Knowing the Difference between Soap and Detergent Saved Our Son from Severe Eczema

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Our baby developed eczema at four months

When our four-month-old son developed small bumpy red patches on his legs, our pediatrician diagnosed eczema. His solution: slather our son's skin with moisturizers. Instead of getting better, our baby's eczema went out of control. A painful-looking, blistery red rash blossomed over his entire body and face, and even his scalp. Some patches bled, oozed, and crusted over.

32 weeks with eczema.

At the stage when babies should be smiling and wiggling with the sheer joy of movement our son didn't. Instead, he scratched himself incessantly, even through layers of clothing, leaving long claw-like trails through his already raw, blistered skin. His open rashes became easily infected and stopped healing in that miraculous, rapid way that healthy baby skin heals. To watch this was truly heartbreaking.

Stopping the "hypoallergenic" moisturizer didn't make the eczema go away. Our experienced, trusted pediatrician seemed annoyed at our attempts to analyze the breakouts and find the cause. "It's random," he said, "You just have to accept that your son gets skin rashes for no apparent reason." The rashes *did* seem to fluctuate randomly; it was easy to believe that *everything* was causing it.

The breakouts seemed random until we found the cause

As engineers, my husband and I believed that things happen for concrete reasons, not magically. Fortunately for our son, a friend had given us a copy of Dr. T. Berry Brazelton's book *Touchpoints*. In it, we found two short sentences that were the key to ending our son's misery: "Pure, mild soaps must be used for his [baby's] bath and for his clothes. Traces of detergents stay in clothes and can produce skin rashes in sensitive infants."

Before reading those sentences, we thought of detergent allergies only as individual product, perfume, or additive sensitivities. Most books suggest detergents and soaps are equally irritating to infants with eczema, telling parents to avoid both.

Without realizing it at first, my husband and I made a subtle but critical shift in our thinking: we began to make a distinction between soaps and detergents as chemical classes.

When we eventually eliminated all detergent-based products from our laundry and home and replaced them with different soap products, we were also able to eliminate all of our son's eczema. His skin cleared and began to heal normally again. It felt soft and supple, like healthy baby skin. And our son began moving again for the joy of it, peddling his legs, rolling and exploring, smiling and giggling constantly.

Before we discovered the cause, we could rarely take our son to church without a horrendous rash developing over any exposed skin. After eliminating detergents in our home, he could tolerate more and more dry contact with detergent outside the home. He could lead a normal life.

More than two years later, our son still broke out from significant contact with detergent, but we could almost always predict when it would happen, and we knew how to eliminate the breakouts quickly.

Eliminating detergent from our home environment was not as simple as switching to soap flakes in the laundry. It took four months of careful observation and detective work to track down all the sources of detergent in our home environment, and until we did, even we didn't see that different detergents were the entire cause of the problem.

Soaps and detergents are not the same thing

Detergents were invented around World War II, and initially at least, were commonly used only in the laundry. The reaction of some infants must have been obvious then, as one of our elderly friends said, "In my day, everyone KNEW to wash baby clothing only in soap flakes." Most other products, like shampoos, remained soap-based; my husband's aunts still remember the vinegar rinses they used to get the residues out of their hair.

The use of detergents in home environments has increased every decade since they were invented, especially since the 1960s. Today, few households have soaps in any cleaning products. Even those labeled "soap" are often detergents, such as sodium lauryl sulfate liquid hand "soap."

Once, the difference between detergents and soaps stemmed from the basic ingredients: soaps were derived from plant or animal fats, detergents from petroleum. Detergent chemistry circumvented some of the problems of soaps, such as the formation of "scum" in hard water. There now seem to be plant-based products with the same cleaning and molecular properties of detergents. Commonly available in natural food stores, these products are perhaps more appealing to some consumers, but they proved a complication for solving my son's eczema. Finding pure soap products that didn't make our son more susceptible to detergents by drying his skin was another a challenge.

Continued on page 18

KNOWING THE DIFFERENCE BETWEEN SOAP AND DETERGENT

Continued from page 17

After solving our son's problem empirically, I've tried to understand it from a biological perspective by talking to chemists, microbiologists, and doctors. Given my present knowledge—which is far from complete—I believe the problem is related to skin membrane permeability. One microbiologist pointed out that detergents can have very different electrical charge properties than traditional soaps, and they increase the permeability of skin in a way that soaps and water alone do not.

