How worried should you be about microplastics?

PLEASE NOTE: This transcription was created using an AI transcription tool and may not be a 100% accurate representation of the recorded audio.

[00:00:09] **James Rowe:** They're in our chopping boards, water bottles, and even our humble tea bags. But is there any way to escape microplastics?

[00:00:21] **James Rowe:** Hello and welcome to which Shorts the podcast that gives you a sneak peek for free every single week into one of our magazines. Now on this episode, I'm gonna give you an insight into microplastics, thanks to Olivia. How's piece from the September issue of which magazine? Now microplastics might seem insignificant after all.

[00:00:42] **James Rowe:** Some of them are so small they can't even be seen by the human eye, but they are found in our food, our water supply, and even in the air we breathe. So should we be worried about them? Well, here's Olivia's piece. Adapted for the podcast this week. Read by me, James Rowe.

[00:01:06] **James Rowe:** The North and South Pole, the deepest point on the ocean floor, some of the most remote places on planet Earth, and yet microplastics created by humans have been found there. It's estimated that each year up to 40 million tons of microplastics leak into the environment globally, and this is expected to double by 2040.

[00:01:29] **James Rowe:** There's no escaping them, but what impact are they having on you and me? Well, there is strong evidence that microplastics cause significant environmental harm, but the evidence for their impact on human health is less established. Lab studies do suggest that they can cause oxidative stress and imbalance between free radicals and antioxidants in the body, which can lead to cellular and tissue damage, disruption to the gut microbiome and immune or inflammatory responses.

[00:01:58] **James Rowe:** Despite much of the human health evidence only beginning to emerge, many scientists agree that we should be avoiding or reducing our microplastics exposure where we can, sure it's impossible to fully avoid the microplastics around us, but there are some simple, worthwhile changes you can make to reduce your own exposure to things.

[00:02:16] **James Rowe:** We know release high levels of microplastics in the kitchen. For example, ditch the plastic chopping board for a wooden one, use stainless steel pans instead of non-stick ones. Opt for glass containers instead of plastic ones. Swap your tea bags out for loose leaf tea. Get rid of plastic water bottles and instead fill up a reusable stainless steel one with tap water.

[00:02:41] **James Rowe:** Is a professor of environmental pollution at the University of Portsmouth. They lead the university's microplastics research group and says there is enough evidence right now to conclude that microplastics are likely to do harm. The group expects that in a few years, some of the studies currently underway are likely to show far stronger evidence.

[00:03:00] **James Rowe:** Much of the toxicological research today is being carried out on mice and fish, and as with all research of this nature, results can't be directly extrapolated to assume similar effects on humans. But the studies do show that microplastics exposure may lead to problems such as cellular and tissue damage, disruption of the gut microbiome, and immune or inflammatory responses.

[00:03:21] **James Rowe:** Dr. Stephanie Wright is an associate professor at the School of Public Health at Imperial College London. They say that based on current evidence, we don't know enough about our exposure to really understand the risk. We already know smaller microplastics can cause toxicity, but studies have tended to show that this happens at a high concentration.

[00:03:40] **James Rowe:** We know far less about what happens because of long-term low level exposure. We also don't know about where the particles end up in the body. Nor how or indeed weather they accumulate over time. Because of this, there's enough uncertainty that we should exercise caution with our exposure.

[00:04:01] **James Rowe:** Let's go back to the kitchen. I mentioned earlier that you could ditch the plastic food containers and use glass ones instead. This is something that Professor Caira told us. It's because heat causes microplastics and additives to leach into your food or drinks. This is the case, even if the plastic is deemed microwave safe, freezing plastic Ziploc style bags, or Tupperware, for example, also isn't a good idea.

[00:04:23] **James Rowe:** It can make the plastic more brittle, which can lead to more particle shedding, opt for Pyrex instead. Tea bags often contain plastic used as a sealant. The addition of boiling water and daily use results in a low but steady dose of microplastics for tea drinkers, even those that contain PLAA biodegradable plant-based plastic that is environmentally preferable, may still have impact on human health.

[00:04:49] **James Rowe:** Loose leaf tea is a better option as are using products from brands that sell truly plastic free tea bags. There are a few out there if you're drinking your hot drinks on the go. Be wary that disposable coffee cups often have a plastic layer that can leach into the liquid inside. Choosing a reusable metal cup prevents this non-stick pans can contain plastic coatings.

[00:05:11] **James Rowe:** To avoid these use stainless steel ones instead. Plastic cooking utensils, particularly worn ones, can be a source of shedding two, and plastic chopping boards can lead to tiny pieces of plastic getting India food through everyday use. Studies have found that microplastic concentrations are higher in bottled water than in tap water.

[00:05:31] **James Rowe:** This includes plastic bottles where fragments are known to break down into the water, particularly when the material warms up. But it also includes glass bottles where it's thought that abrasion from the plastic coatings on the screw caps causes deposits in the water. However, a study last year found that while overall particle numbers between bottled water and tap water were similar, it was the size of the particles that was notable.

[00:05:55] **James Rowe:** The bottled water had significantly smaller particles, which with our current understanding of toxicity could be more concerning. So it seems it's best to drink tap water. You could even use a water filter to further remove microplastics from your drinking water. But it's not just the kitchen where you should be aware.

[00:06:12] **James Rowe:** Wearing natural fibers such as cotton rather than synthetic textiles will reduce the amount of microplastics released into the water supply and the air we breathe. But textiles from natural fibers also shed and may be treated with additives. A citizen science study looking at the prevalence of microfibers in the home, found that bedrooms have the highest deposition rates followed by bathrooms.

[00:06:35] **James Rowe:** One of the study scientists, Dr. Ben Williams, recommends ventilating your home regularly to reduce overall levels for your laundry. Try using liquid detergent when washing synthetic clothing as it's less abrasive and thus causes less microfiber breakdown. And wherever possible, line dry your clothes rather than tumble drying them.

[00:06:56] **James Rowe:** Generally, it's helpful to frequently dust clean and ventilate your entire home. Choosing natural fiber carpets will reduce your exposure to microplastics, although they do still shed some fibers. And finally, in the garden making rather than buying compost can lessen the microplastics entering the soil.

[00:07:25] **James Rowe:** That brings to an end another podcast from which there's loads more for you to read about everything we discuss today. Just head to the episode description for more useful everyday advice. There. You'll also find an exclusive offer for podcast listeners like you to become a witch member for 50% off the usual price, giving you access to our product reviews, our app, one-to-one, personalized buying advice and every issue of Witch magazine across the air.

[00:07:47] **James Rowe:** Plus, your membership helps us to make life simpler, fairer, and safer for everyone. If you like to know when we release a new episode, then make sure you press subscribe wherever you're listening. That way you can be one of the first to listen. And for any questions, comments, or anything in between, follow us on social media at witch uk or email us Podcast at witch co uk.

[00:08:06] **James Rowe:** Goodbye.