

Buyer Beware – Soaps and Sanitizers May Increase Absorption of Dangerous BPA

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STORY AT-A-GLANCE

- › Bisphenol A (BPA) is an endocrine-disrupting chemical found in countless everyday products for which there is strong evidence of negative health effects
- › Using hand sanitizer may change the permeability of your skin and increase your absorption of BPA, especially from cashier thermal printed receipts commonly coated with BPA
- › BPA has been found in measurable amounts in canned goods using BPA in the can liner, increasing your risk of exposure

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Bisphenol A (BPA) is an [endocrine-disrupting chemical](#) found in countless personal care and plastic products, including the lining of canned goods, nonstick food containers, water bottles and even cashier's receipts. It was first created in 1891, but didn't appear in manufactured products until the 1950s.

Although the American Chemistry Council, an industry trade group, has consistently insisted BPA is safe,^{1,2} this is contrary to the weight of evidence. The chemical has been banned from use in sippy cups and other baby products due to potential health risks to infants.³

Manufacturers prize BPA as an additive to plastics as it makes the final product more resilient and often transparent. BPA resins are also used to keep metal from corroding. It's used in an estimated 75% of canned goods sold in the U.S.

Despite strong scientific evidence of negative health effects, and relentless health advocacy group work to remove the chemical, the industry was valued at over \$13 billion in 2013⁴ and is expected to reach \$37.4 billion by 2032.⁵ In response to consumer concerns some food companies have agreed to stop using BPA.

However, this may not have the effect you expect, as research demonstrates these substitute chemicals may cross the placental barrier, increasing the toxic load on infants,⁶ and may have similar endocrine-disrupting effects on adults since they are nearly identical chemical compounds. Making matters worse, certain soaps and sanitizers may increase your absorption of BPA, making it all the more dangerous.

What's the Problem With BPA?

Primarily, BPA is a strong endocrine disruptor. Basically, this means the chemical is similar in structure to a natural hormone – in this case, estrogen – and then interferes with the function of the hormone in your body. While estrogen is typically thought of as the female sex hormone, it also has other functions.

Your hormones are secreted by your endocrine system,⁷ and often do not act independently of each other. A report from the Environmental Working Group (EWG) offers this explanation about endocrine-disrupting chemicals, and specifically about BPA:⁸

"There is no end to the tricks that endocrine disruptors can play on our bodies: increasing production of certain hormones; decreasing production of others; imitating hormones; turning one hormone into another;

... [I]nterfering with hormone signaling; telling cells to die prematurely; competing with essential nutrients; binding to essential hormones; accumulating in organs that produce hormones. Unfortunately, this synthetic

hormone [BPA] can trick the body into thinking it's the real thing – and the results aren't pretty.

BPA has been linked to everything from breast and other cancers to reproductive problems, obesity, early puberty and heart disease, and according to government tests, 93% of Americans have BPA in their bodies!"

Exposure to BPA has been linked to the following health conditions:

Structural damage to your brain, hyperactivity, increased aggressiveness and impaired learning⁹

Early puberty, stimulation of mammary gland development, disrupted reproductive cycles, ovarian toxicity and infertility¹⁰

Reduced quality of eggs¹¹

High blood pressure and **heart disease**^{12,13,14}

Increased risk of **obesity**¹⁵

Increased prostate size, decreased sperm production, hypospadias (penis deformation),¹⁶ erectile dysfunction¹⁷ and stimulation of prostate cancer cells

Altered immune function¹⁸

Preterm birth¹⁹

Diabetes

Reduced efficacy of chemotherapy treatment²⁰

Asthma²¹

Breast cancer²²

Everyday Items Contain BPA

BPA can be found in many of the items you use every day. It is commonly found in shower curtains,²³ plastic food storage containers, plastics that cover your meat and

plastic water bottles,²⁴ among the more common items you may come into contact with daily.

The Center for Environmental Health (CEH) and Stanford researchers, in two separate studies, evaluated BPA content in **canned goods**. A CEH study²⁵ found 40% of canned goods tested had traceable amounts of BPA in the food.

The study evaluated cans produced by two of the largest grocers in the U.S. – Kroger and Albertsons/Safeway – with those from Dollar Tree and 99 Cents Only Stores. They collected over 250 cans from 11 states from the four major chains and found BPA epoxies, vinyl and polyesters – all chemicals known to have negative health effects.