After his eczema was under control at 50 weeks.

The solution was simple yet difficult

Understanding these issues proved essential to maintaining the improvements in our son's skin, because we found that simply washing his skin and clothing with water only—despite Herculean rinsing—was not enough to remove detergent residues. In fact, water sometimes caused an outbreak on skin that had residues from contact with detergent during the day. Such residues are hard to avoid, as detergents seem to be a major component of household dust—from skin flakes, hair, lint, and washed surfaces.

In a typical household today, the following products are almost always detergent-based or contain detergents: laundry products, including "hypoallergenic" ones for babies (Ivory Snow became a detergent product about ten years ago and is no longer soap flakes, Dreft is a mild detergent, but it is still a detergent); dishwashing liquid; dishwasher powder; liquid and many bar "soaps"; kitchen, bathroom, and other household surface cleansers; shampoo and body washes; toothpastes (including "natural" ones); many cosmetic products, creams, and moisturizers; and many processed foods.

To get rid of our son's breakouts we had to completely remove all detergent sources in our home—otherwise, the breakouts remained unpredictable and our son's skin didn't heal completely. Just touching his skin with water from a clean dish out of the dishwasher, which we hand scrubbed under the tap for good measure, was enough to give him serious contact eczema within 30 minutes. Thankfully, the water direct from the tap did not cause such breakouts. Our son's face didn't clear up completely until we began to wash *our own hair* in a soap-based shampoo.

Since solving our son's problem, we've come across others with the same allergy. Helping them has proved to be an involved process. Eczema can be caused by other things, such as foods; removing enough detergents from the home environment to determine that they are the problem requires a significant amount of work, and there are many pitfalls.

For example, in trying to help others, I discovered that detergent residues in clothing must be *completely* removed by soaps, or the intermediate stage is actually more irritating. Someone switching to soap flakes only temporarily could easily think their child was more allergic to the soap. Simply eliminating detergents and using only water for household washing wouldn't lead to a solution either. Eliminating detergent residues with water alone is unrealistic. Six water-only washes in our high quality front loader (washes totaling 12 hours and including 24 rinses) were required to remove enough detergent residue from our son's car seat cover to keep him from reacting to it (and we had previously washed it in detergents only once). Removing the detergent with soaps would have required only one or two washes.

We could easily have confused our son's problems with food allergies as well. Many prepared foods, especially jarred and canned foods, seem to contain enough traces of detergents to give our son contact eczema, and he later breakouts from ingesting them. Detergent residues from pots, pans, dishes and utensils can also be significant. When we started feeding our son solids at six months, at first we thought he was allergic to *every food*, even though we had already switched to soap flakes in the laundry, and used soap to wash household surfaces.

An allergy to detergents is easiest to identify and clear up before age one—before a child's exposures become more complicated, and the probable compromised state of the gut (as with the skin) could turn into true food allergies that contribute further to the problem. In *Touchpoints*, Brazelton writes that prevention is easier than dealing with an allergy: "Once an allergic symptom is out in the open, it is harder to get rid of. At that point, we must eliminate not only the immediate cause but also the milder offenders. [But] if a parent is willing and able to do this, the child may be able to tolerate the more potent stimulus from time to time."

I believe my son's problem is not rare, but it must be rare to figure out, because I have not found any specific research on this problem. That's not surprising; the kind of detailed observations we had to make over an extended period of time in order to determine the cause of our son's eczema are not really possible to do in a doctor's office or even a normal research setting.

I think it would help parents of children with eczema a lot if researchers took on one large study in which they resolved to figure out the cause(s) of—and completely clear up—EACH CASE of infantile eczema that they encounter. They could chart the range of causes and how much eczema in the population comes from each cause, and then they could develop procedures to help parents figure out their own kids' cases—because pediatricians can't realistically do it from their offices. People have to be their own detectives, but it would make all the difference if they had the information to do it.

Meanwhile, if you want to determine if your child is allergic to detergent and you need help, please send me an email at mamalumsdaine@yahoo.com. If I receive only a few responses, I will try to help people individually. If I get more responses than I can handle individually, I will set up a Web page and send everyone the link to it.