9 WEEKS TO BETTER HEALTH: WEEK 1

Safer Cookware & Bakeware for a Healthier Home

Welcome to the start of your journey toward Better Health. The world has become more difficult to navigate and it is easy to be overwhelmed and not know where to start. Better health begins with healthy food. When we start with clean, healthy food and use cookware that leaches toxic chemicals into the food, we are losing many of the benefits and putting our health at risk. In today's world, where health consciousness is on the rise, understanding what goes into your food, including possible contaminants from the materials it touches, is crucial.

We'd also like to highlight additional concerns related to children's health. Children are more vulnerable to exposures to toxins because their bodies are still developing and they are less able to detoxify chemicals. When children are exposed to the same levels of toxins as adults, their level of exposure per body weight is much higher because they are so much smaller. For the first time, a 2023 Emory University study found measurable levels of PFAS chemicals in blood samples from newborns shortly after

birth. This means the babies were exposed to PFAS while they were still in utero. Many of the toxins we highlight in this article have been found to bioaccumulate in the human body. When a baby starts life already full of dangerous chemicals, something is very wrong. We have to start to think differently to break this cycle. This is another reason that cookware choices are so important. (See also: Raising Toxin-Free Children Part 1, PreConception and Prenatal Health and Raising Toxin Free Children, Part 2 Babies and Toddlers)

Before diving into the "how," let's explore the "why." Many common types of cookware are made with materials that can release toxins when heated, scratched or worn. **Here are some common culprits and the associated health risks:**

TEFLON NONSTICK COATINGS

Teflon™**,** made with **PFAS (Per- and polyfluoroalkyl substances)**, has been around since the 1950's. The companies that make PFAS, also known as "Forever Chemicals" because they don't break down, are well aware of how harmful they are. **Teflon™** brand and similar generic nonstick surfaces can leach

toxic PFAS and microplastics into food, and release toxic fumes when overheated or when the cookware surface is scratched, worn or damaged.

How to identify nonstick cookware coated with PFAS: Nonstick PFAS coatings are used on pots and pans, bakeware and even on the inside of appliances like toaster ovens. To identify cookware and bakeware coated with PFAS, look for labels that mention "Teflon" or "PTFE". **Beware of marketing claims of "PFOA or PFOS FREE." This does not mean PFAS-free**. PFOA and PFOS are only two of over 15,000 PFAS chemicals. When in doubt, call the company and ask if the nonstick coating on their cookware is made with any PFAS, per- and polyfluoroalkyl substances.

Health risks of PFAS exposure (see separate discussion below of health risks related to microplastics): At ultra-low levels in the parts per trillion, PFAS are linked to reproductive harms such as decreased fertility, high blood pressure, higher risk of pre-eclampsia in pregnant women, developmental delays in children, low birth weight, accelerated puberty and bone variations, behavioral changes, increased risk of cancer (including prostate, kidney, testicular and breast), weakened immune system, interference with the body's natural hormones, increased cholesterol levels and/or risk of obesity, high blood pressure, increased risk of Type 2 diabetes and changes in liver enzymes.

PFAS-coated nonstick cookware are so toxic that as of January 1, 2025, Minnesota has banned the sale of nonstick cookware that contains intentionally added PFAS chemicals. Other states have similar bans taking effect on January 1, 2026 (Colorado, Connecticut, Maine and Vermont) and 2027 (Rhode Island). PFAS manufacturers such as DuPont and 3M are finally starting to face lawsuits to hold them accountable for many billions of dollars in cleanup costs related to environmental contamination and pollution.

Take a deep dive and learn more about PFAS here.

CERAMIC NONSTICK COATINGS

Nonstick ceramic cookware is a relatively new concept that was not well studied for safety when introduced to the market in the early 2000's. Ceramics are made to be nonstick by coating them with either silicone or plastic. Both coatings break down over time and leach chemicals (siloxane or plastics) into food. A recent study indicates that nonstick cookware, especially when scratched or damaged, can release substantial amounts of microplastics into food during cooking. The degradation of the coating in these pans is a significant source of microplastic contamination.

Health Risks of siloxane chemical exposure: Siloxane chemicals may be carcinogenic, immune system disruptors, endocrine disruptors which can lead to hormone imbalances, thyroid disease, and other autoimmune diseases, toxic to the liver, reproductive toxins and can adversely affect the nervous system.

Health Risks of plastic/microplastic exposure: The risk microplastics pose to human health is a growing concern. Microplastics accumulate in our bodies and have been detected in our brains, cardiovascular, digestive, endocrine, integumentary, lymphatic, respiratory, reproductive and urinary systems. Microplastics have also been found in breastmilk, meconium, semen, stool, sputum and urine.