An independent lab tested the contents of the cans finding BPA in the product, indicating the chemical was likely migrating from the lining of the can into the food. Caroline Cox, director of research at CEH, stated:²⁶

"These companies have known for years that BPA is a serious health threat, yet too many of their food cans still contain this dangerous chemical. Americans deserve safe food for their children and families. It is past time for grocery retailers and dollar stores to end this health threat and develop safer alternatives for canned foods."

Research From Stanford Finds Cans Have Different Amounts of BPA

Researchers from Stanford University assessed thousands of people from varying geographical areas, of different ages and socioeconomic backgrounds, evaluating dietary sources of BPA and urinary concentrations. This study found an association between the amount of canned food eaten and levels of BPA in their bodies.²⁷

The study also found that some canned foods had far higher levels of BPA than others. According to lead author Jennifer Hartle, postdoctoral researcher at Stanford's

Prevention Research Center,²⁸ "I could eat three cans of peaches, and you could eat one can of cream of mushroom soup and have greater exposure to BPA."

Canned soups had the most BPA, followed by canned pasta. Canned fruit and vegetables had the least amount of BPA. The results confirmed the degree of influence food manufacturers have over your exposure to BPA. Hartle also led a study evaluating potential exposure school children face eating [school lunches](#).²⁹ Hartle commented on the results of this study:³⁰

"During the school site visits, I was shocked to see that virtually everything in school meals came from a can or plastic packaging. Meat came frozen, prepackaged, precooked and pre-seasoned. Salads were pre-cut and pre-bagged. Corn, peaches and green beans came in cans. The only items not packaged in plastic were oranges, apples and bananas."

Hartle recommends schools begin to protect students from BPA contamination by limiting sources, but also cautions that containers labeled "BPA free" may not be a safer alternative.³¹ The most common replacement is BPS, which has demonstrated a similar impact on developing embryos as BPA.³²

Hand Sanitizer May Amplify Absorption

Other common sources of BPA are thermal printed store receipts. And research suggests using hand sanitizer may increase the amount of BPA you absorb when handling receipts or exposed to other BPA-containing products.³³

The study³⁴ demonstrated BPA was absorbed more quickly when people used hand sanitizer before handling printed store receipts. This may be caused by a change in skin permeability triggered by hand sanitizers.³⁵ The study indicated the increase in absorption may be as high as a factor of 100 or more.

Both dermal and sublingual absorption bypass liver metabolism, dumping toxins directly into your cells.³⁶ The study found BPA in 44% of the tested receipts and BPS in 52%.³⁷ As

noted by Frederick vom Saal, Ph.D., distinguished professor emeritus from the University of Missouri:³⁸

"This is one of those nightmare stories where you're finding out a very commonly used [chemical] is a ubiquitous environmental contaminant, which poses quite a serious health risk."

Many of these **hand sanitizers** contain isopropyl alcohol (rubbing alcohol) as the active bactericidal ingredient. Some skin care products contain isopropyl alcohol as an astringent that is known to exacerbate acne³⁹ and increase the potential to dry your skin, increasing your risk to absorb a number of different toxins from your environment.

Is There a Link Between BPA and Autism?

At a Healthy Child Healthy World and EWG luncheon several years ago, Dr. Harvey Karp, pediatrician and child development expert, proposed a new theory for the rising number of children diagnosed with autism or Asperger's syndrome.⁴⁰ Both are part of the autism spectrum that affects four times more boys than girls.⁴¹

Karp proposes the increasing diagnoses may be related to a rapidly rising amount of BPA absorbed through environmental exposure. Detractors point out that both boys and girls are exposed at the same rate, while boys are diagnosed four times more frequently than girls, which would seem to rule out an environmental factor.

However, the hormonal effect of BPA may be linked to a difference in DNA found in boys who have a higher potential to develop autism. A team of scientists found boys who had a specific genetic alteration on their X chromosome had an increased risk of developing autism.⁴²

Boys inherit one X chromosome from their mother and one Y chromosome from their father. If their X chromosome is missing the PTCHD1 gene, they are at higher risk of developing autism. However, as girls have two X chromosomes, that appears to shield them from this genetic risk.⁴³

While there are no current peer reviewed studies to support his theory, there are other scientists who believe further study may implicate a growing toxic load on a developing child's brain in the development of autism.

