Detox Your Life - Environmental Toxins and How to Minimize Exposure (Part 2) Transcript

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Intro to Doctor Talks and Detox Your Life

Using longer cooking times or employing aluminum foil. Although laboratory studies suggest that high levels of aluminum can be neurotoxic. Extensive research has not established a strong link to Alzheimer's or Parkinson's diseases.

Overall, aluminum cookware is generally safe, but it should be used with caution under conditions that promote leaching. Ceramic coated cookware has quickly become popular with the brands like Our Place Always and Green Pan, claiming these pans are nontoxic, healthy and environmentally friendly.

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Welcome back to week two of Detox Your Life. I hope that you have. You've had time to digest what we covered in our last session and started to slowly shift some of your food purchases to help lower your toxic exposures.

PFAS Chemicals and Kitchen Exposures

This week we're going to stay in the kitchen, but mostly away from food itself, and instead look at food packaging, food storage, containers, and cookware all the things we use to purchase, prepare, and store our foods.

Just like last week's class. This week's topics can sometimes be complex and nuanced. Some of the issues that we're going to get into today straightforward, and others are less so.

Topics such as microplastics in our food and PFAs chemicals are challenging, and we don't always have easy ways to avoid them. Let's take a moment before we start to remember that our goal is to find where there are opportunities to lower exposure.

Act on those and do the best we can. First, let's define PFAs chemicals. FAS, or per and polyfluoroalkyl substances are a group of manmade chemicals that have been widely used in various industries around the globe since the 1940s.

These chemicals are known for their resistance to heat, water and oil, making them valuable in numerous applications. However, their persistence in the environment and the human body has raised significant health and environmental concerns.

Common uses of end locations of PFAs. Number one nonstick cookware PFAs are used in coatings of nonstick cookware such as Teflon. Number two water repellent fabrics found in outdoor clothing, carpets and upholstery to provide stain and water resistance.

Number three food packaging used in grease resistant paper products such as microwave popcorn bags, fast food wrappers and pizza boxes. Number four firefighting foam aqueous film forming foams or a AFFO used for

firefighting, particularly at airports and military bases.

Five cosmetics used in various cosmetics for their water resistant properties. Six industrial applications are used in manufacturing processes, such as surfactants in products like paints, varnishes, and sealants, so reasons to avoid PFAs.

Number one health risks. These have been linked to kidney and testicular cancers. They can disrupt hormones and thyroid function. They may weaken the immune system.

They can negatively impact fertility and pregnancy. They are associated with developmental issues in infants, and they have potential damage to the liver and the kidneys.

Number two, environmental persistence. These are known as forever chemicals because they don't break down contaminating soil, water and wildlife. Number three bioaccumulation.

This is a build up in the bodies of animals and humans, increasing the concentration up the food chain. Number four widespread contamination found in water, air and soil, even even in remote regions like the Arctic.

We'll explore PFAs in more detail in later slides. This week, we're going to be looking at exposures that we ingest. Beginning next week, we will look at chemicals we absorb and inhale.

Let's dig in. We'll start by talking about food packaging.

Food Packaging and Canned Food Risks

Unless you're living on a farm and growing your own produce, raising and butchering your own animals, or hunting and fishing, which aren't without their own issues, then some amount of food is going to come in packaging.

This is going to be true even if it's minimally processed. Not all food packaging is inherently problematic, but the more we learn, the more refined. Over 300 chemicals are used in food packaging.

Yet many remain understudied. Although the FDA labels many ingredients as grass or generally recognized as safe. This status is often self assigned by food companies and applies only to food ingredients, not to chemicals that migrate from packaging, food, contact materials, or FCM.

The approved packaging for our food can release chemicals into what we eat. Consider canned foods a staple for millions, especially in communities with limited access to fresh produce.

Canning revolutionized food preservation by replacing methods like salting, smoking, and drying. In 1795, Napoleon even offered a reward for better preservation methods, paving the way for early cans made of tin plated steel or cast iron to maintain the integrity and safety of the foods in the can.

Caution needs to be taken to make sure that the food doesn't degrade the canned material, which can open the door to dangerous and even deadly bacteria.

This is why the interior of the cans are lined to create a barrier between the food itself and the metal of the can. Since the 1950s, the primary chemical that has been used to line the cans is BPA or phenol.