Plastics have been linked to a long and growing list of health problems, partly due to chemicals like phthalates and bisphenols, which are endocrine disruptors that can be toxic even at ultra-low levels. These health issues include hormonal disruption (developmental delays and early puberty), cancer (particularly prostate and breast), obesity and metabolic disorders, neurological disorders, infertility (by altering sperm quality and egg development), respiratory disorders (asthma and COPD), immune system suppression and premature births. Studies on microplastics health risks are increasing by the day. Recent research looking at tissue from postmortems between 1997 and 2024 finds an upward trend in contamination, including the human brain. This contamination has been found to block blood flow in the brain. The tiny plastic particles are taken up by immune

cells, travel through the bloodstream and eventually become lodged in blood vessels of the brain.

Take a deep dive and learn more about plastics and microplastics here.

ALUMINUM COOKWARE AND BAKEWARE

Aluminum cookware can leach the metal into food when heated, and when exposed to acidic foods such as tomato sauce and lemon juice, salt and spices. Aluminum in cookware and bakeware are often, but not always found coated with nonstick-coating. In that case, the nonstick coating prevents the aluminum from leaching, making the coating, rather than the aluminum, the source of potential toxicity.

Health Risks of Aluminum exposure: Studies have found that aluminum is neurotoxic. Ongoing research has linked aluminum to neurological disorders such as Alzheimer's and autoimmune reactions.

PLASTIC COOKWARE

Plastic cookware such as “microwave safe” steamers and cookers, as well as plastic cookware liners (such as Reynolds Slow Cooker Liners), contain toxic chemicals such as bisphenols and phthalates, which can migrate into food when heated, or scratched. Heat accelerates chemical migration. Wear and tear from repeated washing also increases the risk of leaching. The "microwave-safe" label ensures structural integrity but doesn’t guarantee chemical safety.

Beware of marketing claims of BPA-free plastic, which is a tactic meant to convince consumers that such plastics are safer. BPA-free does not mean Bisphenol-free. The BPA was likely replaced with another Bisphenol such as BPS or BPF. Bisphenols (including BPA, BPS and BPF) are a class of endocrine-disrupting chemicals.

Health Risks of Plastics Exposure: Mounting evidence suggests plastics are not as harmless as the plastics industry would like you to believe. Regulatory safety tests may not reflect real-world use, such as repeated reheating or prolonged exposure to high-fat foods. We don’t consider any plastics to be safe and “food grade.” See above for a full discussion of the health risks associated with plastics and microplastics exposure.

SILICONE BAKEWARE

Silicone is a synthetic polymer made of silicon, oxygen, and other elements, typically carbon and hydrogen. It's widely used to make bakeware such as muffin pans, baking molds, baking mats, loaf pans and more. During manufacturing, silicone may be made with fillers, plasticizers, or other additives. These substances can migrate out, especially when exposed to heat (baking or boiling), oils, or acidic substances. Low-quality silicones or improperly cured products may release volatile organic compounds (VOCs). Although it's not getting any press, studies show that silicone can release particles containing toxic siloxane chemicals when heated or with normal use and wear and tear over time. While silicone is more stable than plastic, *it is not biodegradable.* Improper disposal or environmental exposure may lead to concerns over its long-term persistence. To read about health risks associated with siloxane chemicals, refer to the "health risks of siloxane exposure" section above.

ENAMEL COOKWARE

Some products such as cast iron, slow cookers and bakeware have enamel coatings on the cooking surface. One concern with enameled cast iron and other enameled cookware is the **potential presence of lead or cadmium in the enamel coating**. Enamel cooking surfaces may chip with use. If the cooking surface is scratched, chipped, damaged, or exposed to acidic or high-temperature cooking, it may release toxic heavy metals that will come into contact with and leach into food. For this reason, we don't recommend enamel cookware.

If you're thrift-shopping, be sure to avoid older enamel cookware, including CorningWare. Older options were manufactured before stricter regulations on lead content in cookware and have been found to contain higher levels of heavy metals.

What about safety claims by manufacturers? Caraway, for example, claims that their enamel cookware is free of heavy metals. However, the company has been found to misrepresent the safety of their ceramic cookware. As we haven't done any independent testing, we can't vouch for their claims or the claims of any other manufacturer.

Health Risks of Exposure to Heavy Metals: Health risks of lead and cadmium exposure include impaired cognitive development, kidney damage, bone demineralization, kidney damage, and carcinogenic effects.

SUMMARY

There are health risks associated with cookware types that leach toxins into our food. Toxins such as PFAS, plastic chemicals, silicone chemicals and heavy metals accumulate in our bodies. Over time, they can cause chronic or more serious health problems. That's why it's important to be mindful of what we consume and expose ourselves to, not just for the present, but for our long-term well-being. Taking steps now to reduce our exposure to toxins can help protect our health in the years to come. Now let's take a look at some safe cookware options!