Strategies to Reduce Your Exposure to BPA

Living in an industrialized society has some definite advantages, but exposure to a multitude of toxins is not one of them. There are steps you can take to reduce your exposure and help your body eliminate the toxins you do absorb. For a list of strategies you may use to reduce your exposure to BPA and BPS, see my article, "[How BPA and BPS Are Making People Sick](#)." Further tactics you may use that support your body's efforts to detoxify and maintain optimal health include:

- **Eat a nutrient-dense diet** – Many processed foods are full of toxins, genetically engineered ingredients, trans fats, harmful vegetable oils (which contain linoleic acid, the most toxic ingredient in your diet) and additives that disrupt your gut health and impact your immune system.

Processed and packaged foods are a common source of BPA and phthalates – particularly cans, but also foods packaged in plastic wrap. Real food is always your best option. Include nutrient-dense foods that are naturally anti-inflammatory and high in micronutrients that help your body detoxify, such as magnesium, B vitamins, zinc and plant polyphenols.⁴⁴

- **Use sustainable, certified organic, GMO-free products** – Look for products that are Earth-friendly, animal-friendly, sustainable, certified organic and GMO-free. This applies to everything from food and personal care products to building materials, carpeting, paint, baby items, furniture, mattresses and more.

When redoing your home, look for "green," toxin-free alternatives in lieu of regular paint and vinyl floor coverings, the latter of which are another source of phthalates. Replace your vinyl shower curtain with a fabric one. Don't use nonstick cookware.

- **Support your gut health** – Modifying your gut microbiome is an excellent long-term investment in your health and wellness. Fermented foods are the easiest, best and cheapest way you can make a significant impact on your gut microbiome.

Inoculating the food with a starter culture will speed the process and ensure you'll end up with a consistent, high-quality product that not only naturally preserves the food, allowing you to store it for several weeks, but also produces beneficial healthy bacteria to promote your gut health.

- **Help your body detoxify** – You may support your liver's ability to detoxify using four key strategies – nutrients, sweat, stress relief and sleep.⁴⁵ Each of these are just as important as the others. You can read more in these previous articles:
 - [Are Saunas Good for Your Brain?](#)
 - [Tips and Tricks to Resolve Common Sleep Problems](#)
 - [Can You Relieve Anxiety Just by Tapping Your Fingers?](#)
 - [The Truth About Detoxification – Supporting Your Body's Natural Processes](#)
- **Use progesterone to counter xenoestrogen exposure** – EDCs activate estrogen receptors, and one of the best ways to counteract this effect is with transmucosal progesterone, mixed with vitamin E, as described below.

How to Use Progesterone

Before you consider using progesterone it is important to understand that it is not a magic bullet, and that you get the most benefit by implementing a Bioenergetic diet approach that allows you to effectively burn glucose as your primary fuel without backing up electrons in your mitochondria that reduces your energy production. My new book, "Cellular Health: The Unified Theory of All Disease for Ultimate Longevity and Joy" comes out very soon and covers this process in great detail.

Once you have dialed in your diet, an effective strategy that can help counteract estrogen excess is to take transmucosal progesterone (i.e., applied to your gums, not oral or transdermal), which is a natural estrogen antagonist. Progesterone is one of only four hormones I believe many adults can benefit from. (The other three are thyroid hormone T3, DHEA and pregnenolone.)

I do not recommend transdermal progesterone, as your skin expresses high levels of 5-alpha reductase enzyme, which causes a significant portion of the progesterone you're taking to be irreversibly converted primarily into allopregnanolone and cannot be converted back into progesterone.

Ideal Way to Administer Progesterone

Please note that when progesterone is used transmucosally on your gums as I advise, the FDA believes that somehow converts it into a drug and prohibits any company from advising that on its label. This is why companies like Health Natura promotes their progesterone products as "topical."

However, please understand that it is perfectly legal for any physician to recommend an off-label indication for a drug to their patient. In this case progesterone is a natural hormone and not a drug and is very safe even in high doses. This is unlike synthetic progesterone called progestins that are used by drug companies, but frequently, and incorrectly, referred.

Dr. Ray Peat has done the seminal work in progesterone and probably was the world's greatest expert on progesterone. He wrote his Ph.D. on estrogen in 1982 and spent most of his professional career documenting the need to counteract the dangers of excess estrogen with low LA diets and transmucosal progesterone supplementation.

