequently as every four to five hours. But though the outer layer may appear dry, bacteria from the urine is still present in the baby's diaper, and still comes in contact with the baby's skin.<sup>5</sup> Furthermore, plastic does not "breathe" to let out the ammonia formed in the bacterial breakdown of urine, while a cotton diaper and nylon or wool wrap are breathable, allowing air to circulate to the baby's skin, keeping it healthy.

Of more serious concern are the toxic chemicals present in disposable diapers. Dioxin, which in various forms has been shown to cause cancer, birth defects, liver damage, and skin diseases, is a by-product of the paper-bleaching process used in

manufacturing disposable diapers, and trace quantities may exist in the diapers themselves.<sup>6</sup>

And what about the material that makes "superabsorbent" diapers so absorbent? If you've ever used disposable diapers, you've probably noticed beads of clear gel on your baby's genitals after a diaper change. Superabsorbent diapers contain sodium polyacrylate, which absorbs up to 100 times its weight in water. Sodium polyacrylate is the same substance that was removed from tampons in 1985 because of its link to toxic shock syndrome.<sup>7</sup> No studies have been done on the long-term effects of this chemical being in contact with a baby's reproductive organs 24 hours a day for upwards of two years.

Neither type of diaper can claim to be more sanitary. In the early 1990s, right around the time many states were considering offering incentives to hospitals and daycare centers to switch to cloth diapers, disposable diaper manufacturers attempted to prove that cloth diapers contribute more to the spread of bacteria. In fact, it is the caregiver's hand-washing habits, and not the type of diapers, that is the deciding factor. "The research in this area was funded by special interests," points out Janet Primomo, RN, PhD, associate professor of nursing at the University of Washington, Tacoma. "It's not a question of whether cloth or disposables are more sanitary--it all depends on practices and procedures, such as hand washing habits and what kind of storage containers are used."

There is, however, a more serious threat of contamination from disposable diapers, because of human sewage going into landfills. The disposal of human waste in residential garbage is technically prohibited, and instructions on disposable diaper packaging recommend that you shake out any fecal matter into the toilet before disposing of it; but in practice this is almost never done. Live viruses in the feces, such as the polio vaccine, can live in landfills for a long period, and if there were ever any leakage, could potentially contaminate a community's drinking water. So far, there has been no evidence of contamination--this is more of a concern in Third World countries, where landfills aren't as well constructed, and disposable diapers are being marketed aggressively.

#### What About the Inconvenience of Cloth Diapering?

It's true that the thought of rinsing, soaking, and laundering dozens of cloth diapers a week is overwhelming to most new parents. But if you're a parent, you're doing laundry around the clock anyway, and what's a few more loads a week? However, it's not for everyone--and that's where diaper services come in. Many parents don't realize that with a diaper service there's no rinsing or soaking involved. You don't even need to flush solids away--you simply throw the soiled diaper directly into a diaper pail lined with a garbage liner. Once a week, you put the bag of dirties out, and a bag of fresh, clean diapers is delivered to your door. Can that really be considered less convenient than throwing a disposable diaper in the trash and taking an extra garbage can out to the curb each week? In fact, with a diaper service there's the added convenience of not having to remember to buy diapers--you simply never run out.

Yes, you do have to rinse out the occasional soiled diaper cover, and tote back soiled diapers from an outing. But this is really no more inconvenient than sorting glass and cardboard for recycling, and most of us don't think twice about that. And you don't have to be a purist. I personally feel that disposable diapers (preferably the

chemical-free variety) have their place when I'm traveling and not close to laundering facilities.

Even home laundering diapers isn't necessarily as time-consuming as you may think. Ginny Caldwell of Ecobaby argues that it takes less time to dump a load of cloth diapers into the washing machine and transfer them to the dryer than it does to shop for disposables, load them into the car, unload them at home, and take out an extra garbage can once a week.

**But Isn't a Diaper Service Expensive?**

Although a diaper service seems like a luxury, in fact it can cost considerably less than using disposables--and home-laundered cloth diapers are, of course, the cheapest alternative of all.

