Microplastics Are in Our Seafood: Here’s How to Protect Yourself

7 MIN READ

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BY HEATHER HURLOCK

Tiny plastic particles are showing up in our seafood. Here are the steps you can take to reduce exposure while still getting vital nutrients.

Seafood is a go-to source of heart-healthy protein, packed with omega-3s, vitamin D, and nutrients that support brain and immune health. But a growing body of research reveals a less visible issue lurking beneath the surface of our seafood plates: microplastics.

A sweeping 2025 review in ***Marine Pollution Bulletin*** exposes how tiny plastic particles, microplastics (measuring < 5 mm) and nanoplastics (<0.1 µm), have become nearly unavoidable contaminants in marine life worldwide. For anyone focused on longevity, understanding this invisible pollution is key to eating well without compromising safety.

What Are Microplastics and How Do They Get Into Seafood?

Microplastics originate from the breakdown of larger plastic waste, like bottles, packaging, and synthetic fibers, as well as microbeads found in personal care products. These particles enter oceans and waterways, where fish, shrimp, shellfish, and other marine animals ingest them, mistaking them for food or absorbing them directly from water. Over time, microplastics accumulate in their organs and tissues.

One recent Oregon study tested 182 seafood samples and found microplastics in **99% of them**. Almost every fish and shrimp examined (black rockfish, lingcod, Chinook salmon, Pacific herring, Pacific lamprey, and pink shrimp) carried plastic particles. Shrimp and other filter feeders, which consume large volumes of surface water where microplastics concentrate, showed the highest contamination. Even larger fish fillets, like salmon and lingcod, contained these particles, although mostly in their guts and gills.

The most common type of microplastics detected were synthetic microfibers shed from clothing during washing, accounting for over 80% of debris in some samples. According to a **Stanford Report**, an estimated 10 to 40 million metric tons of microplastics enter the environment annually, a figure projected to double by 2040.

In short: if you eat seafood, or even drink tap water or breathe air, you are likely **ingesting microplastics**.

Why This Matters for Healthy Aging

The idea of consuming microscopic plastic fragments is understandably unsettling, especially for older adults who prioritize cardiovascular and digestive health. Although direct evidence of harm in humans remains under study, the early signs raise important red flags.

Microplastics can carry toxic chemicals such as BPA, phthalates, and PFAS, which have been linked to hormone disruption, cancer, and developmental issues. Laboratory studies show these substances can leach from plastics and cause inflammation or cellular damage. Worryingly, microplastics themselves have been found in human blood, placentas, brain tissue, and even heart muscle. **One study** found that people with microplastics in their heart tissue were twice as likely to experience heart attacks or strokes later on, a critical concern for aging hearts.

Gut health may also be at risk. Microplastics could irritate the intestinal lining or disrupt beneficial gut bacteria, with some experts suggesting links to higher **colon cancer rates**. Chronic microplastic ingestion might contribute to systemic inflammation and oxidative stress, underlying factors in arthritis, dementia, and other age-related conditions.

Desiree LaBeaud, MD, a pediatric infectious diseases physician at Stanford Medicine who co-founded the university's interdisciplinary Plastics and Health Working Group, **put it bluntly**: "We're born pre-polluted." Microplastics are embedded in every corner of our environment and bodies, and their long-term health consequences cannot be ignored. But this is not a call to ditch seafood. It's a reminder that our bodies are strong and information is freedom.

Here's How to Decrease Microplastic Exposure from Seafood

Despite the risks, experts strongly caution against abandoning seafood altogether. Fish and shellfish provide vital nutrients for brain, heart, and immune function that are especially important in later life. Instead, the challenge is to minimize microplastic exposure while still reaping these benefits.

Here are practical tips for safer seafood consumption:

1. **Buying Whole, Local Fish When Possible:**
   Choose whole, local fish directly from trusted fishers or markets that wild fish, flash frozen on boats because research shows these can have **a lower plastic load**. This approach may reduce additional microplastic contamination introduced during retail processing and plastic packaging.
2. **Buy Wild Fish, Not Farmed.** When comparing farmed (aquaculture) fish and wild-

caught fish, researchers find that aquaculture practices may lead to **higher microplastic contamination** in farmed fish compared to wild fish. Farmed fish can ingest microplastics from their controlled environment, through contaminated feed and water in fish farms, at greater rates than their wild counterparts.

3. 3 **Rinse and Clean Thoroughly:** Since retail processing can introduce microplastics, **rinsing seafood** before cooking, especially shellfish and fillets, can help wash away surface plastics and reduce ingestion.

4. 4 **Limit Consumption of Small Shellfish with Digestive Tracts Intact:** Research finds that microplastic contamination in shellfish (like mussels, oysters, clams), which are often eaten whole by humans. Because we consume these animals entirely (and they are filter feeders that can concentrate microparticles), our exposure to microplastics from shellfish can be significant, on the order of **thousands of particles per year** for a regular shellfish eater. Always remove digestive tracts and peel shells before eating to reduce microplastic intake.

5. 5 **Diversify your protein.** Incorporate plant-based proteins and lean poultry alongside seafood to avoid excessive exposure from any one source. When choosing seafood, opt for trusted fisheries with cleaner practices if possible.

6. 6 **Boost your dietary fiber.** High-fiber diets may **help trap microplastics in the gut** and escort them out before they enter the bloodstream. Aim for 30 grams of fiber daily from fruits, vegetables, whole grains, beans, and nuts, foods that support both digestive and heart health.

7. 7 **Fry Fish:** Some research shows that **frying fish can decrease the plastic load**. The oil collects the microplastics, reducing the amount in the fish. This cooking method can also add unhealthy fats to your meal, depending on the type of oil you use. Stick to…

8. 8 **Reduce plastic use at home.** Since much microplastic pollution originates **from human activity**, simple lifestyle changes, like washing synthetic clothes less frequently and in cold water, using microfiber-catching laundry filters, and swapping plastic food

containers for glass or steel, can lower your plastic footprint.

9. **Support Packaging Innovations:** Favor retailers or brands that use eco-friendly, non-plastic packaging options. Advocacy for alternatives like beeswax wraps or starch-based materials can help reduce plastic contamination in seafood supply chains.

Microplastics in seafood represent an emerging food safety issue with potentially serious implications for aging bodies, from inflammation to cardiovascular risk. For now, the best approach for super agers is a balanced diet rich in seafood, fruits, vegetables, and fiber, combined with mindful choices to reduce contamination risks. The ocean's bounty remains a powerful ally in healthy aging, but only if we also commit to protecting the waters it comes from.

After all, caring for your own longevity means caring for the planet's longevity too.

WRITTEN BY:

Heather Hurlock