WHAT ARE SAFE COOKWARE OPTIONS?

STAINLESS STEEL COOKWARE

Why it's safer: Durable, non-reactive, free from harmful coatings, doesn't leach harmful chemicals or metals and can last for years if cared for properly. Excellent for even heat distribution. Can be made to be nonstick when heated appropriately.

Best use: Ideal for boiling, sautéing, and frying. Stainless steel cookware is a great choice and is available at many price points. Look for stainless steel that fits your budget.

Learn how to make stainless steel cookware nonstick by watching this short video: https://www.youtube.com/watch?v=nWJsY3xQtN0

CAST IRON COOKWARE

Why it's safer: Naturally nonstick without the need for toxic nonstick coatings when seasoned properly through repeated oiling and heating. Be sure to choose cast iron products with cooking surfaces that are not coated with enamel.

Best use: Excellent for frying, baking, and grilling. Avoid cooking acidic foods for long periods to prevent rusting.

Learn how to season cast iron cookware by watching this short video: https://youtu.be/P4zW-C010oc?si=pWYIO1jHjyOHfp3O Note: we do not recommend Crisco (it's made from GMOs) as this author does, but we do recommend **organic all-vegetable shortening or organic coconut oil.** Regular seasoning is crucial to prevent rust and maintain the nonstick surface. A well-seasoned pan will be nonstick and last a lifetime and can be passed down for generations to come.

Health note: Cast iron cookware may not be suitable for individuals with a condition called hemochromatosis, where the body absorbs too much iron from food, as cooking in cast iron can add a small amount of iron to your meal; for most people, this added iron is negligible and considered a health benefit when used in moderation.

CARBON STEEL COOKWARE

Why it's safer: Naturally nonstick when seasoned properly through repeated oiling and heating. Lightweight compared to cast iron. Does not leach harmful chemicals into food.

Best use: Ideal for stir-frying, searing, and sautéing. Avoid cooking acidic foods for long periods to prevent stripping the seasoning.

CLAY COOKWARE

Why it's safer: Made from natural, nontoxic materials and retains nutrients in food due to slow cooking. Free from harmful coatings or additives.

Best use: Perfect for simmering soups, stews, and slow-cooking dishes. Avoid sudden temperature changes to prevent cracking.

Choose clay cookware that has been tested for contaminants such as Lead, Cadmium, or fillers and has been European/USA tested for safety.

GLASS COOKWARE

Why it's safer: Completely inert and doesn't leach chemicals. Look for borosilicate glass or pyrex.

Best use: Perfect for baking, storing leftovers, and serving.

STONEWARE, PORCELAIN AND CERAMIC COOKWARE

Baking dishes made of ceramic are considered safe. While stoneware is generally considered a safe material, there are potential concerns regarding the presence of toxins in older or improperly manufactured pieces. Antique stoneware is problematic and shouldn't be used for cooking or baking.

Now you know everything you need to know about safe cookware. YOU'RE A PRO! What should you do next?

OUR RECOMMENDATIONS

Don't panic! It's not as overwhelming as it may seem. Here's what we suggest you do to get started.

DO A COOKWARE AUDIT

Take your pots and pans out and place them all on a counter or table. Separate into categories based on the type of cookware: Nonstick PFAS, Nonstick Ceramic, Plastic, Enamel-coated, aluminum. Stainless steel, glass and cast iron can be put on the other side of the table or counter. It's useful to see what you have to help figure out what to do next.

PFAS Nonstick

First, if you have any PFAS-coated nonstick pans, take a close look for chips, cracks or wear and tear of the nonstick cooking surfaces. Studies show that the older a nonstick surface and the more damaged it is, the more toxins it releases. For example, a recent study found that nonstick pans coated with PFAS released up to 3.7 times more microplastics from broken coatings and up to 6.2 times more from scratched areas after about two years of regular use. If you find any pots or pans with damage to the nonstick

cooking surface, set those aside and do not use. Undamaged PFAS nonstick should also be replaced with safe options as you are able.

Ceramic Nonstick

Next, repeat the process with any ceramic nonstick cookware you own. Ceramic cookware lasts on average for only 1 - 3 years. Any pots or pans with scratches, chips or wear and tear on the cooking surface should be set aside and not be used. Undamaged ceramic nonstick should be replaced with safe cookware as you are able.

What to do about the damaged nonstick cookware

Now take a look at the damaged cookware you set aside. Ask yourself the following questions:

- Do I use this pot/pan often?
- If so, do I own any stainless, cast iron, carbon steel or glass that I can use instead?

