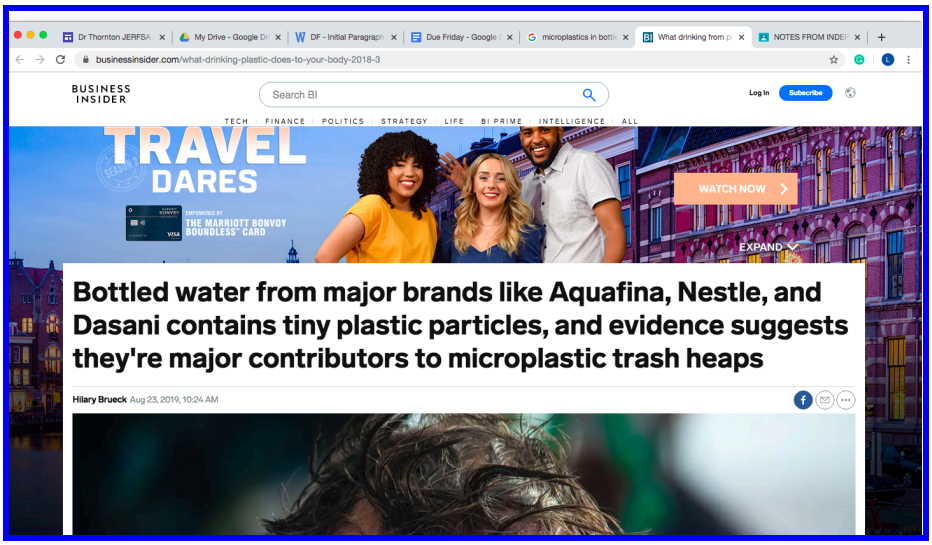
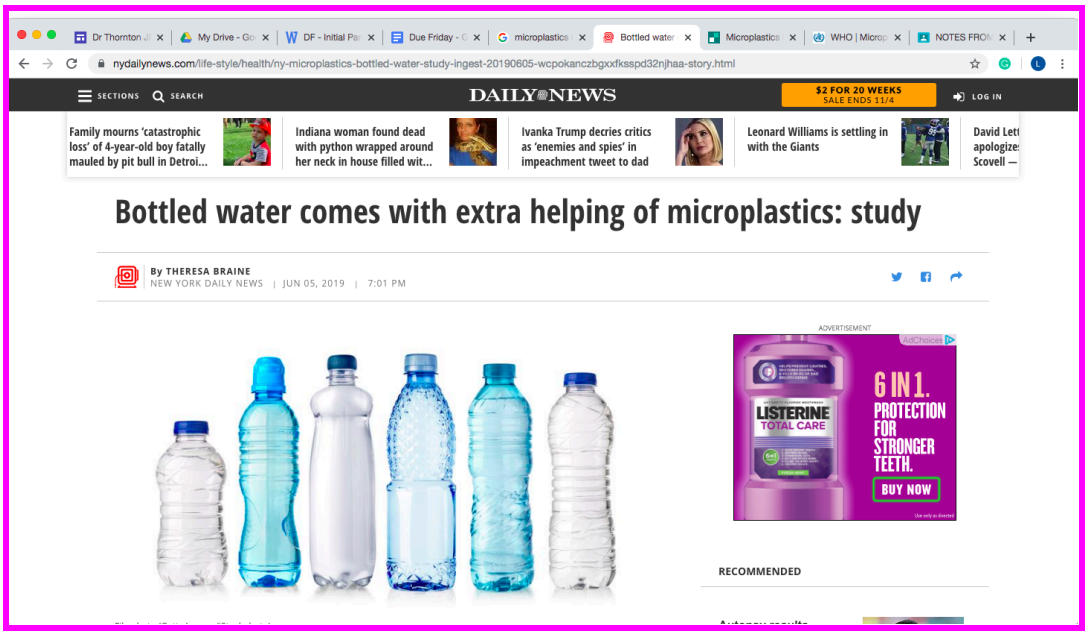
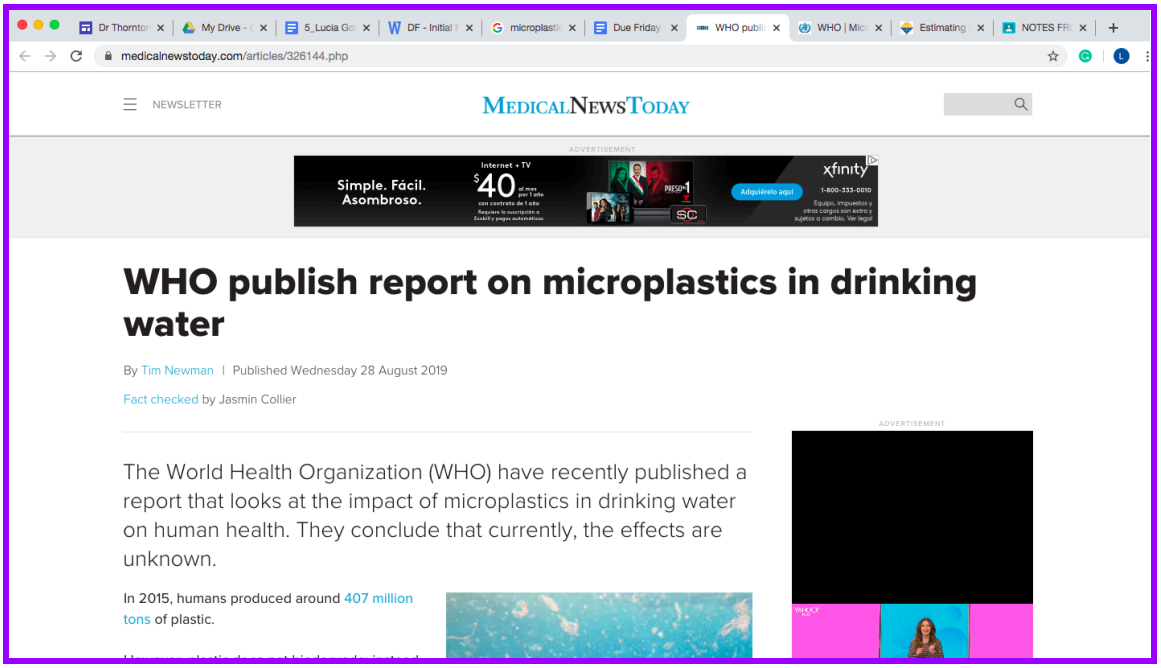
Microplastics are being found in bottled water. The general population has been ingesting microplastics from water bottles. Bottled water companies would care about how this problem can be fixed. Doctors and water filter companies would want to obtain the solutions to this problem for company profit. Results will add to the repository of microplastics in bottled water. The bottled water company Dasani has the most microplastics in their bottled water.