Each week, many parents think nothing of buying a pack of disposables, whose cost is often hidden in the grocery bill. But when you add it up over the entire diapering period, the costs are substantial. The figure, of course, depends on the number of diaper changes a day (as pointed out earlier, babies in disposables are often changed less frequently--at the expense of the baby's health) and the age at toilet training. But assuming an average two and a half-year diapering period, and an average of eight to ten diaper changes a day (based on every hour for newborns, every two hours for toddlers) this translates to 7,000 to 9,000 diapers over the diapering period. At an average price of \$.24 per disposable diaper (premium diapers cost closer to \$.33 apiece), the price tag for disposable diapering is around \$2,000, plus several hundred dollars for garbage disposal costs of an additional can per week.

By contrast, diaper services charge anywhere from \$10.00 to \$15.00 a week, depending on the part of the country you're in. This works out to \$1,300 to \$2,000 over two and a half years, for clean diapers delivered to your door each week, the use of wraps in whatever size you need at the time, and a diaper pail. If you have more than one child in diapers, the price drops considerably (usually by 75 percent) for the second child.

Home diapering, on the other hand, can be done for as little as \$400, or as much as \$1,200, depending on the type of products you buy. Well-made products should last for subsequent children. Diapers can range anywhere from \$20.00 a dozen for diaper service-quality prefolds, up to \$60.00 or even \$100 a dozen for fitted, contoured diapers with snaps or organic cotton diapers. You'll need somewhere between three and five dozen. Covers range from \$4.00 to \$18.00 apiece, depending on the quality and material, and you'll need up to 25 (about five in each size range). Figuring in detergents and energy costs of about \$.60 per load, the average parent will spend well under \$1,000--usually more like \$500--for home diapering.

**An Added Benefit: Earlier Potty-Training**

Another advantage to cloth diapers is that they usually lead to earlier toilet training because the child actually knows when he or she is wet. Now that many children go straight from disposable diapers to disposable pull-ups, it's not uncommon to see four and five year olds who still aren't completely potty-trained wearing pull-ups to school. This has an obvious impact on the child's self-esteem, not to mention the added impact on landfills.

"We get customers calling up to start a diaper service when their child is three and a half and not yet toilet trained," says Brian Smithson, president of the National Association of Diaper Services. In fact, several diaper services around the country are, as an incentive, starting to offer the service free after the 30th month if your child is not toilet trained by then.

"We live in a fast-paced society where people don't want to deal with the 'yuck' factor," adds Smithson. "Parents look at a diaper as a container that doesn't leak and can be left on for eight hours, instead of looking at it as clothing worn on the most sensitive parts of the body. Shouldn't we be changing babies when they wet?" Adds Erica Froese, owner of Mother-Ease Diapers, "A diaper is not meant to be used as a toilet."

#### The "Bottom" Line

Aside from the environmental and health arguments, many parents feel, as I do, that cotton is a purer, softer, simpler choice than paper and plastic, and that if their babies could vote, they'd choose cloth themselves. In fact, my four year old, who has tried pull-ups at night and inevitably wakes up with an itchy rash, has made it clear to me that she prefers cotton. Many cloth diaper companies are now offering adult sizes, as incontinent adults look for alternatives to the feeling of a mushy mass of paper wadded between their legs.

The bottom line is that choosing cloth diapers doesn't have to be a daunting prospect--it's simple, it's convenient, it's inexpensive. And it's the best choice you can make for the health of your baby, and of the planet.

#### NOTES

(1.) EPA, "Positive Steps towards Waste Reduction," June 1989.

(2.) Rhode Island Solid Waste Management Corporation.

(3.) Cad Lehrburger with Rachel Snyder, "The Disposable Diaper Myth," *Whole Earth Review* (Fall 1988): 61.

(4.) See Note 3.

(5.) Nan Scott, "Nan Scott's Newsletter for Parents."

(6.) EPA, "Integrated Risk Assessment for Dioxins and Furans from Chlorine Bleaching in Pulp and Paper Mills."

(7.) Judy Braiman-Lipson, *Empire State Consumer Association, Rochester, NY.*

*Jane McConnell and her husband, Jeff Heyman, share the diapering responsibilities for Jack (9 months), Henry (2), and Lucy (4). She works as a part-time freelance writer and an associate editor for Mothering from her home in Boulder, Colorado.*