Just like with the pesticides discussed last week, this phenols are non persistent. They are metabolized and excreted within 6 to 12 hours, but can still be harmful in the short time they are in the body.

The problem is that due to regular consumption of canned foods with this phenols and many other sources of exposure, the majority of the population has pretty constant levels of them in their bodies.

Food is our primary source of exposure to phenols, which is why we're starting here. A 2016 study looking at

urinary concentrations of BPA after eating canned food found that eating one canned food item versus eating none was associated with 24% higher urinary BPA levels, and eating two or more canned foods versus none was associated with a 54% higher urinary BPA levels.

We'll come back to this again when talking about plastics, but there are several things that can increase the rate at which substances like BPA leach or migrate out of the material it's in.

And these three primary ones are heat, oil, and acidity. This is relevant because canned foods are heat processed. Some foods are also acidic, like tomato or tomato based soups, or things like canned pineapple, and canned foods can sometimes contain fats, usually in the form of oils.

For example, oil packed sardines, oily and acidic foods can have some of the highest levels of phenols in them. BPA exposure is linked to numerous health risks, including reproductive fertility issues, male birth defects, early puberty, low birth weight, metabolic weight gain, obesity, type two diabetes, cardiovascular and cancer, increased risks of heart disease and various cancers.

Neurological and behavioral Aids, CHD, impaired learning, hyperactivity, aggression, anxiety, depression, and others such as asthma. Liver disease. Inflammatory bowel disease.

Think buying BPA free cans is the solution. Not quite. BPA is part of a family of phenols, and it substitutes like BP's and BPF are nearly identical in structure.

When consumers raised concerns, manufacturers simply swapped BPA with these similar chemicals, a practice known as regrettable substitution. Research shows that some BPF can be just as harmful, harmful, if not worse than BPA.

Moreover, the few approved substances used for canned linings are often concerning, leaving us with little assurance of safety despite the BPA free label.

Until stricter regulations and safer food contact materials are in place, we're stuck playing chemical whac-a-mole. Tackling one harmful substance like BPA, only for another to take its place.

As before, we'll dive into the major issues first and then explore ways to reduce our exposures. Let's talk about PFAs per and polyfluoroalkyl substances, which are a huge class of highly persistent chemicals.

There are over 10,000 PFAs, but we have detailed data on only about 100.

Plastics in the Kitchen

They're used in millions of industrial applications, so exposure is nearly universal. About 99% of people have PFAs in their bodies. Pieces are linked to multiple health effects, including increased cholesterol levels, altered liver enzymes, higher risk of blood pressure and pre-eclampsia in pregnancy, increased risk for kidney and testicular cancers, thyroid hormone disruption, metabolic and cardiovascular diseases.

We're going to talk again about PFAs when we get to cookware, though exposures are also happening in food packaging. In particular, paper based packaging like pizza boxes, microwave popcorn bags, cardboard to go containers, fast food wrappers including tissue paper used for bread and pastries, as well as burgers, paper, ice cream tubes, and even butter wrappers.

The reason PFAs chemicals are used in these paper based products is to make them oil proof and or water resistant. Last year, Consumer Reports tested more than 100 packaging products for PFAs and found traces in at least one third of them.

In some cases, PFAs was directly added, and in other cases it was likely present as a contaminant that it picked up during manufacturing. Fortunately, progress is underway.

As of December 2022, 11 states have enacted or are preparing laws to ban or restrict PFAs in food packaging. This regulatory pressure should encourage manufacturers to adopt uniform, fast, reduced packaging nationwide.

Let's move on to talk about plastics in the kitchen. Who here has plastics in the kitchen? Trick question. We all do. We all have various plastic items in our kitchen, often more than we think.

Here's a quick exercise. Open all your kitchen drawers and cabinets and look. Don't do anything. Just observe and take stock of all the plastic items that you have.

Things like plastic food storage containers or utensils like spatulas and ladles, mixing bowls, cups, dishes, your food processor and blender and on and on.

Not all. Not all plastics are the same. There are definitely ones that are more problematic than others, but on the whole, it's a good idea to start to examine just how necessary all that plastic actually is.

Plastics come in many forms clear, opaque. Hard. Flexible. But their manufacturing methods are proprietary. We rely on the resin identification code, the number within the chasing arrows as a basic guide.