- a liter of bottled water from big brands like Dasani, Aquafina, and Nestle, contains roughly 10.4 plastic particles.
- probably even tinier plastic bits swimming in the bottles that are nearly untraceable.
- little plastic bits — many thinner than a human hair — are ubiquitous(everywhere)
- there's no clear data that the microplastics we're sipping are hurting our bodies.
- doesn't mean they're harmless.
- microplastic pollution in drinking water today comes from two key sources: the polypropylene that is a common bottle cap material, and the polyester and polyethylene terephthalate, which often make disposable water bottles.
- But studies suggest that particles, in fact, do exist in our bottles. They come out of our taps, too (though likely in smaller amounts than plastic bottle concentrations). The tiny plastics are also swimming in the seas and disrupting the way fish eat.




- Plastics get into the food and drink supply during all stages of the preparation process, from production to packaging,
- Researchers examined 26 previous studies analyzing all the routes that plastics can enter our bodies: air, alcohol, bottled water, honey, seafood, salt, sugar and tap water, the American Chemical Society (ACS) said in a release summarizing the findings. They studied 3,600 samples of food and drink sources, reported Business Insider. Meat and vegetables were left out of this study due to lack of data,
- 74,000 and 121,000 particles per year, the ACS said. Those who consume just bottled water might take in 90,000 more microplastic pieces annually. The researchers also noted that because only 15% of Americans' caloric intake was studied, the amount is likely far higher.
- annually, boys inhale or ingest 81,000 particles annually, men 121,000, girls 74,000 and women 98,000,
- drinking water solely from bottled water upping the intake to 75,000 for boys, 127,000 for men, 64,000 for girls and 93,000 for women.
- those who consume tap water, microplastic intake increased only 3,000 above that baseline for boys, 6,000 for men, 3,000 for girls and 4,000 for women
- "However, what (comparatively) low microplastic exposures mean for health is unknown," Wright said. "Further research to quantify exposures to smaller microplastics, for example in air, is now needed."



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# WHO publish report on microplastics in drinking water

By Tim Newman | Published Wednesday 28 August 2019

Fact checked by Jasmin Collier

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The World Health Organization (WHO) have recently published a report that looks at the impact of microplastics in drinking water on human health. They conclude that currently, the effects are unknown.

In 2015, humans produced around 407 million tons of plastic.

