

Chemicals in Ultraprocessed and Fast Food Packaging Pose Serious Risks for Pregnant Women

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STORY AT-A-GLANCE

- › A January 2024 study by researchers from the University of Washington highlighted the importance of avoiding ultraprocessed foods during pregnancy due to the chemicals leaching from their packaging, particularly phthalates
- › Phthalates are a class of chemicals called plasticizers, used to make plastics more durable. They exhibit estrogenic properties by binding to estrogen receptors, leading to disruptions in hormonal balance
- › The featured study showed that pregnant women who consumed 10% more ultraprocessed foods had 13.1% higher levels of phthalates in their urine. These chemicals transfer to the fetus in utero, putting children at risk of poor health outcomes later in life
- › Tips are included to counteract the effects of estrogenic phthalates and reduce the exposure to these chemicals

Ultraprocessed foods not only lack essential nutrients but also contain harmful ingredients, such as [linoleic acid](#), added sugars, refined carbs and artificial preservatives, coloring and flavors. Eliminating these foods from your diet is one of the most important strategies you can do to optimize health. If you're pregnant, sticking to healthy food choices is even more important, as it profoundly impacts the development of your child.

A January 2024 study¹ by researchers from the University of Washington underscores the importance of avoiding ultraprocessed foods during pregnancy. However, the rationale behind their recommendation is not related to the nutritional content (or lack thereof) of these foods but the chemicals that leach into them from their packaging, processing and handling – particularly phthalates.

What Are Phthalates?

Phthalates are a class of chemicals called plasticizers, used to make plastics more durable.² They're also widely used in personal care products and cosmetics. However, diet is a significant source of these chemicals, as the U.S. Food and Drug Administration (FDA) still allows nine phthalates in food contact applications. These include packaging materials, containers, and processing and food handling equipment like gloves, which can leach phthalates into your food.³

The mechanisms behind phthalates' harms are varied, but the chemicals are known to disrupt the organization and function of the hypothalamic-pituitary-gonadal axis, the system responsible for the management of stress and involved in the regulation of immune function and metabolic homeostasis. They may also inhibit testosterone production and may have antiestrogenic effects, which could have repercussions for brain plasticity.⁴

Conversely, some phthalates exhibit estrogenic properties, meaning they can mimic the function of **estrogen** in the body by binding to estrogen receptors in the cells.⁵ This activates estrogen-mediated pathways that can disrupt normal endocrine function, which can lead to various health issues, including fertility problems, hormone-related cancers like breast cancer, cardiovascular conditions and metabolic dysfunction leading to obesity and Type 2 diabetes.⁶

Food Packaging Can Leach Phthalates Into Foods

The featured study⁷ from the University of Washington, published in the journal *Environment International*, examined data from the Conditions Affecting Neurocognitive Development and Learning in Early Childhood (CANDLE) research to determine how ultraprocessed and fast food consumption affects phthalate exposure during pregnancy. These chemicals transfer to the fetus in utero if the mother is exposed.

This cohort study involved 1,031 pregnant women from various socioeconomic backgrounds in the urban South. Using urine samples collected from the participants during their second trimester, the researchers found that ultraprocessed foods constituted 9.8% to 59% (average 38.6%) of pregnant women's diets.

Those who consumed 10% more ultraprocessed foods had 13.1% higher levels of di(2-ethylhexyl) phthalate metabolites (Σ DEHP) in their urine. Meanwhile, pregnant women who consumed 10% more minimally processed foods had a 10.8% decrease in phthalates.

"In our analysis of individual ultraprocessed food items, hamburgers/cheeseburgers, French fries, sodas and cake were each individually associated with higher urinary Σ DEHP.

Unsupervised, exploratory factor analysis identified a pattern consistent with more frequent processed food intake, and this data-driven processed food pattern was positively associated with urinary concentrations of phthalic acid, Σ DEHP and five DEHP metabolites.

Lower household income and lower maternal education levels were associated with higher urinary Σ DEHP mediated through higher ultraprocessed food intake, implicating socioeconomic barriers to accessing affordable, minimally processed foods."

The researchers also noted that food contact materials, such as paper-based fast food wraps and metal cap closures on glass jars and bottles, can be a source of exposure to additional environmental chemicals, including phthalate replacements like di(2-ethylhexyl) terephthalate (DEHT), bisphenols, and per- and poly-fluoroalkyl substances

(PFAS),⁸ also known as "forever chemicals" as they accumulate in the environment for a long period of time.

Phthalates Linked to Birth Risks and Poor Health Outcomes in Children

The study⁹ authors emphasized that identifying common sources of phthalates is a "crucial public health priority," especially during pregnancy when a developing fetus is highly vulnerable to these chemicals.

Research has consistently linked phthalate exposure to pregnancy complications such as gestational diabetes and hypertensive disorder,¹⁰ as well as adverse birth outcomes, including low birth weight, preterm birth and low placental weight.^{11,12} Beyond immediate birth risks, prenatal phthalate exposure has long-term implications for children's health.