Don't be fooled. The chasing arrows don't mean the plastic is recyclable. They were meant to help support plastics manually. Yet only number one and number two plastics are widely recyclable.

The rest or not. And the EPA is even asking for these symbols to be phased out. We'll revisit recycling shortly. The most concerning types of plastics include number three, number six, and number seven.

PVC, often labeled as number three or simply V, is highly toxic to produce and remains toxic throughout its life cycle. When incinerated, it releases dioxins and ference, some of the most dangerous chemicals known.

Polystyrene, also known as styrofoam, which is number six, can leach styrene into food, especially in high fat foods when heated. So it's wise to reconsider using styrofoam, for To-Go cups and takeout packaging.

The number seven category covers all plastics not recognized or categorized as number one through six, and includes polycarbonate, a clear, hard, and shatterproof plastic found in products like children's drinking cups, food processor bowls, blender, carafes, and durable food storage containers.

Polycarbonate contains BPA, a plasticizer used to add rigidity, while other additives like phthalates found in Pet and soft plastics such as shower curtains and garden hoses, are used to make plastics more flexible.

While number three, six, and seven plastics have the most concerns, it turns out that all plastics can release toxic chemicals, especially if they are recycled.

A study released in mid 2023 found that recycled plastics, which many companies are boasting about using in food packaging, can accumulate and release many toxic chemicals, including styrene, benzene, bis, phenol and heavy metals, formaldehyde, and phthalates.

Heat, oil and acidity factors that boost BPA leaching from canned foods also increase chemical migration from plastics.

Cookware Materials and Safer Alternatives

That point is advised not to heat food and plastics, such as in a microwave. This migration works both ways. Food components can be absorbed into the plastic, and plastic molecules can leach into the food.

For example, if you ever noticed an orange stain on your plastic container from pasta sauce or tomato soup that no amount of washing can remove is because the hot, oily, acidic sauce has penetrated the plastic.

Essentially, the food and the plastic melt together, embedding food compounds in the plastic and allowing plastic molecules to contaminate the food. This perfectly illustrates why hot foods should never be placed in plastic.

BPA plastics aren't necessarily safer. They can exhibit the same issues as BPA free cans. One potential exception is, Triton copolymer, which is claimed to be free of estrogenic and androgenic activity.

However, these tests only cover two ways chemicals can interfere with hormones, so Triton may still leach other hormone disrupting substances. In short, Triton might be better than regular polycarbonate, but more research is needed before we can be sure.

Silicone is commonly used in kitchen products like baking mats, cake pans, muffin pans, because it's nonstick and easy to clean. However, it's made from petroleum based chemicals, dyes and fillers ingredients that are not fully disclosed when heated to about 300°F.

Silicone can leach potentially endocrine disrupting chemicals, though this does not occur at lower temperatures like those in the fridge or the freezer.

Additionally, silicone isn't biodegradable or easily recyclable, so it's ultimately it ends up in a landfill. For these reasons, it's best to minimize the use of silicone products in the kitchen.

Let's talk about cookware issues. Remember, our goal is improvement, not perfection. The biggest concern in cookware is nonstick coatings, often referred to as Teflon.

This is a brand name and not the chemical itself. These coatings contain PFAs chemicals, the same ones found in greaseproof paper packaging that have been linked to the numerous health issues.

While cookware may not be our primary source of PFAs chemical exposure, food packaging, water and textiles are more significant. It still contributes meaningfully.

A 2022 study found that a single scratch on nonstick cookware can release over 9000 PFAs particles, and a damaged coating can release more than 2 million particles, most of which end up in our food.

These nonstick surfaces aren't limited to pans. They're also used in bakeware, cookie sheets, waffle makers, and even air fryers. There's a lot of deceptive marketing out there.

Many companies promote their nonstick pans as PFOA or for free, but that's misleading. PTF is a precursor to PFOA, which has been phased out years ago with over 10,000 chemicals in the first class.

Claiming to be free of just one molecule means very little. If a pan is labeled no nonstick even with free of claims, it's still made with PFAs and should be avoided.

Unglazed clay pots have been used for thousands of years and remain popular worldwide, but they can leach toxic metals like lead, cadmium and arsenic, depending on the clay composition.

Since testing for these materials is expensive, it's best to avoid using unglazed clay pots for cooking. Similarly, when glazed decorative pucks made while they may be beautiful, the glazes often contain heavy metals that can leach into food.