He determined that most solvents do not dissolve progesterone well and discovered that vitamin E is the best solvent to optimally provide progesterone in your tissue. Vitamin E also protects you against damage from LA. You just need to be very careful

about which vitamin E you use as most supplemental vitamin E on the market is worse than worthless and will cause you harm not benefit.

It is imperative to avoid using any synthetic vitamin E (alpha tocopherol acetate – the acetate indicates that it's synthetic). Natural vitamin E will be labeled "d alpha tocopherol." This is the pure D isomer, which is what your body can use. There are also other vitamin E isomers, and you want the complete spectrum of tocopherols and tocotrienols, specifically the beta, gamma, and delta types, in the effective D isomer.

There are also other vitamin E isomers, and you want the complete spectrum of tocopherols and tocotrienols, specifically the beta, gamma, and delta types, in the effective D isomer. As an example of an ideal vitamin E you can look at the label on our vitamin E in our store. You can use any brand that has a similar label.

You can purchase pharmaceutical grade bioidentical progesterone as Progesterone Powder, Bioidentical Micronized Powder, 10 Grams for about \$40 on many online stores like Amazon. That is nearly a year's supply, depending on the dose you choose.

However, you will need to purchase some small stainless steel measuring spoons as you will need a 1/64 tsp which is 25 mg and a 1/32 tsp which is 50 mg. A normal dose is typically 25-50 mg and is taken 30 minutes before bed, as it has an anti-cortisol function and will increase GABA levels for a good night's sleep.

Unfortunately, this vendor frequently runs out of product, and if that's the case, then you can use [Simply Progesterone by Health Natura](#). It's premixed with vitamin E and MCT oil. Again, while Health Natura states that its product is for "topical use only," I recommend applying it transmucosally, by rubbing it on your gums.

If you are a menstruating woman, you should take the progesterone during the luteal phase or the last half of your cycle, which can be determined by starting 10 days after the first day of your period and stopping the progesterone when your period starts.

If you are a male or non-menstruating woman you can take the progesterone every day for four to six months and then cycle off for one week. The best time of day to take

progesterone is 30 minutes before bed as it has an anti-cortisol function and will increase GABA levels for a good night's sleep.

This is what I have personally doing for over a year with very good results. I am a physician so do not have any problems doing this. If you aren't a physician you should consult one before using this therapy, as transmucosal progesterone therapy requires a doctor's prescription.

Sources and References

- ¹ The New York Times, October 12, 2011
- ² American Chemistry Council, Polycarbonate/Bisphenol A (BPA) Global Alliance
- ³ The New York Times, July 17, 2012
- ⁴ Global Newswire, November 12, 2014
- ⁵ Imarc, Bisphenol A Pricing Report 2024
- ⁶ Environmental Science and Technology 2017;51(4):2456
- ⁷ Cleveland Clinic, Endocrine System
- ⁸ Environmental Working Group, August 12, 2022
- ⁹ Medical News Today, September 4, 2008
- ¹⁰ The New York Times, August 28, 2014
- ¹¹ Medical News Today, December 17, 2010
- ¹² Hypertension, 2017;69(6)
- ¹³ NBC News, December 8, 2014
- ¹⁴ The New York Times, December 8, 2014
- ¹⁵ Scientific America, May 29, 2015
- ¹⁶ International Business Times, August 22, 2014
- ^{17, 20, 22} Medical News Today, May 25, 2023
- ¹⁸ Environmental Health Perspective, 2003;111(16):1883
- ¹⁹ Time Magazine, March 25, 2016
- ²¹ Medical News Today, February 28, 2010
- ²³ USNews, June 12, 2008
- ²⁴ Toxicology Letter 2008;176(2):179
- ²⁵ Center for Environmental Health, May 2017
- ²⁶ Healthline, October 9, 2019
- ^{27, 28} Stanford, June 29, 2016
- ^{29, 30, 31} Stanford, September 23, 2015
- ³² CNN February 1, 2016
- ³³ Fox 4 KC News, May 8, 2017
- ^{34, 36} Plos One, October 22, 2014

- ^{35, 37, 38} Newsweek October 22, 2014
- ³⁹ AnneMarie, Ingredient Watch List: Isopropyl Alcohol
- ⁴⁰ IOL, May 16, 2017
- ^{41, 42} Autism Support Network, Study: why more boys than girls have autism (Archived)
- ⁴³ The Star, September 16, 2010
- ^{44, 45} Chris Kresser, May 28, 2019