

Plastics Overview

The convenience that plastics bring into our lives is undeniable and unlike the previous categories we have tossed, it is not practical and probably not even possible to toss all your plastic products.

This first video on plastics is not about tossing them, it is about reducing the impact of our contact with plastic. And while there's a significant environmental impact from plastics, we're focusing on the impact plastics have on human health.

Why is reducing our exposure to plastics important?

Of the thousands of chemicals used to make American products, most have never been investigated or tested and very few have been banned. But two chemicals that have been widely studied are used to make plastics - BPA, which is used to make hard plastics, and phthalates which are used to make soft plastics.

BPA and phthalates are two of the highest volume chemicals produced and used worldwide, and are in the top 10 toxins we are all exposed to. In fact, BPA and phthalates are called the "everywhere chemicals"

It's been said that 98% of Americans have a BPA and phthalate body burden (list out as text graphic). They are even found in the cord blood of infants, which means babies enter the world with a toxic body burden of plastic.

BPA and phthalates are thyroid disrupting chemicals, linked to autoimmune disease, metabolic syndrome, and implicated in high blood pressure, and heart disease. They are asthmagens (meaning they can cause asthma), carcinogens (meaning they can cause cancer), obesogens (meaning they cause weight gain regardless of diet and exercise and metabolic syndrome, which can lead to diabetes), and neurotoxins (which impact the nervous system, brain, and mood). They've been linked to birth defects, Alzheimer's, Parkinson's, Multiple Sclerosis, Autism, behavioral issues, depression, and more. But they are most widely known for their impact on the endocrine and reproductive system.

Most people have heard of BPA, but even if they don't contain BPA, most plastic products release estrogenic chemicals. Meaning everything from sippy cups to food wraps can release chemicals that act like the sex hormone estrogen. And our hormones don't only control reproduction, but many, many functions in the body, like digestion and blood sugar control for example.

No matter the type of plastic, hard or soft, studies show that the molecules are not bound tightly and interact with whatever is touching them - air, food, water, or skin. This point is very important

because the food and water we buy may be of the highest quality but if it's packaged in plastics, we're also eating and drinking plastic. This may sound crazy, but it's estimated that Americans are eating and breathing the equivalent of a plastic credit card every week! And personal care products packaged in plastic pose yet another route of exposure.

But there are ways we can greatly reduce our exposure to plastics!

If we understand the six factors that accelerate the interaction between plastics and whatever it's in contact with, we can help lower our plastic intake.

One is time. The longer food, water, or personal care products sit in a plastic container, the more plastic will leech into it. Buy as many food and personal care products as possible that are packaged in glass. If your favorite product is packaged in plastic, consider transferring it to glass when you get home.

Another is heat. Heat increases the migration of chemicals into food, water, or air. For example, leaving water in a plastic container in a hot car, heating food in a plastic container in a microwave, or pouring hot food into a plastic storage container, all increase exposure.

Next, friction. For example, shaking up or blending liquids or foods in a plastic container. And if you factor in time and heat, the longer something's blended, the more plastics leach into it. And if you add heated foods to a plastic blender, the plastic contamination is increased even more. We can reduce the plastic content of blended soups by cooling it first before blending and also blending for as short of a time as possible. Then just simply reheat on the stove before serving. Blenders with a glass or stainless steel container or a stainless steel immersion blender are ideal. Vita-Mix has actually come out with a stainless steel blender due to customer demand for no plastics, which is great!

Contact with acidic foods is another factor. Foods and beverages with lemon, lime, pineapple juice, coffee, or tomatoes accelerate the release of more plastics into the food. Tomato sauce gives us a great illustration to help grasp the aggressive attraction of plastics to interact with what it comes in contact with. Have you ever experienced a plastic container turning orange after storing leftovers with tomato sauce? Not only does the plastic become another ingredient of our food or beverage, but the food or beverage is also incorporated into the plastic. The tomato sauce is now *one* with the container. This was a real motivator for me to stop storing leftovers in plastic.

Additionally, contact with oily foods is important to consider. Foods with a high-fat content present the most significant risk, as many chemicals used in plastics are lipophilic, or fat-loving. For example, a fatty cut of meat will leech more chemicals from a plastic wrap than a leaner cut. Since time is also a factor, one suggestion is to remove meat from plastic and place it in another container when you get home. There is a company called lifewithoutplastics.com that has a stainless steel container you can take to a butcher or meat department and have your pastured

chicken or meat cut and put in your stainless steel container instead of wrapped in plastic. We also recommend buying oil and personal care products in glass.

Finally, damaged plastic containers. Plastic containers showing physical signs of damage release more chemical compounds into your food or water. This goes for scratched up plastic cutting boards as well, where tiny pieces of plastic can actually get into your food.

If we put all these factors together, consider how blending a hot soup in a damaged container with acidic tomatoes, blended for a long time with an oil added to it will increase plastic migration even more. Many people emulsify hot coffee and fat such as ghee or MCT oil in the blender. Instead, use a small stainless steel immersion blender that eliminates contact with plastic - so you aren't adding plastic to your morning coffee!

There are three ways plastics enter the body. Ingestion, inhalation and absorption.

Ingestion

We've talked about ingestion, which is the major route of exposure. Replacing your plastic food and water containers and cooking utensils with materials like glass, stainless steel, and food-grade silicone is the best way to reduce ingestion.

Inhalation

As for inhalation, we inhale plastic chemicals in dust. BPA and phthalates are both odorless SVOCs, or semi-volatile organic compounds, that leave the plastic, move into the air, and ride on dust. So rooms that contain plastic items, plastic miniblinds, wallpaper, or vinyl flooring also contain dust with BPA and phthalates.

I call these stealth toxins because you can't smell them. I have gone to clients' homes that absolutely had no issue with VOCs, volatile organic compounds, that you can smell - they had tossed those toxins - but the dust in the air was loaded with SVOCs like phthalates, BPA, flame retardants, biocides and others. You can tackle these stealth toxins by routine vacuuming with a sealed canister HEPA vacuum. If you don't have a HEPA vacuum, you can use good quality microfibers to efficiently remove dust.

Another way to reduce plastics that ride on dust is to use an air purifier that has a HEPA filter. This is especially good to use at night when sleeping.

Also, make sure you change your HVAC return filters every 1-3 months depending on your dust load. We recommend Filtrete Filters.

Skin Absorption

The third way is skin contact with plastics. This is especially critical for babies who play on the floor and put everything in their mouths. Reduce your family's contact with plastics where you can. Choose toys made of wood or food-grade silicone and storage containers that are baskets or made of cloth. Also, buy personal care products in glass when you can. The phthalates and plasticizers enter the product especially if the product contains an oil.

I say it all the time, that we just don't know how much these chemicals impact us until we remove them. We invite you to toss plastics as much as you can. And be encouraged that studies have shown tossing plastics from your food and water, and using plastics more wisely can make a quick reduction in body burden. This is because BPA and phthalates are considered to be non-persistent chemicals, meaning they are metabolized quickly and pass through the urine. We'll cover this more in our next videos on hard and soft plastics.