

Oh no, Microplastics Are Making Their Way Into Our Organs + 3 Ways To Limit Your Exposure

By Karishma Joshi

Microplastics are pervading planet Earth, and if that weren't enough, plastic bits are even found embedded in human organs. Read on for a lowdown on their health risks and simple ways to minimize your microplastic exposure.



Photo by [Nick Russill](#) on Unsplash

A shocking new study found plastic particles lodged in the organs of lab mice that consumed water contaminated with microplastics. What does this mean for humans? And more importantly, is it a cause for concern?

One thing is clear: plastics continue to break down into fine hair-like strands in the environment. Even “the very first pieces of plastic ever manufactured are still somewhere on this planet,” Sherri Mason, PhD, director of sustainability at Pennsylvania State University, explains to [Bon Appetit](#). While the jury is still out regarding their health implications, some studies point to microplastic infiltration within our bodies causing severe health disorders.

The combination of government and private industry intervention, along with technological innovation, is ideal for addressing the [plastic pollution solution](#) on a global scale. However, as individuals, we can take specific steps to restrict our exposure to microplastics, which we'll cover in this article. Let's dive right in.

Microplastics Infiltrate Our System Through Inhalation and Ingestion



Photo by [freepik](#)

The term “Microplastics” was coined by Professor Richard Thompson, a marine biologist at the University of Plymouth, in 2004. Two decades later, we’re seeing its rapid proliferation across the planet and, inadvertently, within the human body. These minuscule plastic particles have two main entry points into our system — by inhalation and ingestion.

Airborne microplastics aren’t just a problem in the outside environment— they’re infiltrating our haven-like homes [Plastic fibers, accounting for 33% of fibers indoors](#), are primarily from broken-down textile particles (microfibers) found in clothes, sofas, and toys. Microplastic contamination is also rising in populated cities like [Auckland](#) and London. Even remote areas like the [French Pyrenees](#), a pristine mountain range straddling the border of France and Spain, aren’t spared, with particles floating around through atmospheric transport.

Regardless of what food chain level you're consuming, microplastics have likely infiltrated it. Most animal and plant populations under the sun house harmful and undegradable plastic bits, which enter our systems when we eat them. According to a study published in the [Environmental Science and Technology journal](#), adults eat nearly 50,000 microplastic particles yearly, while children eat about 40,000. And for those regularly drinking bottled water, it's an even alarmingly high figure, as one liter could contain [nearly 240,000 small plastic pieces](#).

Mouse Study Shows Microplastics Migrating From the Gut to Other Organs



Photo by [freepik](#)

In a [recent study](#), [Senior researcher Eliseo Castillo](#) and colleagues exposed mice to polystyrene microspheres or a mixture of polymer microspheres in water. They did this twice a week for four weeks, closely resembling human microplastic consumption.

After a month, the researchers found that the microplastics from the mice's digestive tract moved to distant tissues, including the kidneys, liver, and brain. "That tells us it can cross the intestinal barrier and infiltrate into other tissues," Castillo explained to [US News](#).

While animal studies don't always directly translate to humans, Castillo pointed out that the lab mice saw significant microplastic accumulation in vital organs over a short time (four weeks). Extrapolating this to humans, who are exposed to microplastics practically their entire lives, suggests potentially dire implications.

Inflammation could be one of the first consequences of microplastic exposure. "It's a foreign substance, and there is some kind of inflammatory mechanism that gets engaged whenever you have a foreign substance in your body," [Pankaj Pasricha, MD](#), head of the Department of Internal Medicine at the Arizona Mayo Clinic, told [Health](#). "Sometimes that's subtle, sometimes that's covert. Sometimes, it activates the immune system in a way we don't fully know."

We're largely in the dark regarding whether microplastics harm human life, but studies are emerging linking its exposure to oxidative stress, DNA damage, organ dysfunction, metabolic disorder, immune response, neurotoxicity, and reproductive and developmental toxicity.

3 Ways To Limit Your Exposure to Microplastics

We love plastic because of its durability, versatility, and, most importantly, cheap manufacturing costs. Today, it pervades our planet, and is found in almost every imaginable daily-use product—from packaging and electronics to skincare. To make matters worse, the plastic industry continues to create different types of plastic.

Microplastics scientist Heather Leslie told [Science News](#), "There were around 3,000 [plastic materials] when I started researching microplastics over a decade ago. Now, [there are over 9,600](#). That's a huge number, each with its own chemical makeup and potential toxicity."

However, by making sustainable choices, we can clean up our act and limit our exposure to microplastics.

Don't Heat Food in Plastic

Microwave heating your food for three minutes can cause some plastic containers to [release 4.22 million microplastic](#) and 2.11 billion nanoplastic particles from only one square centimeter of plastic area. By the same logic, using plastic spatulas and utensils for cooking isn't ideal either.

Swap out plastic containers for glass in the microwave and metal for the cooktop. Additionally, metal and wooden spatulas will last longer than plastic ones and won't damage your health.

Another concerning study in the [Nature Food Journal](#) finds that, on average, bottle-fed infants consume over 1.5 million particles of microplastics daily. However, the health ramifications of this study remain unknown.

Reduce single-use plastic consumption

While single-use plastic, such as cutlery, bottles, and bags, makes our lives easier, it takes 100 to 500 years to degrade. Plastics outlive us and our children.

To reduce single-use plastic, remember to take a cloth bag for grocery shopping, replace plastic bottles with their glass or steel counterparts, use a reusable metal straw, and shop from sustainable brands with a lower carbon footprint.

Avoid Personal Care Products with Microbeads

Microbeads are tiny exfoliating particles used in personal care and cosmetic products, such as facial scrubs, body washes, and toothpaste. However, due to their small size, waste-water treatment systems can't filter them out.

Inevitably, they find their way into water bodies and damage aquatic life. Given their harmful effects on marine ecosystems, countries like the United States, Netherlands, Canada, Sweden, New Zealand, and the United Kingdom have [banned or restricted microbead use](#).