- 50 studies wherein scientists found microplastics in freshwater, drinking water, or wastewater. Some of these studies counted thousands of microplastic particles in every liter of drinking water.
- Theoretically, if a person consumes them, some microplastics are small enough to pass through the gut wall and enter the circulatory system.
- Whether or not this happens, and whether or not it impacts human health, remains unknown.
- Physical: Microplastics could enter the body and damage internal structures.
- Chemical: For instance, plastic additives such as plasticizers could enter drinking water.
- Biofilm: Microorganisms might attach to microplastics and form colonies, which could cause harm.

acs.org/content/acs/en/pressroom/presspacs/2019/acs-presspac-june-5-2019/estimating-microplastic-consumption.html

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FOR IMMEDIATE RELEASE

ACS News Service Weekly PressPac: June 05, 2019

# Estimating microplastic consumption

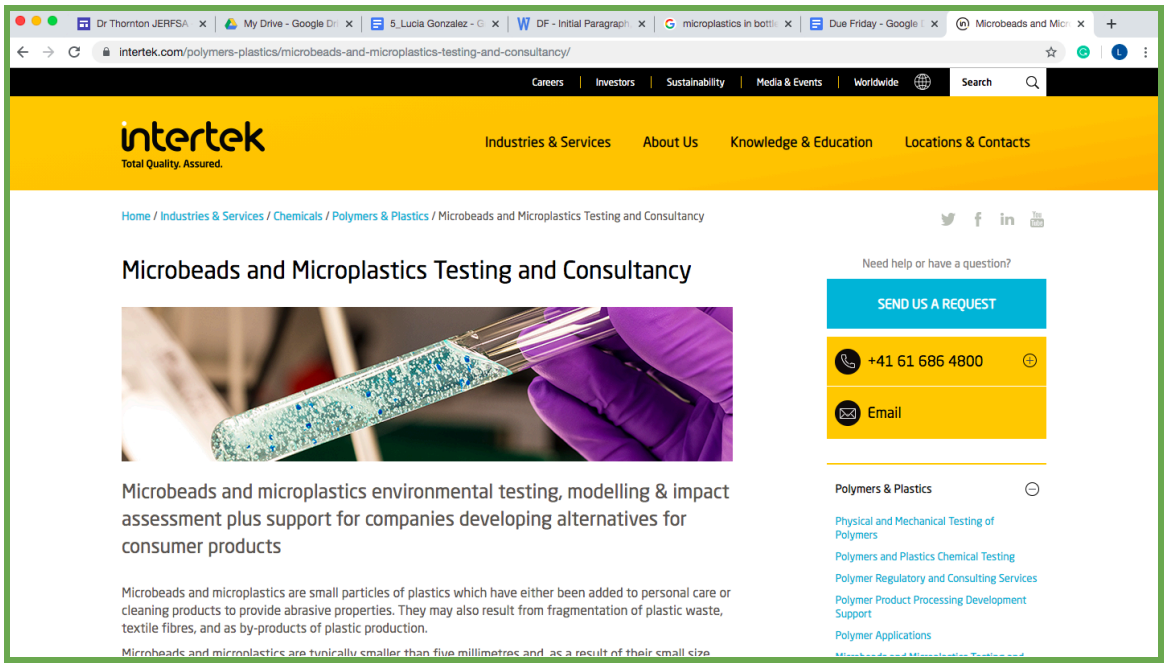
"Human Consumption of Microplastics"
*Environmental Science & Technology*

Since the mass production of plastics began in the 1940s, the versatile polymers have spread rapidly across the globe. Although plastics have made life easier in many ways, disposing of the materials is a growing problem. Now, researchers in the ACS journal*Environmental Science & Technology* estimate that the average American consumes more than 70,000 particles of microplastics per year, though the health effects of that consumption are unclear.

Microplastics are tiny (often microscopic) pieces of plastic that can arise from multiple sources, such as the degradation of larger plastic products in the environment, or the shedding of particles from food and water containers during packaging. Humans can inadvertently take in the materials when eating food or breathing air containing microplastics. The health effects of ingesting

Researchers estimate the amount of microplastics consumed by Americans each year.
Credit: Monique Raap, University of Victoria
View Larger Image

- American consumes more than 70,000 particles of microplastics per year, though the health effects of that consumption are unclear.
- can arise from multiple sources, such as the degradation of larger plastic products in the environment, or the shedding of particles from food and water containers during packaging.
- The health effects of ingesting these particles are unknown, but some pieces are small enough to enter human tissues, where they could trigger immune reactions or release toxic substances.
- estimated microplastic consumption ranged from 74,000 to 121,000 particles per year, depending on age and sex. People who drink only bottled water could consume an additional 90,000 microplastics annually compared with those who drink only tap water




- as a result of their small size, they easily pass through wastewater filtration processes and enter rivers, lakes, and oceans where they have the potential to transfer as contaminants into animals.
- Our scientists isolate, screen and test microbeads and microplastics in environmental samples allowing the identification of the plastic or polymer materials used.
- These materials include polyethylene (PE), polypropylene (PPE), polyethylene terephthalate (PET) and polymethylmethacrylate (PMMA) or polyamide (PA), with identification made possible through combining infra-red and Raman spectroscopy and infrared and Raman microscopy techniques.
- expert use of scanning electron microscopy (SEM) in combination with energy dispersive X-ray diffraction (SEM-EDX). This information can provide insight into the origin and former use of any microplastic debris which, in turn, could help to reduce the levels of microplastics.

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