The FDA advises extra caution with pottery that is handmade with a crude appearance antique, damaged, sold by unreliable sources, or brightly decorated in orange, red or yellow.

These items may be fine as decorative pieces, but they should not be used for food contact. Aluminum cookware is valued for its excellent and even and even heat conduction.

Because of this, aluminum is often used as a base layer in multilayer pans where food doesn't come in direct

contact with the metal. However, with pure aluminum cookware such as sheet pans or pots, food is in contact with the metal, which can lead to increased aluminum leaching, especially when cooking acidic foods.

Using longer cooking times or employing aluminum foil. Although laboratory studies suggest that high levels of aluminum can be neurotoxic.

Practical Kitchen Swaps and Wrap-Up

Extensive research has not established a strong link to Alzheimer's or Parkinson's diseases. Overall, aluminum cookware is generally safe, but it should be used with caution under conditions that promote leaching.

Ceramic coated cookware has quickly become popular with the brands like Our Place Always and Green Pan, claiming these pans are nontoxic, healthy and environmentally friendly.

Despite the name, the coatings are truly ceramic. They simply mimic ceramics appearance instead of face coatings. These pans use silicone based coatings that so far don't appear to leach any known toxic chemicals.

However, the durability of these coatings is a concern. Even with proper care, they typically only last 1 to 2 years, and many users report where within just six months.

This short lifespan means you'll likely need to replace your cookware frequently, which can both costly and wasteful. Ideally, cookware should be a long term investment that lasts for decades.

Okay. Deep breath. Let's get into our action steps. Now that you know what the issues are with canned foods, plastics, and cookware, let's talk about what small shifts we can make to lower our exposure to the toxicants in the kitchen.

When grocery shopping, focus on food packaging. While you can't always avoid canned foods completely, you can reduce exposure by choosing items packaged in glass, such as ketchup, mayonnaise, and jarred tomatoes.

As more companies are returning to glass bottles, you can also opt for dried or frozen alternatives. For example, cook dried beans instead of using canned ones, and frozen vegetables are a good option even in plastic bags.

Tetra boxed foods are marginally better than canned because they're lined with Pet number one plastic. Remember, the goal is to reduce exposure, not achieve 100% elimination, and striving for perfection can be more stressful than the exposure itself.

We should also reduce our use of greaseproof papers, for example. Microwave popcorn bags are coated with PFAs, so opt for air popped or stove popped popcorn instead.

This also means limiting fast food consumption. Ultimately, we do our best in an imperfect world, and there's still a lot of work to be done. On a societal level, when storing leftovers or dry goods.

We want to move away from plastic food storage containers and switch to glass. Thankfully, there are countless options available for these. You can even clean and reuse glass jars from peanut butter or pickles to store leftovers.

As you likely know, most glass food containers will have plastic lids, which isn't ideal, but we can avoid any issues by not feeling the container all the way up so the food doesn't touch the plastic.

Or you can put a piece of parchment paper between the lid and the food. Remember when I asked you to take stock of all the plastic items in your drawers and cabinets?

Now it's time to phase them out and replace them with alternatives like stainless steel, wood or glass. For example, swap black plastic spatulas for stainless steel or wooden ones.

Choose wooden cutting boards, which harbor fewer bacteria over plastic, and opt for stainless steel or glass strainers. Mixing bowls and water bowl bottles some kitchen items like food processor bowls and high speed blenders, are inevitably plastic.

Instead of discarding them, use them more carefully by hand and washing them by hand with a soft sponge in mild soap rather than in the dishwasher. Avoid grinding grinding hard foods in your plastic blender by using a stainless steel coffee grinder, and opt for a stainless steel immersion blender to blend hot soups directly in the pot instead of transferring hot liquids into a plastic container.

Lastly, choose safer cookware by prioritizing stainless steel, carbon steel, cast iron, enameled cast iron, and glass with proper care. These materials can last a lifetime, while cast iron and carbon steel require a bit of extra maintenance.

It's not difficult. They may leach small amounts of iron, but this iron is poorly absorbed and a well-seasoned pan minimizes migration. In fact, a well-seasoned cast iron or carbon steel pan essentially functions as a nonstick surface.

And that is it for part two. I will see you on part three. Thank you for tuning in to Doctor Talks. We hope today's episode has enlightened and inspired you on your path to optimal health.

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