For instance, studies indicate that children exposed to higher levels of phthalates in their mothers' wombs tended to exhibit more behavioral problems and difficulties with executive function, including low IQ and poor social communication skills.^{13,14,15} They're also at a higher risk of attention-deficit/hyperactivity disorder (ADHD),¹⁶ autism spectrum disorder (ASD), obesity, impaired reproductive development,¹⁷ asthma and allergies.¹⁸

Progesterone Can Help Counteract Estrogen's Effects

Progesterone is a hormone that acts as a switch to "turn off" estrogen's activity, helping counteract the effects of phthalates and other estrogenic compounds, which is why I recommend young, healthy women to maintain healthy levels of it. To maintain an optimal progesterone level, you can take preformed oral progesterone. However, if you're pregnant, make sure to take progesterone only under medical supervision.

During pregnancy, progesterone levels naturally rise, playing a crucial role in supporting the development of the fetus. It helps in maintaining the uterine lining, reducing the risk of uterine contractions, supporting placenta function, regulating the maternal immune

response to the fetus, increasing cervical mucus production and blood flow to the uterus, and stabilizing mood and metabolism.^{19,20,21}

However, while progesterone is essential for pregnancy, you should never use progesterone supplements without your doctor's approval. Any supplementation should be carefully monitored and administered only under the guidance of a qualified healthcare provider. Your doctor will assess your individual circumstances and monitor progesterone levels through regular testing to ensure they remain within safe and effective ranges for maternal and fetal health.

Progesterone Recommendation for Men and Nonpregnant Women

Before you consider using progesterone, it is important to understand that it is not a magic bullet, and you get the most benefit by implementing a Bioenergetic diet approach that allows you to effectively burn glucose as your primary fuel with backing up electrons in your mitochondria that reduces your energy production. My new book coming out shortly about Cellular Health 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 (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.

As a general recommendation, I recommend taking 25 to 50 mg of bioidentical progesterone per day, taken in the evening one hour before bed, as it can also promote sleep. For optimal bioavailability, progesterone needs to be mixed into natural vitamin E.

The difference in bioavailability between taking progesterone orally without vitamin E and taking it with vitamin E is 45 minutes versus 48 hours.

Do not use 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.

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. 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.

Where to Find Pharmaceutical Grade Progesterone

You can purchase pharmaceutical grade bioidentical progesterone as Progesterone Powder, Bioidentical Micronized Powder, 10 Grams for about \$40 in 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.

If you are a male or non-menstruating woman you can take the progesterone every day for 4 to 6 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.

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. However, please understand that it is perfectly legal for any physician to prescribe an off-label indication for a drug.

In this case, progesterone is a natural hormone and not a drug and is very safe even at high doses. This is unlike synthetic progesterone, called progestins, that are used by drug companies, but frequently, and incorrectly, referred to as progesterone, which are dangerous and should never be used by anyone.

However, again, do NOT take progesterone if you are pregnant unless your doctor prescribes it. Any hormonal therapy during pregnancy could have devastating consequences and must never be undertaken without medical supervision. Do, however, minimize your exposure to plastic chemicals to avoid exposure to estrogenic compounds.

How to Reduce Your Phthalate Exposure

You can protect yourself and your family from the harmful effects of plasticizers by simply avoiding their sources. Here are the changes I recommend adopting into your everyday routine to minimize exposure to these chemicals:

Avoid plastic containers and plastic wrap for food and personal care products. Store food and drinks in glass containers instead.

Avoid plastic children's toys. Use toys made of natural substances, such as wood and organic materials.

Read labels on your cosmetics and avoid those containing phthalates.

Avoid products labeled with "fragrance," including air fresheners, as this catch-all term may include phthalates commonly used to stabilize the scent and extend the life of the product.

Read labels looking for PVC-free products, including children's lunch boxes, backpacks and storage containers.

Do not microwave food in plastic containers or covered in plastic wrap.

Frequently vacuum and dust rooms with vinyl blinds, wallpaper, flooring and furniture that may contain phthalates, as the chemical collects in dust and is easily ingested by children.

Ask your pharmacist if your prescription pills are coated to control when they dissolve as the coating may contain phthalates.

Eat mostly fresh, raw whole foods. Food packaging is often a source of phthalates.

Use glass baby bottles instead of plastic. Breastfeed exclusively for the first year, if you can, to avoid plastic nipples and bottles altogether.

Remove your fruit and vegetables from plastic bags immediately after coming home from the grocery store and wash them before storing them; alternatively, use cloth bags to bring home your produce.

Cash register receipts are heat-printed and often contain BPA. Handle the receipt as little as possible and ask the store to switch to BPA-free receipts.

Use natural cleaning products or make your own.

Replace feminine hygiene products with safer alternatives.

Avoid fabric softeners and dryer sheets; make your own to reduce static cling.

Check your home's tap water for contaminants and filter the water if necessary.

Teach your children not to drink from the garden hose, as many hoses contain plasticizers such as phthalates.

Use reusable shopping bags for groceries.

Take your own non-plastic leftover container to restaurants. Avoid disposable utensils and straws.

Bring drinking water from home in glass water bottles instead of bottled water.

Consider switching to bamboo toothbrushes and brushing your teeth with coconut oil and baking soda to avoid plastic toothpaste tubes.

Sources and References

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