Cookware with damaged nonstick surfaces should be discarded right away. If you have a pot or pan you use often and don't have anything you can use instead, we suggest making it a priority to find a safe replacement.

Plastic Cookware

If you use plastic cookware, take a look for something you already own that you can use instead. Glass such as pyrex and borosilicate is a safe substitute for warming in the microwave. Because of the risks associated with plastic chemicals and microplastics, any plastic cookware should be discarded. (Note: Plastic cookware is not recyclable.)

Enamel Cookware

Up next is enamel cookware. If you have cookware with enamel cooking surfaces, take a close look for chips, scratches and damage. If the cooking surface is scratched, chipped, or damaged, or if you use it to cook acidic foods such as tomatoes or for high-temperature cooking, the enamel surface could be leaching toxic heavy metals into your food and should be replaced with a safe option. If the cooking surface is intact and undamaged, keep cooking, but check regularly for damage.

Congratulations! You've been through all your cookware and you can put away all your safe pots and pans. Make a list of replacements needed. See our replacement tips below.

On to Bakeware…

DO A BAKEWARE AUDIT

Repeat the process with your bakeware**.** Take your bakeware out and place it all on a counter or table. Cookie sheets, loaf pans, bundt pans, muffin pans, cake pans, pie plates, baking mats, baking dishes, etc. Separate into categories based on the type: Nonstick, silicone, and aluminum. Stainless steel, glass, cast iron, ceramic and stoneware can be put on the other side of the table or counter. Again, it's useful to see what you have to help figure out what to do next.

What you should replace

Nonstick

If you have any nonstick bakeware, whether it be ceramic nonstick or silicone-coated nonstick, take a close look for scratches, cracks and evidence of wear and tear. More toxins are released when the surface is damaged or worn. If you find something you use often, check to see if you have anything on your safe side of the table that you can use instead. If you don't have a safe alternative in your kitchen, nonstick bakeware should be replaced. Anything with a surface that is scratched, cracked or showing signs of wear and tear should be given priority and replaced with a safe option as soon as you are able.

Silicone

Several studies are showing cause for concern about silicone bakeware. One study found siloxanes being released from silicone bakeware, with leaching increasing as the food fat content increased. Even silicone tubing commonly used for medical applications has been shown to leach several chemicals. A study published in the Journal **PLOS One** found that silicone pacifiers released nano-sized particles when subjected to mechanical stress mimicking everyday use. As a result, bakeware made of silicone is something we recommend replacing with a safe option such as stainless steel, glass, etc.

BUDGET-FRIENDLY ADVICE

- You don't need to replace everything at once. Focus on replacing nonstick and plastic cookware with safe options. Start with your most used items and those in the worst condition. Thrift stores or garage sales can be great places to find cast iron or stainless steel at a fraction of the cost. Cast iron can be stripped and reseasoned and will be as good as new.
- Many brands offer good options at various price points.
- If you need help finding safe cookware & bakeware, we've got you covered at a variety of price points:

  Amazon Storefront

  Smithey Ironware

  360 Cookware

Helpful Tips

- **Maintain Cookware Properly**: Dishwashers can degrade cookware over time. If your cookware is dishwasher safe, consider putting it in the dishwasher sparingly. Opt to hand wash instead to prolong its life and avoid exposing it to high heat unnecessarily. Also avoid harsh cleaning chemicals. Use mild dish soap and warm water for cleaning. For stubborn stains, baking soda and vinegar can work wonders without the need for chemical cleaners. We have compiled some nontoxic household cleaning products here.
- **Be sure to turn on your range hood fan when you cook** if you cook with a gas or propane stove. Adequate ventilation is important to reduce your exposure to harmful pollutants, including nitrogen dioxide, benzene, and methane. These pollutants can cause respiratory problems, heart disease, and other health issues.

FINAL THOUGHTS

Detoxifying your kitchen cookware and bakeware is an investment in your long-term health and a powerful step towards a healthier lifestyle. While it might seem daunting to overhaul your kitchen, taking these steps *incrementally* can lead to a significant reduction in your exposure to harmful substances. By switching to safer materials you'll reduce your exposure to harmful chemicals and enhance your overall well-being. You're not only reducing the toxins in your diet but also enhancing the taste and safety of your meals!

And, you will contribute not only to your health but also to the health of the environment by reducing the demand for unsustainable, toxic products. Every small step you take is a step towards a healthier you and a cleaner planet.

Knowledge is POWER. Remember, the goal is not just to cook but to cook safely. Your kitchen is a place where nourishment begins. Here's to a healthier kitchen and a healthier you!

Look for 9 Weeks to Better Health Week #2, where we'll explore ways to detoxify your food and beverages!

HAPPY COOKING!

Note: This post contains affiliate links.